

Carilion: A Corporate System of Managed Health Care

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Dissertation submitted to the faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY
in
Science and Technology Studies

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November 14, 2001
Blacksburg, Virginia

Keywords: Health Care, Medicine, Corporation Medicine

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(ABSTRACT)

In the late 20th century, the management of care came under the control of large health care conglomerates, like the Carilion Health System in Roanoke, Virginia. This study examines the evolution of Carilion from its beginning in 1988 to the present and analyzes Carilion as a complex system by using analytical tools drawn from a variety of STS scholars.

Carilion's mission began with its hospitals. From 1954-1988, Carilion's predecessor, the Roanoke Hospital Association, developed a network for delivering care, training programs and management to small community hospitals throughout southwest Virginia. In 1988, the Roanoke Hospital Association was officially renamed the Carilion Health System. In its initial phase, 1988-1992, Carilion expanded its hospital network into as many communities as possible. The thesis of this work is that Carilion and communities came together to see if they could build a corporation to manage care and, at the same time, maintain local traditions of care.

From 1992-1996, Carilion transformed itself from a hospital organization to a health care system and finally to a managed care system in order to compete with rival Columbia/HCA. This transformation required the creation of a physician management company and a health plans division. In 1995, Carilion's administrators began a reengineering program which redefined services and strategies for corporate growth. This included construction of a state-of-the-art facility situated between two competing Columbia/HCA hospitals in the New River Valley. In 1998-2000, Carilion engaged in a

massive advertising blitz to garner additional market share from Columbia/HCA.

Carilion's marketing strategies show that health care has changed dramatically under a business model, in spite of corporate America's assurances that it would not.

This study gives voice to health care workers who describe exactly how their experiences have changed since corporations, such as Carilion, began managing their work. Drawing on interviews with Carilion physicians, hospital administrators, board members and medical staffs, the day-to-day activities taking place within hospitals and physician practices comes to life. The narrations describe how difficult it is for groups working within Carilion's facilities to carry out Carilion's growth strategies while at the same time maintaining communities' traditions of care.

Since 1999, Carilion moved in three new directions: the creation of the Carilion Biomedical Institute incorporating biotechnology and biomedicine; the institution of a hospital partial-ownership program, which meant Carilion did not have to assume full ownership and expenses of some facilities; and the installation of an electronic medical records system in physician practices to manage patients' data, physicians' costs and physicians' productivity. These new directions illustrate how Carilion envisions a different paradigm of care delivery.

While the study addresses how Carilion became a managed care organization, this work represents foremost an analysis of system building in America today. Like most corporate systems, Carilion exemplifies a mix of social, economic and technological components that have been assembled to form a corporate entity. This work explains how corporate systems come to manage traditions, values and resources within communities and for communities.

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ACKNOWLEDGEMENTS

Many southwest Virginia physicians, nurses, hospital administrators, hospital board members, professional community residents and Carilion Health System executives gave enormous amounts of their time to provide me with valuable information. The gratitude I have for the interest they showed in my project is immense. I readily acknowledge and respect their commitment to health care in southwest Virginia. During each of the interviews, I sensed the dedication providers and managers impart to their jobs in health care. They truly are concerned about southwest Virginia communities.

This work exists in large part because of my committee, especially committee chairperson, Dr. Ann La Berge. Dr. La Berge, unsure of my attempts to write a useful work concerning the history of medicine in Virginia in the 18th century, rescued me from that task so I could write an account of 20th century medical care in southwest Virginia. That account is this history of the Carilion Health System. Dr. La Berge's efforts and constant supervision helped me define the project, but the research itself, as well as the conclusions I have reached in this work, are solely my responsibility. I am grateful to my other committee members: Dr. Gary Downey, Dr. Richard Burian, Dr. Henry Bauer, Dr. Kathleen Jones and Dr. Moti Feingold at Virginia Tech for all their combined efforts and attention to my work. I am especially grateful to Dr. Gary Downey who helped me to acquire skills to conduct interviews as a key feature of my methodology.

Lastly, I must recognize my family and friends who provided much support. My niece Heather typed over one hundred newspaper bibliographic entries. My aunt Katherine saved newspapers for me for three years, so I could rummage through and clip articles. My parents attempted to keep me grounded as I locked myself away to write.

My sister Donna always showed up just when I needed her with tape recorders, addresses and pantyhose. My brother DeWayne never stopped believing that his sister could do anything she set her mind to do. My nephew Brandon asked questions only a child could ask, which sometimes led to interesting revelations to me as an adult. My second Mom Ann Florence left me her dining room table which was home for two years to the piles of papers that this project generated. Most importantly, my better-half Mark was always there to share the ups and downs of this endeavor, typing, transcribing tapes, building charts, talking with me, and caring about me when I forgot to eat. This dissertation has been completed because of their support, and I thank them all.

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PREFACE

On September 26, 1997, I was in a car accident. Following the accident, I went to a Carilion Health System (CHS) medical facility to be treated. Before the accident, in order to fulfill requirements of the Science and Technology Studies (STS) program for my Ph.D. at Virginia Tech, I had hoped to write a dissertation that examined family practices in medicine in the state of Virginia in the late 18th century. As I rehabilitated from my injuries and resumed my research, I proceeded to visit various towns and communities in Virginia, piecing together a medical story. But when I would update my committee chairperson, Ann La Berge, about my research, we talked mostly about my injuries and my visits to Carilion facilities. During one of our meetings, we decided that the dissertation I needed to write was that of managed care through the experiences of Carilion. I learned from writing this dissertation that we are all always motivated by our personal experiences, but I never realized I'd have to experience so much pain, as it is often said, to receive gain (in my case a dissertation topic).

My personal experiences cannot be removed from this account. Instead, they become as much a part of the story I tell as the history of Carilion itself. I would like to share a few of the more interesting experiences I had while conducting my research and interviews for this project. For this study, I relied mostly on interviews with southwest Virginia health care personnel such as nurses, physicians, administrators, hospital board members, hospital medical staffs and community professionals. Each interview provided a unique contribution to this study. The actual locations and times of the interviews themselves proved informative in learning how health care professionals manage care daily.

I recall that each of my physician interviews seemed like a doctor-patient encounter, but the difference being that I was waiting for the physician in a new place- his back office. A doctor's back office is an entirely different world than the patient examination rooms which typically define the physician-patient encounter. In physicians' back offices, I found stacks and stacks of books, journals, mail, prescription drug companies' literature, family photographs, framed diplomas, assorted items that must have been gifts, such as tacky tissue box covers, logo-inscribed cups, pens, and other items advertising names of drugs like Claritin, Vioxx, and Viagra. Back offices represent a completely different side to a physician's world. It is there the physician is removed from the sterile, clean, organized and quiet patient examination rooms. I learned that the two environments together represent physicians' work places.

Doctors' offices do not have thick walls. I overheard a great deal by sitting in doctors' back offices waiting for interviews. I won't divulge any patient information I heard, but I will say that doctors work very hard with their patients in the short amount of time that they spend with each one to uncover the root of their illnesses and to provide treatments. While I sat in doctors' back offices waiting for interviews, my opinion of doctor-patient encounters slowly changed. As I listened to doctors open examination room doors and greet patients, I heard concern and friendliness for each patient. The 15-minute standard doctor-patient encounter seemed more in-depth and sincere than I had remembered experiencing as a patient. I surmised that the duration of the encounter differs for the sick patient and the observer-researcher. After the doctor exited a patient room, I heard the hurried movements of other office workers as the doctor instructed

them of the patient's needs. Then, the doctor knocked on another closed patient examination room door to start the cycle all over again.

I remember one physician that I interviewed, struggling to eat lunch and talk with me while, at the same time receiving updates from his staff about why there was no electricity in his patient examination rooms. As he would eat and speak to me earnestly about HMOs and patient loads, his office door constantly opened with staff parading through to use operational electrical outlets to process tests, develop film, and plug in equipment. The physician's lunch was never finished, and our interview had to be shortened because of the office mayhem. The role of the physician had assumed added responsibilities: the physician had become the building maintenance supervisor.

I remember another interview in which I talked to two physicians at the same time. In the middle of the interview, a staff worker suddenly opened their office door and announced, "We are going to have this baby here today!" I recall thinking how exciting it was for me to be in that office at exactly the moment a baby was going to be delivered. The two physicians accepted the news and calmly continued the interview. We received updates on the expecting mother periodically. The doctors remained unmoved by each additional announcement, but I, on the other hand, became more and more concerned for the mother and baby. As the office nurse informed the doctors that the mother's dilation had increased and labor pains were coming closer together, no longer was the idea of a baby being delivered during the interview an exciting experience for me. Instead, the interview itself became "labor" for me to finish, so that the doctors could hurry and deliver the baby. I kept saying to the doctors if you need to go, I understand. But they said no; everything is fine. I tried to convince myself that there was no rush if the doctors

were so calm, but I was not convinced. I grew more and more restless. I guess it had something to do with my maternal instincts!

I also recall with trepidation my interview with one hospital administrator. I waited for almost an hour in his secretary's reception area for the administrator to return from a corporate meeting. The secretary cordially invited me to sit and even attempted to find care for me, because I had a mild case of laryngitis. I declined her offer for care, but accepted the chair. Suddenly, my wait, which I was growing accustomed to at each facility, and secretly hoping for, because it gave me time to closely observe people, procedures and surroundings, proved to be advantageous to my research.

As I waited, a very sweaty, agitated man burst through the door and exclaimed, "It is too hot to operate in the operating room." He expressed concern that patients might be harmed from the excessive heat because of a broken down air-conditioning system. The secretary informed the worker (I found out later that he was an operating room nurse) that the air-conditioning unit would be fixed shortly. Meanwhile amidst all the confusion, other people began wandering in the office and started organizing a staff meeting. The office was quite small. I estimate that it was 12x18 and was filled with two large desks, bookcases and a conference table. Somehow ten to twelve people along with the secretary and me, managed to squeeze in the space.

Quickly chairs were rearranged to accommodate the staff meeting. Information continued to flow into the office from the OR nurse about the escalating heat in the OR. I became concerned for the patients in the operating room. I wondered if the OR was safe for patients. I attempted to remain calm like the secretary, but sensed she was doing a much better job. Finally, at some point during my wait, the OR nurse returned and

announced that OR surgeries were being canceled until the air-conditioning was working properly. When the hospital administrator returned from his previous meeting with corporate bosses, his secretary hurriedly informed him of his next required staff meeting, which was already in progress in the cramped office. His secretary also informed him that the OR had been shut down due to a broken air-conditioner unit. I might add that she looked relieved to pass this burdensome news on to him. Then, she looked at me and told the administrator that I was the young lady who had an appointment to interview him about his experiences with Carilion.

The administrator calmly and sincerely apologized to me for having to wait. He said, "I have a few things to get straight first, and then we will go to lunch." I thought to myself "a few things to clean up? Lunch?" I determined that it would probably take him hours to handle the OR situation and as for lunch, I wasn't too hungry thinking of the patients in the hot OR uncomfortably awaiting surgery. Not much time passed, however, until I found myself walking down a hospital corridor with the hospital administrator under a leaking roof (another problem the hospital administrator mentioned that he needed to fix). We somehow managed to converse about lunch selections and ourselves as we walked through the hospital cafeteria line. Lunch consisted of the hospital administrator eating and talking, and me listening. When you only have one hour for your work with an important person, you aren't so concerned about eating hospital chicken salad.

I remember so many persons interviewed and their kindness of inviting me to their homes, to lunch, and other events. I met some interviewees' family members and began to feel like this was not just a history of CHS, but, instead a story weaving together

people's lives, work and concerns. I recall sitting in a recovery room with a nurse in the small, rural Bedford Hospital and learning how to operate some of the equipment. I was allowed by Carilion Health Care's medical director to see Carilion's Electronic Medical Record System in action. I took tours of countless doctors' offices and hospitals. I remember most of all the courage and ability these various health care providers and administrators displayed in any and all situations I was able to witness.

I see now that as my network of interviews grew, I learned how connected these people were to one another. Each interview led me to other interviews or to missing pieces of my health care puzzle. Soon, I realized that through my network of interviews I was weaving together a story of the Carilion Health System. The network of interviewed participants' experiences became my version of the network of the CHS. My interviews represent the most important part of my CHS story.

For the most part, my position vis-à-vis Carilion is a favorable one. From the 1980s to the present, I contend that CHS, as a managed care organization, has done a satisfactory job delivering care to southwest Virginia in a volatile market. Throughout its history, Carilion has experienced difficulties implementing some of its outreach programs and in expanding its not-for-profit hospital facilities. Consumers question why the money used for hospital expansions and new community programs cannot be used to lower health care costs. Carilion administrators argue the expansions and new programs are essential to keep Carilion at the forefront of medical care. I believe even if consumers are not completely content with Carilion's choices for additional care services, Carilion should be recognized for their efforts to maintain communities' traditions of care based on not-for-profit hospital resources and outreach programs. Carilion has continually

reinvested all its profits (excess revenue) back into community care delivery, instead of becoming a for-profit managed care system like Columbia/HCA. Carilion's corporate mission is to serve the needs of the communities it is in, and I surmise Carilion is fulfilling its mission appropriately.

The story that I tell here of CHS is only one of many possible stories that I could have written. While the people that I interviewed (physicians, board members, administrators, nurses, and corporate executives) represent important links in the Carilion system, they are not the only participants in the system. My story does not include other actors who work, use and are influenced by the CHS. Some of the actors I did not interview include consumers, Carilion physician-practice office staff workers and state and/or federal oversight boards who monitor health care systems like CHS. These groups greatly influence or are affected by CHS. This work does not include these groups due to constraints of time to interview personnel and length of this project. I hope to eventually include interviews from these other groups in subsequent works about CHS and health care in southwest Virginia. Last, I believe my story of CHS could form part of a larger comparative study if I could research more fully the history of how Colombia/HCA has managed care in southwest Virginia since the middle 1990s. In the future, I hope to provide an account that integrates Colombia/HCA history of care in southwest Virginia with this history of Carilion.

Introduction Corporations Managing Care

As early as the 1970s the forces beginning to fragment the medical industry, which prompted the corporate acquisition of America's medical care in the late twentieth century, were visible. The passage of Medicare and Medicaid in 1965 transformed America's sovereign medical care into an industry controlled by huge corporate health care conglomerates. Medicare and Medicaid provided a source of public financing which made health care lucrative to providers and attractive to business investors. Providers and investors, in turn, found themselves coming together to form unheard-of health care corporations by the late 1970s. Nursing homes and hospitals, typically small proprietary-owned facilities were the first corporate takeovers (Starkweather, 1981).

The movement in the 1970s by consumers and the American government to curtail medical costs and regulate hospitals provided impetus for corporate takeover of America's medical care. Mergers, acquisitions, and diversifications within the for-profit and not-for-profit medical care industry became daily headlines during much of the 1980s. Efforts to contain skyrocketing costs of health care prompted the industry to find more efficient business-like management systems (Bard, 1994). The introduction of management systems in the health care industry meant the barriers long separating health care from corporate control were removed (Wilkerson, Devers and Given, 1997).

Today, America's medical care landscape comprises a populous agglomeration of health care corporations, networks, organizations and systems, which have been shaped by history, traditions, and culture as well as by economic and political choices. America's health care systems in 2001 are large, complex organizations consisting of any or all of

the following: hospitals, administrators, physicians, patients, clinics, medicine, managed care groups, insurance, stock, for-profit and not-for-profit companies, trustees, board of directors, anti-trust lawsuits, athletic clubs, nursing homes, day care centers, science, billboards, residential housing, libraries, technology, biomedical institutes and the list goes on and on. Given the wide range of health care components in today's society, few can escape having their lives touched by a health care system.

This work will show how physicians, hospitals, and many other groups came together to form new types of health care delivery from the 1980s to the end of the twentieth century. The work focuses on one health care system – the Carilion Health System (CHS) based in Roanoke, Virginia. Since the 1980s, CHS has evolved into a regional health care delivery organization consisting of local community networks of care that provide medical facilities, physicians, technology, insurance, HMOs and medical information to southwest Virginia communities. The CHS controls 11 hospitals, 60 physicians' practices, an insurance company, a biomedical institute, numerous medical related subsidiaries and other non-medical interests. CHS has been characterized as a "hubs-and-spokes" system. The "spokes" or the local Carilion networks comprised of physicians and small community hospitals connect to the "hubs" of the system, Carilion's larger hospital facilities, such as its Roanoke Memorial Hospital and the Carilion New River Valley Medical Center (CNRVMC). The local Carilion networks of physician practices and hospitals bind together the Virginia communities they service medically, but also define these communities' identities in several other ways.

This study shows that the hospitals and physicians' practices in the Carilion System are among the most complex institutions in the communities in which they are

located. The hospitals, the doctors and the communities serve and are served by one another. Carilion hospitals and physicians touch southwest Virginia communities in three essential ways: 1) by granting access to medical services, knowledge, information, technology, science and care, 2) by providing employment, training and teaching, and 3) by serving as benchmarks of a community's economic growth, medical awareness, and health. This work explores how these activities are performed in the Carilion system and how relationships are formed among Carilion's hospitals, physicians and others to accomplish both the health care system's goals and the communities' goals.

By looking at CHS, this study unpacks one intricate corporate system of managed care so readers can better understand what is at stake both for health care providers (physicians) and communities. The thesis of this work is that CHS exemplifies a unique health care organization that built itself into a corporate health care system out of local practices and beliefs about what a managed care system should be. The research suggests that Carilion arose in response to the proposed takeover of medical care in southwest Virginia by Colombia/HCA in the 1980s and that Carilion organizers wanted to see if they could design a new model, better adapted to local conditions and beliefs about medical care delivery.

Carilion represents a system based on corporate organization and consumer economics, along with health care. Managed care networks like Carilion represent the Wal-Marts of health care. These organized delivery systems merchandise all sorts of medical products (technologies, knowledge, persons, and services) via a network of local, regional and/or national configurations. This sounds convenient for both users and system employees, but often it is not. Carilion reconceptualizes patient-physician-hospital

configurations into webs of intricate services, users and providers. To understand a system like Carilion is difficult for users- and they are not alone. To work in corporate health care systems is just as difficult. In 1998, nearly 70% of 6,000 physicians working in managed care systems characterized themselves as against such systems (Bodenheimer, 1999a). Unraveling the complexities of managed care from system workers' perspectives, such as physicians; is one of the goals of this project.

Another goal of this project is to demarcate the pathways by which Carilion's system users and workers navigate. Managed care systems are omnipresent, omnipotent, and often, just when one thinks the entire system is discernible, systems like Carilion have a different, unrecognizable guise. Whether Carilion is benevolent in its delivery of "appropriate care" to system users depends on a multiplicity of factors, none of which is more important than system navigability. System navigability refers to a system user, worker (human and non-human), or system builder's ability to pass through a health care system's organizations or channels.

System navigation is a term that I, as well as some CHS personnel, found helpful to describe users, workers or builders of health care systems like the CHS, as they attempt to conduct their business within systems' various components. System workers refer both to human system employees like physicians, nurses, janitors, dieticians and others, as well as, non-human workers such as MRI machines, heart monitors, electronic medical records and others. System navigation is at the heart of what truly defines how systems (their workers, organizations and practices) stabilize and take the shapes or forms they do. Determination of system navigation allows researchers like me and other groups in systems (users, workers and builders) one method to ascertain how a system is

functioning, its level of sophistication and its ability to be mapped.¹ This work provides organizational maps of CHS to better understand navigation through some of its facilities.

An example of the problems associated with system navigation can be seen with Carilion physicians. Physicians navigate Carilion as both system users and system builders. Doctors use the system to lure patients in, yet they enlarge the system by acquiring more system users. A physician's navigation through Carilion depends on the various roles she plays. Gatekeeper and double agent are two of the possible roles assumed. A gatekeeper is a physician who approves all care other than primary care and emergency services that a patient receives. A double agent is a physician who provides care and is paid by a patient, while at the same time is paid to hold costs to a minimum for third-party payers (Angell, 1993).

Technology is one of the main actants in Carilion's health care system that promotes certain navigation pathways and Carilion relationships. According to Bruno Latour, actants can be people or objects that "speak" or represent the history or creation of specific events or objects (Latour, 1987). Medical technologies can be situated to represent two important niches in health care systems: patient usage and system-building use (Blume, 1992). An example illustrates this two-pronged meaning for one medical technology. On one level a magnetic resonance imaging scanner (MRI) views a patient's body with all the ensuing ramifications of a Foucaultian "technological gaze." "Technological gaze" refers to the ability of a technology such as an MRI scanner to visualize medical knowledge, information, and bodies in ways beyond a normal, human glance or visualization (Foucault, 1975). At the system building level, an MRI machine serves as an attractor of Carilion's various components, magnetizing or drawing them

together. The machines travel from one Carilion facility to another linking physicians, machines, technicians and patients to each other. The connection between technology and health care systems is so strong and manipulative that it is essential for understanding the overall American medical system.

I believe this examination of how CHS was able to build a corporate managed care system provides a “way in” to grasping the complexities of America’s national health care problem. Health care is one of the most complex issues in American society because it is not amenable to easy solutions. More than seven years have elapsed since the ambitious efforts of the Clinton administration to reform the health care system failed. Since then, employers, government, physicians and hospitals have focused on private managed care systems, like CHS, as the preferred vehicle for cost containment and the delivery of medical care. Competition among these systems continues unabated among communities and consumers. If one adds to this the myriad of government regulatory restrictions, insurance problems, and the quality, cost, and access to medical care, the future of these health care delivery systems seems troubled (Meltzer, 1997). This study seeks to contribute to society’s understanding of how health care concerns, questions and responses are visualized in health care systems.

According to Houston Bell, Carilion’s senior vice president of its Western Division, recent developments have changed the context of medical care so much that no one – not physicians, hospital managers, patients, or insurers – is content with the relationships that are evolving. Comfortable new patterns of behavior have not yet developed and constructive new relationships between hospitals, doctors and managers

have not yet emerged in most health care organizations. Health care systems such as Carilion are functioning, but remain difficult to navigate (Bell, 2000).

Dissertation Objectives

This work addresses questions pertaining to three categories: 1) the organization of the Carilion corporate system, 2) Carilion employees, and 3) system building in America. Questions concerning the organization of Carilion's corporate system include: How does a managed care system, such as Carilion, arise? What are the various components that comprise CHS and how are they ranked within the system? How is authority organized within the system? How does the system expand? Is Carilion like other managed care systems? How does Carilion fit into larger American medical care systems of managed care (such as government managed care plans and national HMOs)?

Questions pertaining to Carilion employees include: Who are the personnel and staff that manage Carilion? What are the roles of Carilion physicians, hospital administrators, board members and hospital medical staffs? What are the relationships of Carilion's physicians to their patients and to the system? What are the relationships of Carilion's hospital board members to their individual hospitals, communities and the Carilion system? What are the relationships of hospital administrators to their individual hospitals and to the Carilion system? What are the relationships of Carilion hospital medical staffs to their patients, hospitals and the Carilion system?

Lastly, questions concerning system building in America include: How are managed care systems, such as CHS, similar to other corporately-integrated delivery systems, like Wal-Mart or McDonalds? How do corporate systems use history to market

their products? Can corporate medicine, communities and consumers be defined in a meaningful way within health care systems?

By addressing these questions, this work contributes to the field of Science and Technology Studies (STS) by offering an understanding of how large, corporate organizations build systems and manage health care, communities and consumers. This study of Carilion exemplifies the relationships between science, technology and society in important ways. The greatest impact is how Carilion safeguards health and promises wellness. These functions are crucial to the health of individual lives and communities. Technology and science are two essential means by which communities and health care systems attempt to achieve these goals. Carilion, however it may be defined, is a medical, technologic system that shapes and, in turn, is shaped by the communities it serves. Often systems, especially medical ones, are taken for granted and assumed to be good community resources. In other words, a person is happy to know a physician's practice is down the street if she has the flu, or one is grateful when a family member suffers a heart attack to have cardiac care at nearby hospitals. Yet, once immediate tragedy or illness is averted, or once one finds she has to deal with medical technological systems on a daily or weekly basis – a consumer (patient) starts to ask questions. Who does this system really help? Will the system allow me to get better? How can I make the system workers respond to what I want? How do I move through the system? The list of questions is endless. And more importantly one starts to realize, if a system user has these questions, what sorts of questions and concerns do system workers have? For example, one ponders what queries the physicians, the hospitals' staffs, the institutional managers and others ask.

This study examines entrepreneurs (physicians), hospital board members, hospital medical staffs, hospital administrators, corporate executives, institutions, and communities. I chose these groups because they play important roles in large technological systems like CHS. Ironically in the past, most works in the history of medicine were written by and for physicians (Rosenberg, 1992). This study, on the other hand, provides a “way in” to understanding all these various groups, not just physicians, and a means to understand the dialogues, translations and associations they have with one another. The significance of this study for STS is that it explains the movement that has been underway since the late 1960s to revolutionize health care in America. The study of Carilion is an excellent starting point for an examination of managed care systems because Carilion represents a viable medical network, shaping Virginian communities together in ways both traditionally accepted by southwest Virginia communities as well as in ways dramatically different from past community medical bonds. How Carilion’s continuation of past visions of medical care and its future visions of care play out in southwest Virginia are distinguished in each of the goals of this project.

Goals and Plan of the Project

The work is divided into six chapters to examine the medical transformations in health care that made managed care systems such as Carilion possible. The work includes a description of the formation of the social and medical structures that were a prerequisite for the use of managed care organizations and portrays the tensions created within the medical community between competitive health care systems like Columbia/HCA and Carilion. The extent to which Carilion has succeeded as both a health care and a managed

care system in southwest Virginia communities emerges as a highly contested topic in each of these chapters.

Chapter One, “How America’s Care Came To Be Managed,” provides an overview of managed care. The chapter explains how employers, insurance companies, government, medical care providers, and citizens came together in interesting ways to organize health care delivery in the United States in the later half of the 20th century. America’s managed care system is dramatically different from medical systems in the rest of the world. It offers some government sponsored programs like Medicare and Medicaid, but, at the same time, involves capitalistic competition among employers and insurance companies to contract for health care and to establish large health care systems. The United States’ managed care systems represent a hybrid health care delivery system that falls somewhere between free open market health care available for a price and socialized medicine available to all citizens (Wong, 1998). Chapter One sets the stage for the rise of large health care systems, like CHS, that could oversee the managed care business. The theme of the chapter is that corporate systems, which took over the management of America’s health care delivery, are using a new set of economics, values and even medical treatments than traditional fee-for-service care provided.

Chapter Two, ““Carilion’s Mission Began With Its Hospitals:’ 1988-1992” outlines how the CHS became the largest regional hospital system in southwest Virginia. The chapter begins with a discussion of the Roanoke Memorial Hospital and its charter association, the Roanoke Hospital Association (Carilion’s former name). The chapter examines how Carilion grew out of the mission Roanoke Memorial Hospital and the Roanoke Hospital Association had to become a medical, teaching and consulting center

for southwest Virginia hospital facilities, consumers and communities. The chapter describes why the Roanoke Hospital Association felt it needed to change its name to Carilion. Then the chapter examines Carilion's battle with the U.S. Justice Department to merge its Roanoke Memorial Hospital with another facility. The verdict of the court case is significant because it allowed Carilion and other American health care organizations to expand their hospital holdings.

Chapter Two also provides an analysis of two Carilion hospital facilities – the Franklin Memorial Hospital (FMH) and the Radford Community Hospital (RCH). These two hospitals were selected because they represent how Carilion's small community hospitals affiliated with Carilion in the late 1980s through 1990s. FMH is a small facility in a rural Virginia community about 30 minutes away from Carilion's Roanoke Memorial Hospital. Radford Community Hospital (now the CNRVMC) is about one hour from Carilion's Roanoke Memorial Hospital. In the 1990s, hospitals like RCH and FMH became "spokes" or satellite facilities dependent on Carilion's "hub," the Roanoke Memorial Hospital, for more sophisticated care services.

An examination of the FMH and the RCH provides an insightful look at how care, communities and consumers came together in Carilion's hospital system. In the last section of the chapter, I analyze how Carilion attempted to regionalize its hospital services in the 1990s to make its "hub-and-spokes" system more cost effective. The theme of the chapter is that Carilion transformed itself from one hospital into a hospital system based on networking together corporate growth, communities and health care.

Chapter Three, "Transforming Carilion From a Hospital System to a Managed Care System: 1992-1996," analyzes how Carilion negotiated the movement from being a

hospital system to being a corporate managed care system. First, the chapter describes how Carilion needed two additional components to make it a health care delivery system. A health care delivery system is defined as a system which provides a range of health-related services including insurance, primary care, acute care, home health and other care needs. A health care system is distinguished from a hospital system because the services provided in a health care system are not always performed in a hospital setting. This chapter shows that the two additional components Carilion needed to make it a health care system were a network of physicians to feed patients into the system and a health plans division to secure patients to the system. The chapter provides a detailed description of how Carilion formed its Carilion Health Care Corporation (CHC), a physician management company to network southwest Virginia physicians. Next, the chapter offers an account of the Carilion Health Plans (CHP), Carilion's insurance subsidiary, which allowed Carilion to become a managed care system. Carilion had to provide an HMO to become a managed care organization. The theme of this chapter is that Carilion built a managed care system based on traditions of care utilized in its hospital system to get doctors to join its CHC and to sell the system's products (care services) via CHP's HMOs to consumers.

Chapter Four, "Corporate Strategies for Managed Care" examines three transformations Carilion underwent from 1995-2000 to compete with Columbia/HCA. The first section analyzes Carilion's 1995 corporate Reengineering Program that reorganized its operations including physicians' practices, hospitals, and health plans into a corporate service-line approach. The second section describes Carilion's construction of a managed care medical center to replace its aging Radford Community Hospital and to

compete against Columbia/HCA in the New River Valley. The last section of the chapter chronicles Carilion's advertising campaign (1998-2000) to gain market share over Columbia/HCA's competitive threat. While Carilion's attempts to compete against Columbia/HCA were not always successful, they are meaningful in what they tell us about how corporate systems devise growth strategies involving communities and health care delivery in America today.

In Chapter Five, "Narrations of Managed Care," Carilion physicians, hospital board members, administrators, and hospital medical staffs share their experiences about Carilion's corporate system building and its management of care. In the first section, Carilion primary care physicians describe how their practices were organized before and after joining Carilion's CHC. The second section allows hospital personnel – board members, administrators and medical staffs – to speak about how their work has been transformed since Carilion assumed ownership of their hospital facilities. Together, the groups' descriptions bring to life the day-to-day activities occurring within Carilion's hospitals and physician practices. The theme of the chapter is to listen to the voices of Carilion employees as they describe their work experiences. From their narrations, we learn that for groups working within Carilion's facilities, carrying out Carilion's growth strategies and maintaining communities' traditions of care simultaneously, are sometimes competing agendas.

Chapter Six, "New Directions," explores three new ways that Carilion has undertaken to manage care since 2000. The three new directions are each unique, but they emphasize a common theme Carilion is promoting – a new paradigm of care based on a preventive model instead of a traditional acute care model. The chapter explains that

Carilion administrators contend preventive-type care can be more cost effective for CHS system operations as a whole. I show in the chapter that Carilion management also believes preventive care promotes greater community goodwill, because patients are cared for throughout their lives not just for episodic acute illnesses. Section One examines Carilion's hospital partial-ownership strategy which represents how Carilion has undertaken to manage care from a preventive-type model in hospitals. Under Carilion's hospital partial-ownership program, Carilion becomes one owner, not the only proprietor of a hospital facility. Carilion's partial-ownership strategy reduces significantly Carilion's risk of assuming acute care services, while, at the same time, provides Carilion facilities to perform preventive-type services. In the second section, I analyze another direction Carilion is going in to change to a preventive-type model. This new direction takes place in Carilion's physicians' practices.

From January 2000 through July 2001, Carilion installed in each of its physician practice sites its Electronic Medical Records System (EMRS). Carilion's EMRS, the largest in the United States, allows its physicians to manage patients' care, but, at the same time, gives CHS a means to manage doctors' productivity and compliance to procedures. The EMRS supervises Carilion physicians' management of preventive medicine. If a Carilion patient needs diabetic preventive management and a Carilion physician fails to alert the patient when a certain procedure needs to be done, the EMRS informs the doctor when and what preventive-type treatments need to be done and informs CHS of the physician's compliance or noncompliance to the procedures. Carilion's EMRS represents a new decision-maker in the doctor-patient encounter.

In the third section, the creation of the Carilion Biomedical Institute (CBI) is examined. The CBI denotes managing care from an entirely new perspective relying on genetic research, biomedicine and biotechnology. Carilion believes its CBI may represent the bridge to span acute and preventive models of care. Carilion hopes biomedicine and biotechnology will generate solutions to keep patients well before they become acutely ill. The theme of this chapter is that Carilion in its past relied on community traditions of care to enlarge its system, but now Carilion appears to be moving in new directions with a new model of care that redefine communities' places to receive care and visions of care.

These chapters combined provide an account of one of America's most recognized health care systems – the Carilion Health System. In January 2000, Modern Healthcare named Carilion Health System one of the top 100 health care systems in the United States. Carilion Health System ranked 54th, ahead of prestigious groups like the Mayo Clinic in Minnesota and the Baylor Health Care System in Texas (Holton, 2/15/00). The story of Carilion's success could have been otherwise, however. At each important juncture, community groups, the CHS, the federal government, the health insurance industry, medical technology or consumers could have set a different agenda which, in turn, would have fostered a different value and placement of health care for communities, corporations and consumers. This work unpacks what did come to pass at some critical points in the history of the CHS. The story is by no means complete. This project represents a work itself in progress because the CHS changes daily.

As of the first writing of this text, the Carilion Health System and the Roanoke City government are engaged in a fierce battle to buy property to situate Carilion's proposed Riverside Biomedical Park in downtown Roanoke (Jackson, 9/7/01). The

Carilion Electronic Medical Records System, although installed in all Carilion physician practices, continues to create stress within Carilion's physician practices (Bumgardner, personal communication, 2001). These are only two of the on-going situations changing the Carilion face of health care. The outcome of these events is difficult to predict, but one thing is certain – health care systems like the CHS, assert control and manage care in ways which have a major impact on practitioners and communities. Communities are defined in many ways by their associations with health care systems today; this is especially true for CHS. In 2001, CHS is the largest employer in the Roanoke Valley. This work analyzing the CHS shows how health care systems are managing care, consumers and communities.

The study of managed care and of health care systems is complicated. Relationships within the managed care environment vary considerably as measured by a number of criteria. Analysis is made difficult by the fact that there are no solid case studies and no systemic analyses. Managed care is a young, volatile industry. Statistical data on managed care are incomplete. The lack of data lends a certain irony to the project, since managed care itself attempts to use physicians' data and third-party payers' numbers to manipulate consumers, providers, and sellers.

Managed care terminology poses problems, as well. Many terms used to describe the doctor-patient relationship have changed with the coming of managed care. For example, the doctor is most often viewed as the provider, caregiver, or case manager. A patient is a user of a system, consumer, or plan holder. Hospitals are outpatient surgery centers, plants, or utilization centers. A doctor-patient visit is now an encounter, a production unit, or a case.

Health care systems and managed care systems themselves are not easily distinguished from one another. A health care system may not necessarily be a managed care system, but a managed care system can generally be described as both a health care system and a managed care system. According to Carilion's vice president of its Western Division, Houston Bell, a health care system denotes a corporate organization or network of hospitals and/or physician practices and/or other medically-related services to provide a continuum of care. "Continuum of care" refers to preventive health-related screenings, acute care treatments, home health programs and hospice services necessary throughout a consumer's life span (Bell, 2000). Health care systems depend upon third-party reimbursement plans (which include managed care plans like HMOs or other insurance payments) to pay for its organization's services. Don Lorton, Carilion's senior vice president for Strategic Services, claims that a managed care system comprises all the components of a health care system and one other important component – its own health maintenance organization (HMO) (Lorton, 2000). Tom Robertson, former CEO of Carilion, explains that a system's ability to market its own HMO means more control, more ability to manage care within the system itself by system users (patients), system workers (physicians) and other medical staff, and by system facilities (physician practices and hospitals) (Robertson, 2000). Appendix One provides a glossary of terms used in this project to identify managed care concepts, organizations and abbreviations.

Most heads of managed care systems prefer to call them health care systems. The term "managed care" has numerous negative connotations, such as fear of capitation for physicians, gatekeeping for consumers, and minimal reimbursement for hospitals, notes Archie Cromer, a Carilion board member (Cromer, 2000). Overall, Lester Lamb, a CHS

and CNRVMC board member, states that most managed care system users and workers dislike the business emphasis of the word “managing” care. The term “health care system,” on the other hand, brings to one’s mind the idea of a “healthy” consumer and of a system that cares for its users (Lamb, 2000). Most systems like Carilion prefer to be called health care systems, claims Cromer (Cromer, 2000). In this work, the two terms – managed care system and health care system – are both used to describe the CHS, depending on the subject discussed and how the terms were used most often by the Carilion personnel interviewed.

Another problem associated with research on managed care is that distinctions are difficult to make between current types of organizations under managed care. Since managed care’s inception, organizational forms have had to adjust, and many distinctions between various types of organizations have broken down. For example, the distinctions between Independent Practice Associations, physician networks, and group model HMOs no longer exist. As Walter Zelman, a health care analyst, points out in The Changing Health Care Marketplace:

Consider, for example, the case of a large medical group, dispersed over a number of sites, using a combination of member physicians and independent physicians with whom it has contracts to service a full-risk [a delivery system assuming responsibility for all of the health care services to be delivered] managed care contract. Is it a medical group? An Independent Practice Association? And what type of HMO do we call the organization that may be contracting with it and other similar groups to provide care? (Cited in Zelman, 1995, p. 74)

Analysis is hindered further by confusion over the concepts of consolidation and integration in the health care industry. Some researchers acknowledge that all attempts to unite related health care organizations are integrations. Others contend integration refers specifically to the efforts used within an organization to increase coordination of services.

Robertson explains that integration in this sense denotes making parts of the whole work better (Robertson, 2000). In this work I used the term consolidation to refer to a health care system's attempt to unite various businesses within the medical industry into one system, such as hospice services, home health services, nursing homes, HMOs, etc. According to Robertson, consolidation makes Carilion a health care system (Robertson, 2000). Integration, on the other hand, refers to a health care system's ability to connect internally these acquired businesses and network them together to form system service lines, divisions, or departments. Integration allows Carilion Health System to become an Integrated Delivery System (IDS). Fully integrated delivery systems, however, are difficult to create and maintain because networks break apart easily. Network nodes are disconnected, rewired in new directions, or undersupplied to carry out their business (Hughes, 1990).² Carilion's Houston Bell insists that networks are defined in health care integrated delivery systems as linkages to knowledge, providers, services, and technologies within the system (Bell, 2000).

Consolidation in health care systems has occurred faster than integration. Sociologist Paul Starr notes that corporate consolidation attempts began as early as the 1970s (Starr, 1982). Carilion Health System initiated its own consolidation attempts in the 1980s. Carilion's CEO, Dr. Edward Murphy, contends integration has been difficult for health care systems to achieve. Some types of integration (clinical especially) have been very troublesome for health care systems to attain and have caused health care system failures (Murphy, 2000). Carilion Health System itself began a corporate restructuring program to integrate its clinical service lines more efficiently in 1995. Sid Mason, president of the Franklin Memorial Hospital board, recalled that the restructuring

initiative proved extremely arduous for system employees and administrators (Mason, 2000).

Lorton believes that a fully integrated health care delivery system is the operations goal of most health care systems (Lorton, 2000). Dr. Murphy admits that CHS, like most health care systems, is gradually moving in that direction, but its efforts are slow due to problems of navigation and system mobility (Murphy, 2000). This study examines how Carilion's managed care organizations, hospitals and physicians have consolidated, are integrating and adjusting organizationally in an evolving marketplace and a changing environment of how and where medicine is practiced. The research explores the goals and strategies Carilion groups pursue and how their pursuits have led to many new organizational relationships within the Carilion Health System and to southwest Virginia communities.

To conduct research for this project, I relied on personal interviews with both Carilion and non-Carilion medical personnel, and business members of southwest Virginia communities. Forty-six interviews comprise the primary non-documentary data of the work. The Carilion interviewees include Carilion physicians, nurses, hospital administrators, local Carilion hospital board members, Carilion System board members, and system executives. The non-Carilion medical personnel interviews include Lewis-Gale Clinic practitioners, Lewis-Gale and the Veteran's Hospital nursing staff, Lewis-Gale Clinic board members, a Veteran's Hospital physician, solo practicing physicians, and former and present presidents of the Virginia Hospital and Healthcare Association. Area businesspersons interviewed include insurance agents, a realtor, a Wal-Mart manager and Roanoke property owners affected by Carilion's biomedical institute.

Appendix Two contains a list of all persons interviewed, their positions, titles, and/or affiliations with the health care industry in Virginia and provides a copy of the research protocol, informed consent form, letter and sample questionnaires interviewees received.

While conducting research for this project, I had to make several important decisions about whom to interview and which facilities to visit. In November 1999, I wrote to Tom Robertson, then CEO of CHS, to inform him of my proposed project, initial research and to ask permission to interview Carilion personnel. On December 19, 1999, Robertson and I conversed about the project. We agreed that for me to write a worthy study of CHS's history, I needed to examine Carilion's care delivery in three communities. We selected the Franklin County community and its hospital, Franklin Memorial, the New River Valley and its medical center and the Roanoke area and its Roanoke Memorial Hospital. We chose these three communities and hospitals because they describe well how Carilion cares for communities in three distinct ways. First, Franklin Memorial exemplifies most of Carilion's owned small community hospitals. Second, the Carilion New River Valley Medical Center provides an analysis of how Carilion builds state-of-the-art medical centers. Third, the Roanoke community and the Roanoke Memorial Hospital were deemed essential because Carilion first started caring for southwest Virginia in Roanoke at its Roanoke Memorial facility. Roanoke Memorial is Carilion's oldest and most important facility, and it represents the main "hub" of CHS's "hub-and-spokes" system. Robertson defined the "hub-and-spokes" system as Carilion's smaller hospitals (spokes) feeding patients into its larger facilities (hubs) (Robertson, personal communication, 1999).

These interviews provide the heart of this project. The interviews give voice to the history and the current day-to-day workings of corporate health care organizations. Through the words of the persons interviewed, Carilion comes to life. Carilion's management of care, communities, and consumers becomes an activated system replete with people, places, objects, and information.

The second most important means for gathering research for this project stemmed from site visits. I made numerous visits to Carilion and other southwest Virginia health care facilities, including hospitals, physician practices, home-health services, nursing care facilities, and other Carilion health care system-related buildings and advertising billboards.

The site visits allowed me to connect physically at various system network nodes with Carilion facilities, workers, information, technology, and marketing operations. Combined site visits and interviews "networked" me into the Carilion Health System, and allowed me to use Bruno Latour's methodology to open Carilion's "black boxes." Latour contended that when controversy surrounding an event, idea or machine is resolved, it becomes a closed box. Once reopened, a black box's contents can be analyzed in various ways to retell the controversy and history of an event or creation of a science or technology. Latour's methodology of following actants and opening black boxes guided the work of this project. Besides the interviews and site scoutings, the work relies on secondary sources such as newspapers and local histories to better understand health care concerns in southwest Virginia. The interviews, site visits, and local sources combined, provide a firm foundation from which to assemble a history of Carilion's management of care, consumers, and communities.

Notes

¹ See Bijker, Hughes, and Pinch, eds., 1990 and Bijker and Law, eds., 1992 for an informative discussion of system navigation.

² For the theory of network analysis see Hughes, 1990, 1989, 1986a, 1986b, and 1983.

Chapter One

Setting The Stage: How America's Care Came To Be Managed

This work is a study of how Carilion Health System (CHS) has succeeded in managing care in southwest Virginia from the 1980s to the present. It is the story of how one hospital, Roanoke Memorial Hospital and its holding company, the Roanoke Hospital Association, transformed into the Carilion Health System, a regional, corporate health care system. To understand how Carilion came to control much of southwest Virginia's care, it is important to examine how America's care came to be managed by corporate systems in the first place. The theme of this chapter is that managed care, or corporate medicine, organized under corporate America connotes a different set of economics, values, and perhaps even medical treatments than traditional fee-for-service care. This chapter describes how America's care came to be managed by corporations such as Carilion and how corporate management has changed the care patients receive from their physicians.

This chapter examines how America's care was moved by managed care organizations from the control of patients and their independent practicing physicians to corporate systems. Section one examines how consumers, patients, providers, technology, corporate America, medical facilities, payers, state and federal governments all came together in multiple settings from the 1970s to 2001 to arrange managed care. The section also shows how the failure of President Clinton's Health Care Reform in 1993 hastened the rise of HMOs and managed care systems. Section two analyses how managed care necessitated the reorganization of the physician community in the 1990s and imposed new ways of delivering care services to consumers.

Unmanaged Versus Managed Care

In 1990, if you asked most Americans, including health care providers, what managed care meant, they did not know.ⁱ Physicians pondered the question: Before “managed care” there was what, “unmanaged care?” All physicians interviewed for this project responded no. The physicians insisted the doctor and the patient have always managed care. The terms “gatekeeper,” “health maintenance organization” (HMO), and “preferred provider organization” (PPO), meant nothing to patients. Americans, for the most part, went to the physicians and hospitals they chose and received the care they requested. By 1990, while some Americans faced only modest out-of-pocket costs and believed health care meant the latest medical innovations and life-saving technologies available to all, 35 million Americans had no insurance or were underinsured for healthcare (Zelman and Berenson, 1998). Today over 43 million Americans are uninsured or underinsured (National Rural Health Association, 2001).

Most Americans considered American health care consumer-friendly, but with a fatal flaw (Cowley and Turque, 1999). The American medical system could not control costs. From 1985 to 1990, health insurance premiums rose 15-20% per year (Zelman and Berenson, 1998). In 1989 alone, premiums increased on average 24% for employer-sponsored group health coverage plans. In 1990, Americans hailed the news as good when health care premiums were held at only a 14% increase for that year (Sullivan and Rice, 1991); yet everyone admitted health care costs were out of control (Zelman and Berenson, 1998).

Almost 13% of the United States’ Gross National Product was consumed by health care expenditures in 1990 alone. In that same year, the United States stood out

among 29 countries examined by the Organization for Economic Cooperation and Development (OECD) for having the highest health care costs. Economists blamed the exorbitant costs of American health care for workers losing wage increases and for the undermining of American products competing in foreign markets. Negotiations among American workers in the 1980s and 1990s had begun not to focus on wage increases, but instead on the loss of health care benefits. Because of increased health care costs, many Americans found themselves unable to afford insurance (Zelman and Berenson, 1998).

By the early 1990s, the runaway costs and the increasing numbers of uninsured Americans forced a change in the medical system (Bergman, 1994). Those working in the health care industry recognized that it was fraught with uncertainty and volatility. Physicians' fear of capitation (a fixed prepayment for medical services), lost income, patient population controls and HMOs made them vulnerable to changes that they feared. Nor were hospitals eager to accept the changes that government regulations and managed care reimbursement brought. Hospitals were used to setting their own standards of care and reimbursement systems (Brown, 1980). According to Sid Mason, a Franklin Memorial Hospital board member, suddenly, hospitals were to be transformed into managed care organizations in which they were expected to be team players in association with other members (Mason, 2000).

For some groups, managed care organizations, HMOs, and health care system developers, the corporate environment emerging with managed care appeared to be full of opportunities (Zweig and Spiro, 1993). Wall Street discovered that the managed care industry developing in the 1990s held significant investment opportunities (Kuttner, 1999a). Investors, physicians, hospitals and system builders all found in the 1990s that

the transformation of American medical institutions [hospitals, clinics, solo physician practices, and HMOs (insurance)] would redefine the medical care industry.

Ed O’Neil, a health policy analyst, has characterized the dramatic shift to managed care as similar to the collectivization of agriculture in the Soviet Union in the 1930s. Like the Soviet farmers, independent health care providers, such as physicians, are now networked into health care systems that determine their productiveness (Birenbaum, 1997). Managed care became a new paradigm for health care driven by a concern for costs (Rynne, 1995). It replaced the old blank check or fee-for-service system of medical care for a program based on cost-conscious or “appropriate” care. A fuller meaning of the new managed care’s paradigm can be discerned from the following definition of managed care:

[Managed care is] an attempt at a coordinated approach to deliver a full continuum of health care services through a system designed to measurably meet the objectives of delivering appropriate care by the appropriate provider at the appropriate venue at the appropriate time and utilizing appropriate resources such as staffing and technology (cited in Todd, 1996, p. 1).

The goal of managed care was to deliver care at a lower cost and realize a higher favorable outcome ratio (profit) than care unmanaged in terms of costs (Todd, 1996). How “appropriate” care, costs, medical staff and technology were defined became the impetus to organizing managed care systems. Prior to the federal government’s Medicaid and Medicare programs enacted in 1966, “appropriate” care was defined and managed basically by the doctor and patient, with insurance companies simply paying the bill. The introduction of the third-party payer meant physicians no longer controlled the purse strings to medical care. The difference between managed care and unmanaged care has

historical roots connected to the introduction of the third-party payer system. Managed care represents an evolutionary stage in the growth of third-party payers.

According to Carilion physician Reed Lambert in Christiansburg, third-party payers usurped management of care because businesspersons were shrewder than doctors; at least third-party payers were better at watching the financial bottom lines for medical services expenditures (Reed Lambert, 2000). After the passage of Medicare and Medicaid, insurance companies and the government started to take a hard look at the mounting bills, and these groups were armed with new technology (computers) to help them assemble their data. Sophisticated computer systems were increasingly allowing government and other third-party payers to quickly summarize patient data to detect trends in spending, utilization of services and patient care progress (Beniger, 1986). Statistical data showed that medicine, like many other American institutions, was not totally effective or economical. As a result, medicine suffered a stunning loss of confidence in the 1970s and came increasingly under the control of federal regulation (Ludmerer, 1999).

Previously, two premises had guided government health policy: first, that Americans needed more medical care – more than the market alone would provide; and second, that medical professionals and private voluntary institutions were best equipped to decide how to organize those services. Until the 1970s, the first of these premises had not yet undermined the second. Increased federal aid initially did not much enlarge the scope of public regulation. Practitioners, hospitals, researchers, and medical schools enjoyed a broad grant of authority to run their own affairs immediately following the initiation of the Medicare and Medicaid programs. Historian Kenneth Ludmerer has

described the initial Medicare and Medicaid years (1966 to 1974) as the “pass-through era” of reimbursement for medicine (Ludmerer, 1999). Medicare and Medicaid payments were “passed through,” or paid to physicians and hospitals, regardless of the amount of the charges for services delivered by physicians and hospitals.

By the middle 1970s, this mandate ran out. The economic and moral problems of medicine displaced scientific progress at the center of the public’s attention. Basically, there were three revelations that occurred in the 1970s. The first was that a health care crisis existed. The second was that medical care hardly affects a person’s health at all, which encouraged a backlash against medicine. The most immediate impact of this new therapeutic nihilism on American health policy was to concentrate attention on cost controls for medicine. This, in turn, led to the third revelation, according to which a policy based on competition and incentives in the marketplace could cure the problems of health care in America (Ludmerer, 1999).

Archie Cromer, a Carilion board member, noted that the combined impact of recession and inflation in the mid-1970s ushered in the era of “medical management for medical care” in the United States (Cromer, 2000). The nation, suffering from a severe recession in 1973-1974 and from soaring medical costs, attempted to hold down costs. The federal government implemented a host of regulations for American hospitals in an effort to contain Medicare and Medicaid costs. The regulations made hospitals among the most regulation-burdened industries in the nation, and the first sites to undergo corporate reorganization (Starr, 1982).

Cromer recalled that the federal regulations imposed upon American hospitals made it more difficult for hospitals to receive Medicare and Medicaid funds for

reimbursement of in-patient care services (Cromer, 2000). Hospitals had to establish in-house “utilization review” and “quality assurance” committees to monitor and evaluate patient medical needs and treatments. Also, the regulations mandated outside independent review organizations such as the Professional Standards Review Organization (PSRO). These organizations were expensively staffed with doctors and other medical personnel who reviewed decisions from the records of hospitalized patients on matters that affected hospital costs (Ludmerer, 1999).

The federal government’s regulations and newly created review boards created numerous problems for hospitals. The Medicare and Medicaid reimbursement criteria prompted most private third-party payers of insurance and state and local governments to follow the federal government’s lead and, as a result, they too began reimbursing hospitals for fewer services. Most third-party payers stopped allowing for preoperative and convalescent days as necessary in-patient services and ruled that many hospital tests needed to be done as outpatient services in order to receive reimbursement. Hospitals were also ordered to complete all necessary paperwork for services covered by government programs and insurance carriers in a timely manner (with mandated times) or else no reimbursement would be forthcoming. Many attending physicians whose signatures were necessary for billing found their attention diverted away from patient care and teaching to record-keeping. The hospitals’ reward for complying with the new regulations and paperwork was to experience delays in receiving payment and to have to employ more people to keep up with the increased paperwork (Ludmerer, 1999).

Hospital administrators and boards feared that the new regulations and reimbursement practices would trigger economic instability, especially given the

insatiable appetite of Americans for more sophisticated medical care that could solve all medical problems. The hospital industry began to think in terms of economic survival and turned to American corporate economic models (Chandler, 1977) to maintain stability and to enlarge the industry. Sociologist Paul Starr describes the medical industry that took shape in the mid to late 1970s as the rise of the “medical industrial complex” of America (Starr, 1982). A “medical industrial complex” represented a corporate, industrial organization that grew out of freestanding mostly not-for-profit hospitals. Medical industrial complexes emerged when hospitals, doctors, medical schools, health insurance companies, drug manufacturers and medical equipment suppliers began to experience the effects of the cost containment regulations on the medical industry in the 1970s.

Carilion’s former chief executive officer (CEO), Tom Robertson, noted that the groups came together to constitute what appeared to be a “seamless web” of independent physicians, not-for-profit hospitals and other medically-related businesses to withstand the changing environment of regulation and reimbursement (Robertson, 2000).

Starr has outlined five changes that characterized the transformation of hospitals into medical industrial complexes. First, there was a change in the type of ownership and control of hospitals; a shift occurred in the late 1970s from non-profit to for-profit hospitals. Second, a horizontal integration of hospitals took place, resulting in the rise of multi-institutional systems. In other words, a shift took place from a freestanding community hospital to a regionally active group of hospitals with regional board control. Third, diversification and corporate restructuring took place. Holding companies were created to manage both the for-profit and not-for-profit businesses a medical corporation might oversee. Fourth, vertical integration ensued when medical corporations

incorporated various levels and phases of care in their corporate strategies and operations. Finally, industry concentration took place when medical corporations became immersed in all medically-related businesses in the industry to cover their wins and/or losses depending on which parts of the medical industry were financially successful at any given time (Starr, 1982).

As hospitals readied themselves to form industrial medical complexes, the very idea that medical care equaled better health was being challenged on a number of fronts. Many Americans were beginning to consider as false the “Great Equation” – medical care equals health. Aaron Wildavsky, president of the Russell Sage Foundation in 1977 and author of Doing Better and Feeling Worse, noted that many factors besides medicine determine health. Therefore, more available medical care does not necessarily equal better health (Wildavsky, 1977). John Knowles, president of the Rockefeller Foundation, also argued against expanding medical care. Knowles wrote, “No one is saying that medicine is good for nothing, only that it is not good for everything” (Knowles, 1977). Thomas McKeown claimed that the decline of infectious diseases in the late 19th century was not attributable to advances in medicine; rather he insisted that better nutrition and attention to public health were the reasons for the significant decline in infectious diseases (McKeown, 1976). Taking an even more radical view, social critic Ivan Illich argued in Medical Nemesis that American medical care actually caused more diseases than it cured (Illich, 1976). Economist Victor Fuchs argued against medical care as well. Fuchs insisted that medical care had its limits and would no longer reduce mortality or disease in the same way it had in the early 20th century (Fuchs, 1974). In general, people

in health care, as well as outside the industry, began to argue that medical care had limits to its effectiveness (Ludmerer, 1999).

In the late 1970s and the early 1980s, several factors led to the more modest expectations of medicine. First, there was a growing concern over rapidly spiraling medical costs. Medical care was increasingly viewed as deleterious to the country's economic competitiveness as more and more resources were consumed with seemingly less and less to show for it. Automobile manufacturers, who once spoke of the importance of medical care to their industry by enabling workers to be healthy and productive, by the late 1970s, were complaining that the cost of health care in the production of each automobile exceeded the cost of steel (Zelman and Berenson, 1998).

The decade witnessed a decline in the moral authority of physicians. News stories regularly reported abuses by doctors, hospitals, and nursing homes, such as fraudulent billing. In an age of consumerism and civil rights, there were loud protests against the excesses of some doctors. The ability or willingness of doctors to act in their patients' best interests came into question. A new genre of rights originated. The "right-to-die" movement, the "patient bill of rights" (1973) and new ethical guidelines for informed consent in human experimentation arose (Curran, 1974). The feminist movement also challenged the paternal authority of the medical profession and of medical schools. Mary Roth Walsh's Doctors Wanted – No Women Need Apply described how women encountered sexual barriers when entering medical schools or the medical community to practice medicine (Walsh, 1975). The Boston Women's Health Collective's Our Bodies, Ourselves was another influential work that analyzed how women were disgruntled with the paternal nature of the medical profession and should take health matters into their

own hands (Boston Women's Health Collective, 1975). Scholars in medical history and medical sociology who once viewed doctors as heroic, increasingly saw them as flawed human actors and began writing of their foibles and greed (Rothman, 1978).

The common denominator in these movements was the challenge they posed to professional authority (Grumbach, 1989). Also contributing to the lower expectations of medicine was a rise in incidence of chronic diseases. Most serious conditions affecting Americans in the 1970s represented ironies of earlier medical and public health successes. People were living long enough to develop cancer or suffer a heart attack or stroke. From the standpoint of research, these conditions were proving more difficult to understand and control than many infectious and nutritional diseases. From the standpoint of prevention, a large body of research was demonstrating that the majority of responsibility for maintaining health lay with the individual rather than the physician. Good health in adults depended less on regular medical checkups than on the individual assuming responsibility for the promotion of her own health (Knowles, 1977).

By the mid-1980s, the public's shifting perceptions of medicine had started to make progress in altering the business of medicine. A new philosophy became accepted which emphasized that there were limits to what the country could spend on health care, given the reality of finite resources in the face of a seemingly inexhaustible demand for high tech medical services. In 1984, besides concern for the costs of medical treatments, studies conducted by J. Wennberg discovered that significant variations for care existed among medical practices. Wennberg's findings awakened consumers and third-party payers to the realization that the medical community did not know the best or the most efficient ways to practice medicine (Wennberg, 1984). Concern about health care issues

had been growing for a number of years, but after studies such as Wennberg's, cost-consciousness finally began to dominate the health care debate and what Kenneth Ludmerer called the "age of limits" ensued (Ludmerer, 1999).

A competitive marketplace for medical care emerged that focused on prospective payment, lower prices, and the restricted use of hospitals and specialized services. No one expected that the United States would spend less on health care in the decades ahead, but it was clear that resources could no longer be so freely available for the asking. If the 20th century had been the age of abundance for medicine, it appeared that the 21st century would be the era of resource constraints (Rodwin, 1993).

According to Ludmerer, such development did much to undermine the authority of the medical profession and emboldened managers, policy experts, and government officials to challenge professional autonomy and control in ways that once would have been inconceivable. Ludmerer explained that what took place in the 1980s, with health care costs soaring, professional authority weakening, and third-party payers increasingly unhappy, was a fundamental transformation of the American health care system toward corporate managed care. In describing the changes occurring during the 1980s, Ludmerer writes:

Third-party payers revolted by demanding – and receiving – lower prices. In the new (and still evolving) system, there was marked skepticism toward the professional authority of physicians, unprecedented external oversight and review of medical decision-making, intense price-based competition among doctors and hospitals, and unparalleled opportunities for large, profit-seeking corporations in health care. Control shifted from the "providers" (doctors and hospitals) to the "payers" (insurance companies and managed care organizations) whose power resulted from their control of the flow of patients and their skill at exploiting the oversupply of doctors and hospital beds (cited in Ludmerer, 1999, p. 351).

The “age of limits” or “era of cost containment” began in earnest in 1983 when the federal government passed legislation to establish the “prospective payment” of hospital bills from Medicare patients (Ludmerer, 1999). Under “prospective payment,” Medicare paid a set fee per case, determined by the patient’s diagnosis. Medical diagnoses were placed in one of 467 diagnostic-related groups (DRGs). If the costs of a patient’s care were less than the DRG payment allowed, then a hospital made a profit from the difference. If the costs of a patient’s care were greater than the allowed DRG payment, the hospital had to cover the differences in payment itself and suffer a loss. Most private insurers adopted Medicare’s DRG groups and payment system (Ludmerer, 1999).

The implementation of Medicare’s DRG system of prospective hospital payment created a new objective for hospital care: speed. Almost immediately, the average length of stay for all patients fell by 25% (and for elderly patients, by more than 50%). Additional pressures from managed care organizations in the 1990s resulted in even further decreases in the length of stay, so that by 1995 the average length of stay had fallen to 5 or 6 days, compared with 10 to 12 days before prospective payment. In addition, new regulations of many medical care organizations – often promulgated for economic rather than medical reasons – resulted in the removal of many procedures and treatments from the hospital to the less expensive ambulatory setting. The in-patient units came to be populated by two types of patients: one group that was desperately ill, requiring intensive care and highly complex procedures, another that was admitted the day of an elective procedure and discharged as soon as possible thereafter, often within 24 hours (Ludmerer, 1999).

Prospective payment immediately changed the rules governing hospital economics. Efficiency became the most crucial aspect of hospital operations. Hospitals received a specified amount of money per patient, regardless of their actual patient care expenses. Hospital financial success became dependent on lowering costs, utilizing resources more efficiently and better management. In sum, financial success depended on seeing a greater number of patients more quickly. Hospitals learned they could profit under the DRG system, not by maintaining a high occupancy per se, but by attracting a larger volume of patients who were admitted and discharged quickly. The new goal of hospitals became a rapid “throughput” of patients. With prospective payments, the competition for patients needing specialty care became even more intense. By the 1990s to attract patients, hospitals and physician practices began aggressively marketing and advertising their services and worked hard to become more comfortable, convenient and friendly (Ludmerer, 1999).

Dr. Amos explained that cost containment was much needed and long overdue. However, cost containment with its mandate for speed and industrial efficiency (seeing the most patients in the least possible time) was implemented during the managed care era in a way that did not take into consideration the needs of doctors, patients, or hospitals. Managed care resulted in a deterioration of the doctor-patient, and doctor-hospital relationships. In the 1990s, doctor-patient relationships became less important as hospitals and physicians found health care costs continued to escalate and their reimbursements to decrease. As enrollment in HMOs and other forms of managed care expanded, physicians and hospitals (providers) found themselves not only competing for patients, but also competing for membership into provider networks, managed care

HMOs, and integrated delivery systems. With both patients and providers scrambling to join HMOs and networks, the American government tried once again to establish a national health care plan (Amos, 2000).

With Clinton's victory in 1992, many hoped that the United States would finally join the rest of the industrialized world and bring universal health care coverage to all Americans. The momentum was great for such a proposal, according to American public opinion polls. Abe Essig, a Franklin Memorial Hospital board member and a businessman in Rocky Mount, recalled America's industrial and business sectors' outcries about how high health care costs were making American goods less competitive in the global markets, and demanded that federal government not only listen, but react (Essig, 2000).

Clinton's health care reform mission began in September 1993. In a speech to a joint session of Congress, Clinton proposed offering a Health Security card to the citizens of the United States, a card similar to a Social Security card. Just as the Social Security card entitled all Americans to certain benefits, the Health Security card would designate health care for all Americans. The Health Security card would symbolize a health care system, which would be accessible to everyone, affordable to all, and provide quality care to every American. The Clinton reformers sought to correct the following problems they saw with American health care: 1) middle-class Americans could not afford individual insurance policies for their families, 2) all middle-class Americans did not have access to group coverage at work, 3) Americans who were self-employed with limited incomes could not afford medical services, and 4) Americans with pre-existing conditions were

denied coverage at work or could not afford rate-adjusted policies for their pre-existing conditions in the marketplace (Birenbaum, 1997).

Arnold Birenbaum, a health care analyst, has provided a helpful analysis of the failure of the Clinton reform. Health care reform eluded Clinton and remained in the hands of the private sector for four main reasons. First, Clinton was not dealing with a unified country on the issue of how to achieve health care reform. The sense of unity that had been evident during The Great Depression and which prompted Franklin Delano Roosevelt to create the Social Security system was not present in 1992 to create another system of public support. Americans, although beginning to understand there were problems with their health care, did not unite to remedy the problems. There was no “common conscience” or intensely and widely shared belief among Americans that they were in a period of tremendous difficulty that only a major reform could correct (Birenbaum, 1997).

Secondly, there was no sense of immediacy; no sense that the reform had to come in what was viewed by most as prosperous times. The majority of Americans favored universal health coverage, but few wanted to see significant changes to their economic status to make the coverage a reality for all. Thirdly, the movement for health care reform failed to recognize many powerful health care stakeholders in the overall system that knew how costly it would be to add the 37 million uninsured Americans into the system. The number of uninsured Americans rose from 37 to 41 million by the time Clinton’s plan met defeat (Birenbaum, 1997).

Lastly, Clinton and his advocates for health care reform were not led by a united Democratic Party determined to provide quality care at reasonable costs to all Americans.

Clinton's 1993 Democratic Party was not the Democratic Party of Roosevelt. It did not maintain a single image, driven by one mission for health care reform. The party wanted to change health care, but party members backed diverse and confusing plans. The American public viewed reform as big government running amok (Birenbaum, 1997).

Clinton's push for health care reform failed, but its failure provided the impetus to further expand health maintenance organizations (HMOs) (Birenbaum, 1997). Health maintenance organizations began as early as the 1930s during the Great Depression when employers attempted to keep insurance costs down for employees (Cutting, 1971). From the 1930s to the 1970s, HMOs grew steadily to become a uniquely American form of medical service delivery (American Medical News, 1971). The earliest HMOs, such as Kaiser-Permanente were non-profit, but by the 1980s, the HMO industry came to be dominated by mostly for-profit corporations, according to Carolyn Chrisman, CEO of Carilion Health Plans (Chrisman, 2000). Health maintenance organizations grew steadily throughout the 1980s due to high medical costs. The success of HMOs in the 1980s had been the initial push to the Clinton administration in the 1990s to promote universal health care (Birenbaum, 1997).

As Clinton's health care reform died in September 1994, millions of Americans rushed to join HMOs and managed care plans that they had told Clinton reformers would threaten the relationships they had with their physicians. The American Association of Health Plans, the HMO trade association, estimated that in 1995 there were 60 million Americans covered under HMOs; by 1996 there were 70 million. The growth in these numbers was incredible, given that in 1986 only 26 million were enrolled in HMOs and in 1980 only 9 million were involved. Only 20% of employees who received insurance

through work in 1996 were enrolled in traditional fee-for-service plans, compared to 71% as recently as 1988 (Ludmerer, 1999). Given the rapid movement into HMO and managed care plans, physicians across America hurried to contract with managed care plans and HMOs to secure their income (Birenbaum, 1997).

The health care market changed on all fronts. Besides the American public scurrying to find an HMO to join and doctors rushing to join networks of managed care, many of the not-for-profit providers of insurance like Blue Cross and Blue Shield became overnight for-profit HMOs (Birenbaum, 1997). Brady Gillenwater, a Trigon benefit consultant, insisted that this change signified the end to coverage for many people with preexisting conditions that these providers had in the past been forced to accept in return for state approved rate increases (Gillenwater, 2000).

Even though Clinton was reelected in 1996, the only health care reform being discussed by Congress was incremental options for expanding health care coverage through Medicaid and Medicare programs. While no complete national health care reform was concluded in the 1990s, Congress did find a new role for itself in the wake of managed care – regulators of the relationships of physicians, health plans, and patients vis-à-vis one another. In 1996, James Klein, president of the Association of Private Pension and Welfare Plans noted that Congress was going to become the nation's benefits manager (Birenbaum, 1997).

The transition from fee-for-service to contracts with HMOs and managed care plans created an entirely new system of health care, but a system still in the hands of private America for the most part. Managed care was corporate America's answer to Clinton's reform movement. Managed care in the 1990s offered America an opportunity

to deliver care at a lower price, but brought with it a host of complications. Most noticeably was the concern that quality of care would suffer if costs were the major factor (Birenbaum, 1997).

Dr. Jack Bumgardner, a Carilion physician in Franklin County, noted that an enormous public controversy erupted in the 1990s over whether managed care organizations were denying needed care, whether the companies were placing profits before patients, and whether the quality of care had suffered (Bumgardner, 2000). For HMOs, savings are profits, and savings occur when consumers use fewer medical services. HMOs in the 1990s also brought about a shift from specialized to general medical care. As large employers or contractors of physicians, HMOs controlled much of the marketplace, and they hired or retained far fewer specialists and sub-specialists compared with fee-for-service systems (Ludmerer, 1999).

The rise of HMOs also caused citizens to reconsider the numbers of doctors the country needed. In the mid-1990s, there were about 240 primary care doctors per 100,000 people. HMOs typically had no more than 100 to 140 doctors per 100,000 enrollees (Ludmerer, 1999). According to Elizabeth Schleck, a Carilion nurse practitioner in Roanoke, for the first time since the Great Depression, physicians experienced what those in other fields faced – lack of job security. Even primary care physicians faced the prospect of unemployment or underemployment, as many HMOs began to replace doctors with nurse practitioners and physician assistants (U.S. Office of Technology, 1986).

In general, in the managed care, price-competitive age, the replacement of physicians, closure or consolidation of hospitals of all types and other medical facilities

became commonplace as the marketplace began to force excess capacity out of the nation's medical system. Ludmerer argued that the main emphasis of the American health care system – patient welfare and health – was being allowed to wither as cost containment mechanisms designed for the medical industry as a whole ignored the needs of patients. Ludmerer claimed that like many other American industries, the health care industry was engaging in short-term thinking, adopting cost-reducing and profit-maximizing strategies for the present that weakened its ability to meet the challenges of the long-term. As a result, the prospect of having well trained doctors and improved health care was starting to diminish (Ludmerer, 1999).

According to Ludmerer, ironically, Clinton's push for (government) control of health care service appeared somewhat similar to the push for public control of medical services in the 1970s. Both times the failure to realize such public regulation meant greater private control and corporate regulations. Managed care appealed to America's corporate entities and its government, in other words, to the people paying the medical bills, because managed care offered a life preserver to employers and a government drowning in a sea of medical debt (Ludmerer, 1999).

Managed care is a story of economics. It was to be a fairy tale ending to the tragic rise of costs in medical spending. Many hoped managed care would provide cost reduction along with quality care. Managed care implies the application of business-management to healthcare services. To some, the name managed care conjures up images of order, coordination, and rationality in the care process (Zelman and Berenson, 1998). To others, managed care defies common understandings of the value of work. Conventional wisdom dictates that doing more work produces greater outcomes and

productivity. Managed care challenges that value of work by claiming that doing less sometimes produces better outcomes for a patient than taking action (Birenbaum, 1997). Managed care is a unique form of healthcare delivery because it is premised on the idea that often, in medical care, less intervention is more helpful. In managed care, what produces value is a “good health outcome rather than medical intervention” (cited in Birenbaum, 1997, p.14).

Since its brief inception, has managed care lived up to its name? E. Ginzberg and M. Ostow, two managed care analysts, note that some analysts, patients, and physicians say yes, while others argue no. Managed care, however, has proven to be much more than a story of business and accounting (Ginzberg and Ostow, 1997). It has proven to be a means to transform the entire delivery of care services, starting at the most basic level, the doctor-patient encounter.

Managed care is still a good idea according to most healthcare system organizers such as Carilion’s former CEO Tom Robertson (Robertson, 2000). Managed care curtails costs. The problem may be that a system of managing care in hospitals based on an acute illness model of service is obsolete, and managed care’s substitution of a physician-wellness model to provide preventive care is still too new to assess. Furthermore, the social contract that physicians, insurance/HMO payers and health care systems will provide appropriate quality care is hard to negotiate among the disparate participants in today’s health care industry (Robertson, 2000).

Managed care sought to change the nature of the medical professional model in the 1980s. Managed care incorporated new systems to monitor and judge physician competence within the profession. Another goal of managed care was to embrace

consumer activism and change the services of medicine, not to focus on illness, but to attend more to health and preventive services. Above all else, the goal of managed care was to substitute the concept of value – quality at any cost – for quality at any reasonable cost (Zelman and Berenson, 1998). In the next part, I will examine how managed care attempted to achieve these goals by reorganizing the physician community.

Reorganizing the Physician Community

Managed care in its earliest manifestation claimed it could repudiate the acts of medical professionalism that failed to work well, such as high costs, lack of adequate peer review and practice variations. At the same time, managed care proponents argued managed care could maintain and nurture the core relationship of professionalism – the doctor-patient relation. While managed care advocates strongly acknowledged, “that neither the market nor the organizations that compete in it provide an adequate substitute for the doctor-patient relationship,” managed care groups believed the doctor-patient relationship would benefit with the third-party payer playing a more active role in the medical encounter. Managed care proponents expected physicians to act in the best interests of their patients, while understanding that the flow of dollars and the running of health services would be moved from their control to mostly for-profit corporations. According to Dr. David Ober, a neurologist in New York, managed care and HMOs placed physicians and patients within a budget, reversed the fee-for-service incentives to do more (Ober, 2000). Managed care organizations and HMOs relied on prepayment systems, which, in turn, relied on administrative and clinical efficiencies within physician practices to produce savings (Ober, 2000).

Managed care organizations instituted three mechanisms to bring physicians under their control: 1) capitation, 2) physician practice associations, and 3) utilization service management. Combined, these three mechanisms removed physicians from the “expert” status in the doctor-patient relationship. According to Janice Holland, a patient service administrator at Franklin Memorial Hospital in Rocky Mount, managed care substituted the third-party payer in the “expert” role and armed third-party payers with new strategies to manage the health care business (Holland, 2000). For purposes of this work, these three tenets of managed care are discussed separately, but they are all interrelated and are not fully recognizable in America’s managed care systems unless one defines how they interact with each other.

Capitating Physicians

In the early 1990s, physicians feared capitation was “sweeping the nation” (Zelman, 1995). Capitation is a payment system in which physicians, whether in groups or as individuals, are paid a fixed amount of money – adjusted for the age and gender of the patient – for each member of a plan for whom the doctors are responsible. The fixed amount of money is known as the “per member per month” dollar amount. According to Carilion physician Brent Lambert in Christiansburg, the “per member per month” dollar amount is “fixed” regardless of the actual dollar amount of services the patient receives. For example, whether a patient receives doctor visits 20 times a year with numerous tests and procedures performed, or does not even come once for a check-up, the “per member per month” remains the same (Brent Lambert, 2000).

The “per member per month” definition includes many types of capitation plans. The American public generally defines capitation as direct payments by an employer to a

HMO. Capitation may include, however, HMO payments to a group or network of individual providers, the payment by a group (for example, an independent practice association (IPA), a medical group, or a multi-specialty clinic) or payments from an HMO to its individual providers (Zelman, 1995). Capitation payment plans may also differ by the number of services covered. Some include primary care only. Others allow the use of any and all medical services. In the early to mid-1990s, these various forms of capitation instituted a system of risk sharing for providers. Dr. Reed Lambert explained how capitation works. He said that capitation plans force physicians to hold down costs. HMOs assume risk when employers pay them fixed fees, and under capitation (risk-sharing), physicians are also at risk. If they choose to do too many medical tests and let medical costs continue to rise, doctors risk losing their incomes. Alternatively, if physicians under capitation contain costs, then they profit from the risk-sharing strategies. Along with capitation payments, physicians' risk sharing strategies may involve bonuses, withholds and/or risk pools (Reed Lambert, 2000).

Risk-sharing strategies may be based on a number of factors: 1) number of referrals to specialists and hospitals, 2) enrollee turnover rates, 3) patient satisfaction surveys, and 4) quality measures. Since 1990, so many new risk-sharing strategies and capitation methods of payment have been recognized, health care consulting firms tout that HMOs and insurance companies have devised over 476,000 ways of paying physicians (Zelman and Berenson, 1998). Dr. Reed Lambert argued that because there are so many strategies to pay physicians, an understanding of capitation and risk-sharing strategies is critical to analyzing why there is an ongoing reorganization of health care today (Reed Lambert, 2000).

Capitation and risk-sharing strategies became central tenets of the managed care movement. Capitation encouraged physicians to fully integrate into systems of care and to realize a potential for higher quality of care at a lower cost, if the fully integrated provider and her organization were capable of accepting responsibilities for managing both care and costs (McCally, 1996). A fully integrated provider organization is known as a “full risk” provider system, and it lies at the heart of managed care (Zelman, 1995). The fear of capitation originated from events taking place in California in the early 1990s where efforts to employ direct capitated payment systems were in full force (Robinson and Casalino, 1995). In 1993, 15 medical groups in California reported that 90-95% of their revenue came from capitated payments. In the Midwest, the Medical Economics Survey (1993) reported that 84% of physicians who had PPO or HMO contracts reported 45% capitated income (Zelman, 1995). In southwest Virginia, physicians such as Carilion’s William Hendricks of Blacksburg grew alarmed at what they believed to be a trend headed their way (Hendricks, 2000).

Many physicians interviewed believed it might take a while, but capitation would change their way of life (Hendricks, 2000). The trend and growth in capitation sent a wake-up call to Virginia physicians. It seemed obvious to physicians watching the California market that capitation payments to primary care and specialty doctors were going to become commonplace. The trend clearly reflected a growing perception and some believed a certainty that placing groups and physicians at risk produces utilization and lowers overall costs, thus enabling plans to lower premiums and reap greater profits (Zelman, 1995).

Virginia physicians determined that the California pattern of capitation that was becoming common in the Midwest would eventually prevail in the East, as well. Surveys of primary care providers in all regions of the country in the early 1990s showed that physicians believed capitation revenues would constitute the majority of their business by 1996 (Zelman, 1995). Although no one discernible capitation pattern seemed to fit all markets, the most likely occurrence of how capitation would supplant the fee-for-service system in Virginia was outlined by Dr. Darrell Powledge, a Roanoke area physician. First, direct capitation of physicians would begin to emerge as market penetration of HMOs reached 20%. Secondly, a rise in capitation payments would occur when HMOs and other managed care plans began to focus on competition with each other rather than fee-for-service systems. Thirdly, initial capitation payments would permeate primary care providers, then risk-sharing strategies would spread to specialists, and perhaps, finally, penetrate all physician ranks and even hospital services (Powledge, 2000).

This trend, however, did not occur. At present, capitated payments to southwest Virginia physicians are a very small part (less than 20%) of their overall reimbursement payments (Hendricks, 2000). HMOs themselves are not dominated by capitation payment systems. Most HMOs pay by salary or discounted fee-for-service (Hendricks, 2000). The group and staff model HMOs generally pay salaries to their physicians. According to Virginia Ousley, a Carilion hospital administrator in Christiansburg, hospitals rarely receive capitation revenue at all (Ousley, 2000).

Capitation has not assumed a strong position in physician reimbursement due to one simple fact – it has not proven to be cost-effective (Walker, 1995). Capitation has failed to keep patient enrollment high in managed care plans and has not motivated

physicians to commit to such a system. The managed care industry has returned for the most part to a fee-for-service arrangement for paying primary care physicians, but has generally increased capitated payments to specialists (Terry, 1995). The new fee-for-service approach is not exactly the same blank check fee-for-service that preceded managed care. It is more appropriately called a discounted fee-for-service. Dr. Hendricks explained that a discounted fee-for-service means that a physician will be paid a slightly lower fee for his service based on an averaging of regional provider fees for the same services (Hendricks, 2000).

According to Dr. Amos, physicians paid using a discounted fee-for-service scale give discounts to the plans they contract with, and often find their fees withheld for a lengthy period of time while an audit committee decides if the actual visit rate and use of tests and other medical resources were within the regional expected limits. The discounted fee-for-service approach seems to work. Primary care physicians are more content with the discounted fee-for-service system than with capitated payments (Amos, 2000). Janice Holland, a Carilion patient administrator in Rocky Mount, explains that consumers prefer the system because they feared physicians receiving capitated payments would be more inclined to place their financial interests before the needs of their patients (Holland, 2000). Carilion physician Jack Bumgardner also notes the discounted fee-for-service does not penalize primary care physicians who may see a higher cost or sicker group of patients (Bumgardner, 2000).

The reason why capitation and risk-sharing strategies have not taken over managed care completely and why managed care organizations have backed away from capitation is because consumers have not bought into the logic that the value of an

integrated health care system is in their best interests. Consumers demand high quality of care, and they view capitation as a threat to their expectations of care. The world of the blank check, fee-for-service failed to work properly. In that system over-utilization brought on a phenomenal rise in health care costs on the part of purchasers – employers and consumers – that became intolerable. Risk-sharing, on the other hand, brings up questions of medical service under-utilization.

Dr. Jerome Kassirer, editor of the New England Journal of Medicine, writes that regardless of the type of physician reimbursement physicians receive, they have been asked to adopt a “distributive ethic” by HMO administrators. According to Kassirer, the distributive ethic denotes that physicians must try to remain within a fixed budget for HMOs. Physicians accomplish this goal by making care for a plan’s total population of participants a higher priority than care for an individual patient (Kassirer, 1998). When asked about the distributive ethic, physicians like Dr. Ranee Chakravorty, a doctor at the Virginia Veterans’ Hospital in Salem, ask, “Will the physician have the patient’s best interest at heart or her own economic well-being?” (Chakravorty, 2000)

Dr. Amos elaborated on the point made by Dr. Chakravorty. He said physicians may assume a “per member per month” rate too low, just so they do not lose a patient population. Then, to still make a profit, they may not order tests, procedures or referrals necessary to the health of these patients. Some physicians may find, due to their reputation with more elderly patients or more ill patients or just their bad luck, that they see patients requiring more medical attention than a capitated plan would satisfactorily cover so the doctor could still make a profit. In such situations, physicians must decide

what is more important: their own financial security or the patient's medical needs (Amos, 2000).

Dr. Hendricks explained that the impact of capitation and risk-sharing strategies on physicians has been difficult to measure because of the multiple forms capitation can take. Employers have capitated HMOs. HMOs have capitated groups or individual physicians. Physician groups have shifted risk to individual physicians or a combination of these. When one analyzes the impact of capitation from all these perspectives, it is immense, and the fear that physicians must have anticipated in the 1990s seems real and devastating. Because of their concerns over capitation, physicians believed they had to consolidate in new types of associations to combat their fears and maintain income levels (Hendricks, 2000).

By the early 1990s, the threat of capitation and managed care in the United States was pushing physicians to merge or affiliate with other physician practices, or sell out to physician management organizations or hospital systems. Walter Zelman, a health care analyst, wrote in the early stages of managed care and capitation sweeping the United States:

[Provider] consolidation, aimed at producing greater coordination of care across a continuum of services, lower costs in care delivery (and thereby, presumably, great profit for capitated groups), and a capacity to assume responsibility for a larger share of the premium dollar, is a central component in the formation of new partnerships among insurers, hospitals, and physicians (cited in Zelman, 1995, p. 50).

Many successful physicians found themselves courted by physician management groups while others, not so financially successful, feared being excluded from HMOs or health care networks. Clearly, the golden era of fee-for-service was dying. Although frightening, the new environment of physician consolidation offered some opportunities to

physicians, such as acquisition of needed capital investments and sophisticated office information systems. Regardless of the appeal of these capital investments, the physicians' community as a whole was not enthusiastic about accepting the new realities of physician reorganization. Yet, driven both by a need to defend their income and by a more aggressive desire to regain control, physicians and physicians' groups began organizing and consolidating at a rapid rate into new types of physician associations (Bodenheimer, 1999a).

Managing Physicians

In the 1980s, early managed care systems began looking at physician practices as the cornerstone for establishing networks. According to Don Lorton, Carilion's executive vice president of Strategic Development, managed care organizations recognized the true consumers of health care procedures were not patients, but physicians. Physicians ordered services and tests, and they assumed no financial liability under the fee-for-service system. Meanwhile, patients utilizing the services, as long as third-party payers reimbursed, hardly ever questioned the necessity of a service or hospital stay. Managed care's ability to integrate both payment and provider in the same plan represented the innovation managed care contributed to America's health care. Managed care fostered discipline over physicians. To accomplish managed care's agenda of integrating payment and provider into one health care plan, managed care businesses began purchasing physician practices in the 1980s (Lorton, 2000).

Managed care organizations believed group practices were the key to expanding systems and maturing managed care arrangements because group practices were best equipped to accept and manage cost containment or capitated contracts. Managed care

organizations considered group practices to be the best types of practices because they were better integrated for a variety of services. Carilion's Dr. Hendricks claims group practices came in many forms (Hendricks, 2000). Most common in the 1970s were primary care groups and multi-specialty group practices. Other new types of physician associations emerged in the 1990s to transform medical markets from mostly small group practices or multi-specialty practices into much more complex networks of physician care to compete for managed care contracts. The four most prevalent forms of physician organizations to arise in the 1990s included: independent practice associations, physician management companies, physician-hospital organizations, and group and staff-model HMOs. The differences in the four types of organizations that physicians found themselves forming in the 1990s are numerous and multifaceted, but most of the differences concern how much effort physicians asserted to either adapt to managed care trends or to try and reverse managed care (Bodenheimer, 1999b).

Carilion's Dr. Amos explained that the managed care takeover of the medical industry hit primary care physicians the hardest. Managed care carried with it both a bewildering array of demands and opportunities for primary care physicians. The change in managed care economic realities – no longer fee-for-service – meant doctors had to alter their practice circumstances and risk-sharing strategies. Many understandably found adjustment to the new managed care environment difficult, and some even left. One family physician, working at a small group practice in one area of southwest Virginia decided he did not want to change his practice. He feared HMOs telling him how to run his practice and refused to negotiate with HMOs. He quit practicing medicine and took up farming (Amos, 2000).

According to Dr. Hendricks, primary care physicians reacted or adjusted slowly to managed care's new physician organizations for three main reasons: 1) they operated small businesses and lacked access to managers, consultants and financial planners to give them advice, 2) it was difficult to discern exactly what reorganization would mean in their markets, even for the financial planners, and 3) even as they were weighing out courses of action, physicians were being courted by hospitals, physician-managed companies and independent practice associations – all competing for their business and loyalties. By the middle 1990s, physicians realized that, regardless of the drawbacks, associating with others physicians was the only way to secure the capital and management and information systems demanded by the managed care environment, and thus physicians began organizing in various physician management organizations (Hendricks, 1999).

Independent practice associations became the most popular type of the physicians' managed care organizations in the 1990s, because they required the fewest changes physicians had to adopt to survive under managed care. Independent practice associations are groups of self-employed physicians held loosely together by management agreements which allow the associated physicians to negotiate HMO contracts without substantially changing their practices (Hagland, 1997). As Dr. Wayne Grayson, a Carilion physician in Roanoke noted, "Independent practice association physicians remain in their individual offices and still care for people, whether the patients are enrolled in HMO and PPOs or are not in managed care plans" (Grayson, 2000).

Independent practice associations vary in size and organizational structure. Most California and other Midwest independent practice associations are sophisticated risk-

bearing organizations. Often these independent practice associations receive HMO per-member capitation payments each month and are held accountable by the HMOs for all non-hospital expenditures. Because these independent practice associations bear so much financial risk, HMOs, in turn, are more willing to delegate responsibility to the associations for the credentialing of physicians, the quality improvement of care and the decision for physician compensation. In most east coast and southern states, independent practice associations are not as organized as their west coast counterparts, nor do they assume as much financial risk. In some circumstances, independent practice associations are nothing more than panels of physicians assembled to negotiate specifically with HMOs in order to contract for market share and discounted fees (Bodenheimer, 1999b).

Independent practice associations represented a major stepping-stone from the freestanding solo physician practice and fee-for-service economy, which characterized American medical practice for most of the 20th century. Independent practice associations denoted a move away from “I have my practice and my patients, and you have yours” to an initial union of physicians fighting against third-party involvement in the practice of medicine to gain what some referred to as fair-pay-for-services (opposed to fee-for-services) and regain some of the decision-making for health care that had been usurped by third-party insurers like HMOs (Zelman, 1995). From 1984-1997, independent practice associations succeeded beyond expectation, increasing from 19% to 42% (Bodenheimer, 1999b).

Since 1997, many independent practice associations have suffered. While HMOs decreased the rates of capitation, patients’ demands for services continued to escalate. Also, independent practice associations generally choose to distribute savings back to

their physicians rather than hold reserves for financial losses (Karling, Tinsley and Havens, 2000). Many independent practice associations failed because of a lack of long-term financial saving, and those that remain face serious operating deficits. Although independent practice associations gave physicians a new way of associating themselves together for negotiating with HMOs, the associations failed to provide many crucial aspects of a physician's practice that were noticeably lacking in the 1990s such as: capital investment for medical technology, patient information and office management systems, and physician time for patients (Bodenheimer, 1999b).

According to Carilion's Dr. Carmichael, physicians began organizing themselves in other more beneficial ways besides independent practice associations to protect their practices and to secure the capital investments necessary to run the day-to-day operations of their practices. Physicians searched for physician associations which adopted more aggressive management styles and looked for allies with greater access to capital (Carmichael, 2000). Physicians found most of what they were looking for in physician management companies. Physician practice management companies are for-profit companies that manage physicians' practices and operate in multiple markets (Bodenheimer, 1999b). Beginning in the 1980s, physician management companies such as MedPartners, FPA Medical Management, and PhyCor purchased independent physicians' practices, medical groups and independent practice associations and assumed management of their operations. Dr. Hendricks described how physician management companies bought physicians' offices for cash or stocks or gave physicians the right to contract with them to obtain HMO contracts. These companies contracted with physicians to supply management services doctors so desperately needed, such as billing,

purchasing of supplies, personnel management and information systems. From the physician's perspective, physician management organizations seemed to be a workable solution to their problems (Davidson, McCollum and Heineke, 1996). Physician management organizations provided necessary services, financial capital, security, and a sense of autonomy (Hendricks, 2000). By 1997, 110,000 independent practicing doctors in America had affiliated with physician management companies (Glabman, 1998).

Since 1998, physician management companies have not fared well. Most often these companies severed ties with the clinics they operated or collapsed financially. As Dr. Darrell Powledge, a Roanoke physician who was employed by PhyCor and later terminated, learned, "Many of these companies left doctors without offices and practices, no compete clauses in contracts, and patients unable to locate their doctors" (Powledge, 2000).ⁱⁱ In July 1998, FPA Medical Management declared bankruptcy and left the state of California, owing California physicians \$60 million. Due to poor revenue, MedPartners decided to close its practice management division in November, 1998. MedPartners offered its 10,000 affiliated practice-managed physicians three options: 1) the right to buy back their practices from MedPartners, 2) to allow their practices to be sold to a hospital or other buyer, and 3) to start their careers all over (Tokarski, 1998). Dr. Larry Patton, president of the Lewis-Gale Clinic board, said that by 1999, PhyCor, the largest of the physician management companies, had suffered substantial loss due to its ineffectual management of most of its provider sites (Patton, 2000). Dr. Powledge attributed their failure to competition. Other emerging entities like hospital systems and managed care companies recognized, just like physician management companies, the

dollars involved and the opportunity that management services provided to link managed care groups and physicians into one enterprise (Powledge, 2000).

Dr. Powledge notes that currently, many physicians who sold their practices to physician management companies for large sums of money (\$300,000 or more) cannot afford to buy back their practices and are left without office staff, equipment, or money owed to them from accounts uncollected (Powledge, 2000). Physicians who received stock in lieu of cash for their practices from physician management companies were in worse condition. In 1998, the MedPartners stock fell from \$28 to \$2 per share, FPA stock plummeted from \$40 to \$1 a share, and PhyCor stock dropped from \$33 to \$7 (Bodenheimer, 1999b).

One of the types of companies competing against physician management companies that physicians found themselves affiliating with in the 1990s was the physician-hospital organization (PHO). These organizations were spearheaded by hospitals. Like a physician management company, the physician-hospital organization often served as a management company for physician practices, performing office functions such as billing and development of information services. More importantly, PHOs contracted with HMOs on behalf of both the hospital and the physicians. In PHOs, physicians maintained much of their autonomy but were able to explore managed care and contractual relationships with a large partner. Since physicians were able to explore a variety of managed care options having the security of a large partner, some analysts argued the PHO benefited physicians more than hospitals (Benoff and Dubow, 1998).

Yet it seems that a physician-hospital organization served mostly the hospital's interest. According to Lorton, hospitals were able to enhance the loyalty of their medical

staffs and protect their market share by being part of such organizations. Also, the ties cemented by PHOs moved control over the growing outpatient revenues to hospitals (Lorton, 2000). According to the American Medical Association, in 1996, about one-third of all medical practices with three or more physicians participated in PHOs (Bodenheimer, 1999b). The current view among analysts is that PHOs face many obstacles in achieving success.

One of the biggest problems with these organizations is their reliance on specialists. A study by Ernst and Young, an accounting and consulting firm, found most physician-hospital organizations are specialty dominated. According to their findings, 60% of all PHOs reported 65% of their physicians were specialists. Most HMOs aim to have a mix of 50% specialists and 50% primary care physicians. This finding is not really startling, because most specialists do have closer ties to hospitals than do primary care doctors. On the other hand, specialists themselves are concerned about these new types of organizations. They fear they may have to face as much as 25% or more income loss if they join contractual associations in which hospitals and primary care physicians' prominence and compensation may be elevated before their needs (Ernst and Young, 1995).

The last form of physicians' management associations that arrived on the medical horizon was the group-model and staff-model HMOs. Both gained popularity in the early 1990s, but by the latter part of the decade saw a decline in patient enrollment and financial failure. In group-model HMOs, like Kaiser Permanente, an HMO contracts for medical services with one or more integrated medical groups rather than with a diffuse network of physicians. Staff-model HMOs employ their own physicians. In 1994, Aetna

used a staff model strategy to establish 15 Health Ways Family Medical Centers in Houston, Texas. Aetna staffed the clinics with salaried primary care doctors to serve as gatekeepers to Aetna's HMO plans (Zelman, 1995).

Besides Aetna, Prudential, Cigna, Humana and other HMOs tried unsuccessfully in the 1990s to incorporate the staff-model HMO. Most of these failed to bring financial success and have since been sold (Bodenheimer, 1999b). Overall, physician employment does not appear to be a preferred strategy of medical system organizers because startup costs of staff and group model HMOs are much higher than start up costs for network or independent practice association arrangements, including those involving relationships with already well-established medical groups (Zelman and Berenson, 1998).

These four types of physicians' organizations: independent practice associations, physician practice-management companies, physician-hospital organizations and group and staff model HMOs came to characterize the medical landscape during the 1980s-1990s. These joint ventures, if nothing else, changed the way doctors' businesses were managed. The associations may or may not necessarily have changed how a doctor practiced medicine (DiMatteo, 1998). Physicians do two things in their offices. They run a business and practice medicine. Some would argue these activities are the same, while others claim they represent entirely unique enterprises. If nothing else, these new types of physician associations illuminate the similarities and differences between running a business and practicing medicine. The advent of "managed care" brought the delineations between managing a business and the practice of medicine into sharper focus than doctors, patients and government had ever seen before through managed care's use of cost management or utilization review management.

Fourth-Parties Managing Physicians and Care Through Utilization Review

Elizabeth Schleck, a Carilion nurse practitioner in Roanoke, described how by the middle 1980s, the federal government, employers, and private insurers began procuring the services of cost management companies to monitor the performance of physicians and to review submitting medical claims to third-party payers. Cost management companies represented an entirely new group within the medical industry whose job was to act as an arbiter between providers, patients and third-party payers to determine if costs, services and quality of care were appropriate (Schleck, 2000). Managed care organizations created cost management companies and generated a whole new technique called utilization management to oversee medical expenditures. Utilization management involved a vast array of efforts to analyze medical communities and reduce medical procedures and services.

Third-party payers believed the old fee-for-service system was so rife with inappropriate or unnecessary procedures, tests and hospitalizations that queries into medical services and a reduction of services would promote a healthier medical economy and not threaten quality of care for Americans. The cost management companies' function was to save dollars for the federal government's Medicare and Medicaid programs, employers, HMOs and private insurance. These cost management companies analyzed medical tests and procedures performed by physicians to determine if the charges were in line with the usual and customary fees for a given area within the United States. By the 1990s, cost management companies evolved into more formidable types of medical arbiters. Cost management companies became the granting authorities for medical services (Kramer, 1989). Dr. Robert Strong, a Carilion Rocky Mount physician,

explained how this worked. He said utilization management companies began employing “prior authorization” or “pre-authorization” as their principal strategy to contain costs. Prior authorization means a medical test or procedure can or cannot be performed based on the cost management company’s review (Strong, 2000).

Dr. Carmichael explained that cost management companies typically hire physicians and nurses to analyze the procedures and to determine whether a specific medical test or procedure should be approved. Together, these physicians and nurses (employees of the cost management company) form a trained utilization management team. Trained utilization management personnel seek to determine if a recommended procedure or test meets a plan’s definition of “medically necessary” care and whether if the care is warranted it can be found in a lower cost setting. Once a physician’s request for a type of service is approved, it is said to be “pre-authorized” and a stamp of pre-authorization in utilization management terms means it will be covered under a patient’s HMO plan. All non-emergency hospital admissions are subject to utilization management review under most plans and all emergency admissions must be serviced within a short period following an admission. If hospital stays are necessary, utilization management and hospital staffs assess continually the length of stay (Carmichael, 2000). Holland recalled that by the early 1990s, without prior authorization, beneficiaries found claims were not honored or at least, the insurance covered only a smaller portion of the bills (Holland, 2000).

According to Cromer, utilization management combined with advancing medical technology created an entirely new problem for the health care industry – outpatient care authorizations. Not only did utilization management staffs have to decide whether a

medical procedure should be done, they also had to decide between multiple sites of where to do the procedures. In the 1990s, new outpatient facilities arose offering “same day” surgery in a surgicenter. Hospitals themselves scurried to maximize their space to outfit outpatient service areas (Cromer, 2000).

Carilion’s Dr. Amos argues that outpatient care utilization management changed the function of medical gatekeeping into a new burden for primary care doctors. Gatekeeping is when a generalist physician allows or disallows a patient access to a specialist or to a hospital for medical services. In the past, a primary care doctor might be inclined to bar a patient from a specialist because of high fees and because the primary care provider might have an almost endless array of treatments she herself could prescribe. In today’s health care industry, a generalist may be more inclined to allow a patient access to a specialist because of new medical procedures the specialist alone may have access to and/or because the patient’s plan may allow for only so many dollars to be spent on a given problem. Therefore, time and dollars may be issues in the process of finding the right treatment and the right provider. Today, utilization management groups require primary care physicians to get pre-authorizations for routine specialty referrals (Amos, 2000).

According to Carilion’s Dr. Bumgardner, most physicians find utilization management requirements to be burdensome, inefficient and a bureaucratic nightmare (Bumgardner, 2000). Physicians claim utilization management requirements are insulting and challenge their authority over patient care decisions. Ultimately, physicians feel cost management strategies can jeopardize patient care. Zelman and Berenson note that utilization management managers objections can evoke images of specialists being

informed by review personnel (who are thousands of miles away) that they cannot order additional hospital stays or services for their critically ill patients because the patients do not meet utilization review criteria (Zelman and Berenson, 1998). According to Carilion's Dr. Grayson, even though all medical services could be subjected to pre-authorizations, most daily primary care physician office procedures and tests are not. Pre-authorization requirements tend to be applied to discrete and relatively expensive specialist services, not to emergencies or routine medical decisions that primary care practitioners make (Grayson, 2000).

Regardless of physicians' dislike for pre-authorizations, by the late 1980s and early 1990s, utilization management proved to be paying off financially for HMOs, so much so that some insurance companies developed their own in-house review organizations (Kramon, 1991). Overall, these review groups added to the administrative costs of providing health insurance, but didn't compare to the mounting costs of medical tests and procedures (Keir, 1997). By the early 1990s, Prudential's in-house utilization review became a universal policy for authorizations. The escalating high cost of hospitalization overuse was at the forefront of the move to employ pre-admission review by insurance companies, like Prudential.

According to Jeff Wilson, a Roanoke insurance agent, third-party payers learned in the 1970s-1980s that providers were not going to "mind the store for them" (Wilson, 2000). If third-party payers wanted to realize profits, they had to use utilization review management themselves, because the providers had shown they could not, or would not, regulate themselves. As economist Lester Thurow stated, the medical community, because it could not "build up a social ethic and behavioral practices" that could have

helped them to decide “when medicine was bad medicine,” had lost the abilities to self-police its members and, thus utilization management had been instituted (cited in Birenbaum, 1997, p. 117). In 1991, sociologist Bradford Gray noted that by the late 1980s, more than 60% of all large employers were using pre-admission review and about half were using “concurrent review” (Gray, 1991).

Utilization management has many flaws from a legal perspective, though. Who is legally liable if an insurer makes a judgment about what is covered by the insurance and this decision turns out not to be in the best interest of the patient? Who is responsible to the patient if a physician determines a procedure is necessary but the utilization management staff for an HMO judges the service not to be “medically necessary” or not a covered benefit? These queries highlight what is at stake for managed care systems. Managed care systems must satisfy their economic side of keeping costs down and their practice of care side which involves coordinating the necessary services for a patient’s best interest (Gray and Field, 1989). Dr. Amos explained that most often, health plans assume a stance of “we are not practicing medicine, we are just paying the bills” (Amos, 2000). Meanwhile the doctors, who the utilization management strategists will say are practicing medicine, contend that they can’t practice medicine in the patient’s best interests if utilization management staff won’t pay (Kassirer, 1998).

Historically, a doctor informed a patient about preferred treatments and the patient, based on her ability to pay for treatment, decided on which medical services to purchase. According to Carilion physician Reed Lambert in Christiansburg, through utilization management, the doctor-patient relationship of the past century has been eroded to a doctor-patient encounter where rules are enforced concerning what treatments

a doctor will most likely suggest and what treatments a patient can purchase based on the decisions of third-party insurers and fourth-party utilization management cost containment managers. It is difficult not to insinuate that these third-party and fourth-party members of the doctor-patient encounters are not practicing medicine (Reed Lambert, 2000). Dr. Amos contends that if a health plan's utilization management denies pre authorization for a \$200,000 bone marrow transplant for a breast cancer patient and the patient cannot fund the procedure herself, most likely she will not receive the treatment. The utilization management staff's decision could be deemed practicing medicine (Amos, 2000).

Questions about who is practicing medicine, the physicians or the utilization management teams, plague cost management groups in managed care. The situation is complicated by the fact that utilization management does save money (Zelman and Berenson, 1998). Dr. Bumgardner commented that utilization management also has proven itself to be an effective way to promote better decision-making for physicians who are, after all, human and can make mistakes or who may not be fully up-to-speed on certain medical services. Utilization management may be applied improperly, though. Utilization management can determine medical outcomes using inadequately trained or poorly informed doctors and nurses with inflexible or flawed utilizations (Bumgardner, 2000).

Cost management utilization reviews come in many forms. Physicians currently identify three types: 1) gatekeeping, 2) physician profiling, and 3) clinical practice guidelines. Gatekeeping represents a specialized form of cost utilization management (Wong, 1998). The actual managed care term is "case managers," but for the American

public the concept of a “gatekeeper” has become synonymous with what utilization management is all about. The term “gatekeeper” originates from the fee-for-service system of health care, which predated managed care. Gatekeeping is one of the few elements of the system of health care prior to managed care that utilization management groups found useful and cost-effective.

Carilion’s Dr. Brent Lambert explained that for managed care organizations, gatekeeping provides an essential method to coordinate care in a complex medical world. Gatekeepers are generalists in managed care systems who emphasize prevention and primary care and who limit patients’ access to specialists. The American public considers gatekeepers to be managed care workers who deny patients access to specialists that once was unlimited. Each view has its merits. Gatekeeping is a special variety of pre-authorization. In place of requiring prior approval for services from a member of the utilization management staff, gatekeeping requires health plan members to select a single physician or group practice on whom they rely to provide or arrange all their medical services (Brent Lambert, 2000).

For the managed care organizations, gatekeeping maintains the sense of managed care’s mission of “appropriate care.” The gatekeeper’s role is to “coordinate all care for a patient, consulting with or referring to specialized expertise when appropriate” (cited in Zelman and Berenson, 1998, p. 76). As Walter Zelman and Robert Berenson, two health policy analysts explained, managed care utilization management teams contend that if one physician (generalist) acts as the coordinator of all care, “relevant clinical information will not be overlooked and costly and sometimes harmful duplication of effort, as well as unnecessary tests and procedures, will be reduced” (cited in Zelman and

Berenson, 1998, p. 77). Dr. Grayson noted that gatekeeping helps to avoid situations common in the fee-for-service system where two non-communicating doctors prescribed incompatible medications to a single patient, who, failing to tell the two physicians about the other's prescriptions, took both with serious side effects (Grayson, 2000).

Dr. Amos commented that managed care organizations claim that generalists (primary care physicians) are more capable case managers or gatekeepers than specialists because they care for the whole human, not just a particular organ system. Primary care physicians often complain that specialists are so technology-oriented and specific-organ-driven that they fail to treat the entire patient (Amos, 2000). Of course, specialists have a different view. Dr. Heathcliff Quioco, a surgeon in Rocky Mount, stated that specialization itself has increased significantly in the last 25 years due to the increasing complexity of medicine and medical technologies (Quioco, 2000).

Specialists like Dr. Quioco argue that generalists cannot maintain competency in the high-tech medical technologies and in the specialized expertise necessary for much of today's complex medical care (Quioco, 2000). Specialists often ask, why should a primary care doctor be a case manager for a patient with a heart disease? Numerous studies have shown that patients with heart problems are more likely to have better outcomes under the care of a cardiologist than patients relying on the clinical activities of a general physician (Ayanian, 1994 and Jolhs, 1996). Dr. Amos claims that most physicians agree that for medical issues involving chronic illness it is best for a specialist to oversee a patient (Amos, 2000). Patients with chronic diseases generally receive better care and develop stronger relationships with specialists who are trained to develop specific interpersonal skills to address these particular clinical problems (Amos, 2000).

Utilizations management should be able to distinguish when gatekeeping programs necessitate ongoing care from a specialist for a chronic illness, but most gatekeeping programs are simple plans with one mission: “limit direct access to virtually all specialty care, regardless of the circumstances” (cited in Zelman and Berenson, 1998, p. 78).

According to Carilion nurse practitioner, Elizabeth Schleck, with so much public skepticism about gatekeeping, by the late 1990s, Americans started to see many managed care organizations rethink their gatekeeping programs (Schleck, 2000). One particular area in which the public has fought for specialized care has been in women’s gynecologic services. Most women object to primary care doctors being responsible for reproductive health services like PAP smears. Some HMOs now allow an annual visit to a gynecologist without a referral from a primary care physician. A few states have mandated that HMOs must provide gynecological services to their customers. Because of this precedent, many specialists are lobbying for special status for their own services so that patients can bypass the managed care gatekeepers and come directly to their offices (Zelman and Berenson, 1998).

Besides gatekeeping, another important cost-containment method used by utilization management is physician-practice profiles. These profiles are a result of the accumulated administrative and billing data collected by third-party payers and HMOs. Physician-profiling denotes a sophisticated computer method that measures physicians’ treatments and their outcomes. Profiling allows third-party and fourth-party payers (cost management companies) to oversee the work of doctors and, more importantly, to compare one doctor’s outcomes with another physician’s work. Using profiling, a physician’s care can be compared to his/her peers in a specific community or compared

to clinical practices for a period of time. Physician-profiling assessments are used to certify physicians and to help identify clinical areas physicians need to improve. Physician-profiling information can track a physician who may be doing too much or too little for a patient with a specific disease (Birenbaum, 1997). Carilion Health System is initiating its own physician-profiling assessment through its Electronic Medical Records System (EMRS). According to Dr. James Nuckolls, medical director for Carilion Health Care Corporation and the administrator in charge of CHS's EMRS, the electronic records will make it possible to compare Carilion physicians to one another in terms of their practices and the efficacies of their treatments (Nuckolls, 2000). For a more in depth discussion of Carilion's EMRS and how it affects physician-profiling, see Chapter Six.

Physician-profiling offers a unique way to contain costs. Unlike prior authorization, where each request for a procedure is reviewed, profiling "attempts to feed back information to physicians so that their practice of medicine becomes more cost-conscious without affecting their concern for quality" (cited in Birenbaum, 1997, p. 120). The medical community, however, does not see physician-profiling as a way to safeguard the doctor's autonomy and still improve quality of care. Like the cost management companies that gatekeep, organizations that conduct profiles and monitor physicians' performances seem to be more interested in eliminating physicians who make too many referrals to specialists or order too many costly tests. Thus the methodology developed for establishing physician-profiling appears dubious and the question becomes: "who is monitoring the monitors?" (cited in Birenbaum, 1997, p. 120).

Another cost management method that has been utilized by cost management companies to allow physicians to retain more autonomy in their practices and at the same

time provide a method for monitoring physicians' practices is the implementation of clinical practice guidelines. According to a survey conducted by Gold and Associates in 1995, a clinical guideline is "an explicit statement of what is known about the benefits, risks, and costs of particular courses of medical action to assist decisions about appropriate health care for specific clinical conditions" (cited in Birenbaum, 1997, p.121). Arnold Birenbaum, a health care analyst, described how cost management companies assembled clinical guidelines and sold them to third-party payers. Third-party payers, in turn, established formal, written practice rules for the application of these guidelines within physician practices and instituted a system of monitoring and reviewing physicians' compliance with the guidelines. Up to now, guidelines have had little use to third-party payers, because no good method has been instituted to compensate physicians for their time for performing this type of profiling system (Birenbaum, 1997).

Cost containment utilization, cost management companies, physician profiling, and clinical guidelines all are examples of the "fourth-parties" that have come to dominate health care services. According to Dr. Francis Amos, a Carilion physician in Rocky Mount, for most of the 20th century, doctors have believed that they, along with their patients, were the only two parties in the health care relationship (Amos, 2000). As Americans came to depend more and more on the medical service of physicians, third-party payers became increasingly important in defining health services. Then, in the last decade of the 20th century, cost containment strategies on the part of third-party payers and employers introduced a new party to the health care relationship – fourth-parties or cost utilization management groups. This new group of intermediaries in the health care

business, without being well-policed by the medical community of physicians, meant another great loss to their autonomy.

Cost management regulation dealt another deathblow to physicians' professional autonomy. Incoming 1990s medical school students resigned themselves to working under new management controls (Rimer, 1993). Those practicing physicians caught between what they had known and the new swift moving, cost management market forces in health care became more aware of how the dynamics of employer benefits were driving consumers, their patients, into preferred provider organization and HMO networks. Many physicians swallowed their pride and sacrificed their autonomy to maintain their incomes.

Conclusion: An Assessment of Managed Care

Managed care represents a different agenda from the traditional fee-for-service system and creates new demands and benefits for participants such as physicians and managed care organizations. Employers furnish beefy health care packages to attract good workers.ⁱⁱⁱ Health care systems supply as many medical services as they plausibly can to generate system income. HMOs market themselves to as many customers as conceivable, but pay out for services to as few customers as possible. Communities offer as many health care services and facilities as expedient to attract businesses and growth to their locality. Consumers or patients demand the latest and most up-to-date medical services. Pharmaceutical companies, medical supply companies, and nursing homes endeavor to enlarge their business end of the medical industry. Physicians attempt to serve their community and make a decent living. All are in the business of managing their concerns and managing care. These varied groups often speak loudly of their own issues,

but remain unconcerned about each other's dilemmas (Gervais, Priester, Vawter, Otte and Solberg, 1999).

Until they speak and listen to each other, managed care will not be as successful as it could potentially be. Even though all participants interviewed: physicians, administrators, community leaders, and consumers, said they think of going back to the unmanaged days of medicine, they recognize a return is impossible. Dr. Jack Bumgardner, a Carilion physician explained, "The open-ended contract where physicians and patients determined treatment for an illness and a third-party payer paid the usual, customary and reasonable fee without asking questions is gone forever" (Bumgardner, 2000). According to a 1999 Wall Street Journal article, the fee-for-service system would have by 2050, cost the nation's gross domestic product half its monies for health care (Reinhardt, 11/17/99).

Since the coming of managed care, medical costs have continued to rise, but they have not risen at the same rate they did in the early 1990s. In October 1993, the Congressional Budget Office projected that the United States would spend \$1.6 trillion on health care by 2000 (18.9% of Gross Domestic Product and up \$675 billion – 12.2% of Gross Domestic Product from 1970). In the October 1999 budget forecast, the U.S. Congress projected total spending for 2000 to be \$1.3 trillion on health care, a figure that represented \$300 billion less than the forecasted \$1.6 trillion six years earlier (Birenbaum, 1997). The \$300 billion savings was attributed to the questionable managed care industry. Although almost everyone agrees the system has flaws, no one can deny that managed care has had some success controlling fees and the use of health care services (Birenbaum, 1997).

Carilion Franklin Memorial Hospital board member, Abe Essig, suggested that greater benefits might derive from the managed care system if the disparate groups involved would talk to one another at all levels. Essig notes that if consumers would understand that employee health care benefits result in lower take-home pay instead of merely affecting the bottom line of employers' operations, then they might be more apt to think more seriously about how they use, and often abuse, health care services (Essig, 2000). Uwe Reinhardt, a professor of political economy at Princeton University, writes: "For American business leaders, one of the most effective methods of health care cost control would be to level with their employees about who actually pays for health insurance" (cited in Reinhardt, 11/17/99, p. 22A).

Currently, managed care is an evolving form of health care delivery in America. John Iglehart, a writer for The New England Journal of Medicine states that "the American system is a work in progress, driven by a disparate array of interests with two goals that are often in conflict: providing health care to the sick, and generating income for the persons and organizations that assume the financial risk"(cited in Iglehart, 1999c, p. 70). The managed care industry has spawned numerous types of organizations to sell healthcare services to the American public. Many of these business organizations have faced financial instability as the medical industry continues to change (Ginzberg and Ostow, 1997). Carilion Health System has not only survived as a managed care system, but thrived. The reason for its success in adapting to a managed care environment stems from the relationships Carilion has established with all the varied organizations it has assembled (a physician-practice management company, a regional hospital system, a health plans division, community health funds and other health-related programs and

businesses) vis-à-vis the communities it serves. These organizations form the core of Carilion Health System, and allow the health system to manage care successfully. These organizations and their pathways of communication represent what sets Carilion Health System apart from other managed care systems.

In the 1970s-1990s, the greatest limit facing caregivers, the health care industry and American public was a lack of vision, leadership, and will to forge sensible health care policies and/or systems of care delivery. Robertson argues that Carilion, on the other hand, through its strong and growing ties to southwest Virginia's communities of caregivers, consumers and its own health care businesses has prospered as a managed care system during the same period. Throughout the evolution of managed care, Carilion Health System has maintained a corporate vision of community service (Robertson, 2000). Carilion Health System has a mission to serve southwest Virginian communities through its network of providers, services, and programs. While this chapter has provided an overview of the history of managed care and its tenets, to understand exactly how managed care works in corporate America today, the following chapters examine how Carilion manages care in its organizations and fosters relationships in communities.

We will begin by examining Carilion's hospitals because Carilion's first concern for managing care originated in its hospital facilities. The Roanoke Hospital Association (RHA), Carilion's former name, operated one hospital (Roanoke Memorial Hospital) from 1899 to the 1970s. From the 1970s-1990s, the RHA transformed itself into a corporation that managed care in, not one, but several southwest Virginia hospitals. The RHA succeeded in its endeavor to corporately manage care in Virginia communities because it built a system that relied on traditions of care long established in the small

community hospitals that it came to control. Carilion's ability to bring together community traditions of care, hospitals, practitioners and corporate strategies to system build are the defining criteria as to why Carilion has been successful in the management southwest Virginia's care.

Notes

ⁱ According to H. Luft, in the late 1980s, the term “managed care” began to be used. The term appears to have roots in corporate marketing. See H. Luft, 1999.

ⁱⁱ Like most physician management companies, Carilion also uses non-competition covenants in its contracts with its primary care physicians. Hugh Thornhill, president and CEO of Carilion Health Care Corporation, claims that “noncompetition covenants insure the doctor doesn’t quit and use the start Carilion gave him to establish a competing business that will be detrimental to Carilion.” Cited in Sturgeon, 3/18/01, p. 2B.

ⁱⁱⁱ Robert Kuttner argues that Americans are starting to see a change in employers providing health care packages to attract workers. He claims that today the majority of American employers are smaller businesses which cannot afford to offer health care coverage to employees. Kuttner states, “And as the shift from full-time to part-time and temporary jobs continues, more employees are likely to find themselves with no benefits.” Cited in Kuttner, 1999, p. 167.

Chapter Two

“Carilion’s Mission Began With Its Hospitals:” 1988-1992

The Carilion Health System (CHS) in its early phase was basically a hospital organization and its first concern was its hospitals. According to Archie Cromer, a Carilion board member, “Carilion’s mission began with its hospitals and commitment to southwest Virginia communities” (Cromer, 2000). Carilion’s commitment to its hospitals and to communities originates from the Roanoke Hospital Association’s (the former name of Carilion and the charter association for the Roanoke Memorial Hospital) (RHA) commitment to its hospital and the Roanoke community. The story of the Roanoke Memorial Hospital (RMH) commences at the beginning of the history for the city of Roanoke itself.

In the 1880s, Roanoke became a bustling railroad town as the Norfolk and Western Railway set up workshops to service its expanding rail construction stretching across southwest Virginia. The railroad brought people and commerce to the area (Barnes, 1968). For the newly incorporated city of Roanoke (1881), one of the first concerns was to handle the accidents, poor sanitation and widespread incidence of disease affecting railroad workers and their families (Moorman, 1974). To handle these problems, Roanoke area businessmen formed the RHA and along with the Norfolk and Western Railway collaborated to construct a hospital (RMH). Throughout the 20th century, Roanoke Memorial attempted to meet the needs of the rail workers and many other community groups in southwest Virginia. According to William Flannagan, former president of RMH and retired chairman of the RHA, “the several names given to Roanoke Memorial throughout its 100 years of history: the Norfolk and Western Railroad

Hospital, the Roanoke City Hospital, the Crippled Children's Hospital, the Roanoke Memorial Hospital, and the Carilion Roanoke Memorial Hospital, each speak to how the interests of community groups dictated the hospital's operations and community involvement" (Flannagan, 2000).

By the 1960s, the RHA, the charter association for Roanoke Memorial, under the leadership of Flannagan had set out to organize a hospital network to secure Roanoke Memorial's status as a state-of-the-art facility to service southwest Virginia's health care needs. By means of its medical technologies, and residency and allied health training programs. By the late 1970s, Roanoke Memorial Hospital fashioned a network with other community hospitals, the Medical School of the University of Virginia, and the Veterans Hospital in Salem to become a regional health care center for medical services and training. Because rural, southwest Virginia community hospitals began to rely on Roanoke Memorial as their medical and teaching center, the hospital became a regional asset that linked southwest Virginia's smaller hospital facilities, communities and consumers.

Flannagan explained that throughout the 1970s and early 1980s, he looked for opportunities to build further on what he called the "network of dependency." The arrangement arising from Roanoke Memorial and southwest Virginia communities represented a "network of dependency" because parties in the network relied on each other. Virginian communities needed Roanoke Memorial's teaching programs to lure potential physicians into the region and to train other medical personnel for community hospitals. Meanwhile Roanoke Memorial needed patients from small community

hospitals to purchase their state-of-the-art services and students to fill rosters for the hospital's teaching programs (Flannagan, 2000).

Flannagan desired to build on the network so that Roanoke Memorial could become a regional medical leader or a regional hospital system. He sensed that as competition between Roanoke area hospitals (Roanoke Memorial, Lewis-Gale and Community Hospital of the Roanoke Valley) heightened for patients and dollars, Roanoke Memorial would need to extend its services into as many communities as possible to continue its growth. Flanagan recognized that Roanoke Memorial would have to do more than provide quality care, state-of-the-art facilities and teaching services; the hospital needed to network its facility, services, and programs to other area facilities (Flannagan, 2000).

How Carilion transformed itself from one hospital, Roanoke Memorial Hospital, into a hospital system and ultimately became the powerful managed care delivery system it is today is a story which weaves together corporate growth, communities, individuals and health care. Our story begins in 1988, when the Roanoke Hospital Association (1889) officially changed its name and became the Carilion Health System. In this chapter, the RHA's transformation into the Carilion Health System will be analyzed. The chapter delineates five transformations Carilion has undergone since 1982, which have built Carilion as a system. The first transformation is the RHA's (1982) reorganization as a for-profit corporation with both for-profit and not-for-profit subsidiaries. Next, the RHA's (1986-1988) renaming as the Carilion Health System is examined. Thirdly, Carilion's antitrust lawsuit (1988-1990) against the United States Justice Department for the merger of two of its Roanoke hospitals (Roanoke Memorial and Community Hospital

of the Roanoke Valley) which came to define Carilion as a nationally recognized health care system is addressed. Next, the affiliation of two community hospitals (Franklin Memorial and Radford Community Hospital) with Carilion is analyzed to show how Carilion's hospitals networked to the system. The last section examines how Carilion began to regionalize its hospital network and centralize its administrative services in 1992. Separately, these transformations retell how communities, Carilion and consumers came together. Combined, these accounts serve to show how corporate America builds health care systems.

Before Carilion: Reorganization for Corporate Success and Diversification

By the early 1980s, health care in the Roanoke Valley had entered a new phase – big business. The three largest hospitals in the Roanoke area, Roanoke Memorial, Lewis-Gale, and Community Hospital of the Roanoke Valley, were spending millions of dollars trying to offer the latest in medical technologies. Flannagan commented that they were waging a battle to keep up with each other (Flannagan, 2000).

For the three Roanoke hospitals, not keeping up with each other meant the threat of losing patients to another hospital, and losing patients meant losing financial stability. Not only were the three competing hospitals buying the latest in medical technology, but they were also competing in some surprising new ways. Flannagan recalls that in the winter of 1982-1983, Community Hospital bought the 16 West Fitness Center, a health club in downtown Roanoke. Just days after the purchase, Roanoke Memorial announced it was going to buy the Roanoke Athletic Club, another fitness center. Everyone in the valley started wondering what Lewis-Gale would do, buy the YMCA? (Flannagan, 2000)

While competition over athletic clubs seemed a comical aside to what was taking place among local hospitals, it actually represented an important change in the hospital industry. The three Roanoke area hospitals could no longer survive under their existing financial payment plans from patients, Medicare and the private insurance companies. Administrators like Flannagan thought hospital diversification was the solution to the hospital industry's financial woes. Flannagan explained:

I tried to diversify Roanoke Memorial for the money. I had to do it because the Federal Government cut Medicare and Medicaid so far that we could not cost-shift any more to the paying patients and to private insurance companies. I needed to diversify and have income from outside to keep Roanoke Memorial's educational programs going and the hospital services (Flannagan, 2000).

When the Medicare and Medicaid programs originated in 1965, Flannagan claims he knew Roanoke Memorial would eventually need to look elsewhere for additional funds (Flannagan, 2000). In 1966, the Virginia State Cost Review Commission began to reduce significantly the payments that a hospital could receive for specific services from Medicare. Hospital services for government-sponsored Medicare patients were on a cost basis, but as the programs became more expensive for the government, the Virginia Cost Review Commission and the Federal Government narrowed the definition of allowable costs for hospital services. In 1970, Roanoke Memorial was reimbursed 95% of their costs for Medicare patients. By 1982, reimbursement for government-sponsored patients was at 90% and another set of reimbursement regulations took effect in 1983 to reduce payment further (McDaniel, 1983). Yet, the number of Medicare patients at Roanoke Memorial increased annually. In 1970, 35% of Roanoke Memorial's patients were Medicare or Medicaid recipients. By 1982, Flannagan noted 50% of Roanoke Memorial's

patients were relying on the Medicare program to pay their hospital bills (Flannagan, 2000).

Flannagan recalls that the increase in government-sponsored patients and the decrease in their reimbursement for hospital services meant one thing; Roanoke Memorial had to increase its revenue from other sources. Generally, the hospital had accomplished this goal by extending patient days, taking in more patients or increasing emergency room services, but in the 1980s, the hospital found that these methods for generating more revenue no longer worked. Americans were in better health or at least did not seem to require as many hospital visits or stays (Flannagan, 2000). Roanoke Memorial faced a difficult dilemma. If it wanted to continue to provide the newest technologies, and to replace aging facilities with newer ones, it had to devise new ways to generate income (Flannagan, 2000).

Diversification seemed the best solution. According to Flannagan, in order to compete successfully for hospital dollars, hospital diversification was necessary for all large facilities that did not have major endowments, given the reimbursement of Medicare and private insurance. Flannagan said, “We [Roanoke Memorial] didn’t have any sizable endowments, so we had to think of more ways to make money to keep the hospital in business” (Flannagan, 2000). Flannagan explained that in 1982, he and the board of Roanoke Memorial engineered a massive plan to reorganize the hospital so it could diversify into other operations without jeopardizing its tax-exempt status (Flannagan, 2000). Under its plan, Roanoke Memorial reorganized its charter association, the Roanoke Hospital Association, into a tax-exempt holding company for the hospital

and its taxable holdings. With the creation of the holding company, Flannagan and the board moved into the business of diversification.

In little over a year, Flannagan and the hospital board bought a motel on U.S. Route 220 for patients' families. They also bought an old Dr. Pepper bottling plant in Roanoke and converted it into a laundry for the hospital's use. The board purchased a helicopter and constructed a helipad for hospital patient transport and built a \$750,000 Ronald McDonald House in Roanoke for families of young patients. Flannagan had the RHA board purchase and remodel the Burrell Hospital into a home for adults and began plans to buy Cherry Hill, an old mansion landmark in Roanoke, to build 100 luxury condominiums. The RHA purchased the Gill Memorial Ear, Eye, Nose and Throat Hospital and a building in southwest Roanoke to use as a clinic, and it opened Roanoke's first cardiac surgery unit at Roanoke Memorial (Flannagan, 2000).

Flannagan, president of the RHA, said of all the expansions, "they were necessary for the hospital to continue to compete with the other two local hospitals" (Flannagan, 2000). Yet, local residents wondered where it would all end. Some homeowners even began joking, "wonder how long before Ham Flannagan tries to buy my property?" (Cited in McDaniel, 1983, p. 22). Many local citizens questioned the competition arising between the hospitals. In a local television show which aired on WDBJ-7 on March 26 and 27, 1983, the station's Public Affairs Director, Ted Powers, queried, "Instead of continuing to acquire property and special facilities, in this age of punishing hospital costs and prohibitive medical insurance, might not a reduction in rates be the best health bonus the hospitals could give the public?" (Cited in Public Affairs, WDBJ TV editorial, 3/26/83).

Regardless of the controversy and ridicule Flannagan and the RHA board faced from local residents, they continued in their pursuits to build a diversified empire to generate revenues for Roanoke Memorial and to maintain the hospital's capability to buy the latest medical technologies. There are a number of reasons why the RHA was more intent upon building a protective empire than its competitors, Lewis-Gale and Community Hospital of the Roanoke Valley. Roanoke Memorial had a deep connection to the Roanoke Valley and surrounding localities since it had been in the area so long (1899). Roanoke Memorial had established residency programs and clinical services affecting numerous southwest Virginia communities. Community Hospital on the other hand, was only 15 years old in 1983 and had fewer ties to the area. Lewis-Gale, although originally a private, locally owned hospital founded in 1909, was by 1983, operated by Hospital Corporation of America (HCA), the largest hospital chain in the country in 1983. Lewis-Gale could rely on its parent company HCA for financial assistance. Flannagan remarked that Roanoke Memorial did not have "a wealthy corporate backer to help them; the hospital had to support itself" (Flannagan, 2000).

As Flannagan explained, by 1983, for approximately 85 years Roanoke Memorial had provided medical care for all persons regardless of their ability to pay. Roanoke Memorial's indigent care was expensive, however. For example, in 1982, the hospital spent over \$6 million for indigent care as compared to \$2 million spent by Community Hospital (Flannagan, 2000). Lewis-Gale had practically no expenses for indigent care, since it was a for-profit hospital. Roanoke Memorial also operated 43 Roanoke clinics served by their resident staffs and supervised by Roanoke Memorial's medical staff. These clinics, other than community Health Departments, were the only clinics accessible

to residents, regardless of their ability to pay (McDaniel, 1983). In 1982, the clinics cost Roanoke Memorial \$540,000 just in terms of physician labor. In addition, Roanoke Memorial, unlike the other two hospitals, spent an average of \$6 million a year on educational programs for physicians, nurses, and other medical personnel (Flannagan, 2000).

Roanoke Memorial, according to Flannagan, “just had higher goals than the other local hospitals and needed a protective empire to achieve those goals” (Flannagan, 2000). In 1983, Flannagan noted that Roanoke Memorial was already a major medical center for southwestern Virginia, but then said, “It is my hope and the hope of the board that Roanoke Memorial Hospitals will continue to grow as a medical center. Our board of directors wants us to keep up with everything we can in health and education” (cited in McDaniel, 1983, p. 21). By 1983, Roanoke Memorial’s holdings, known as “Ham’s Empire,” had become a formidable hospital network with numerous diversification ventures. Not content to stay still, the RHA continued to gobble up more property around the hospital. According to Flannagan, the RHA had to buy as many of the properties surrounding the hospital as it could, because the facility was landlocked against the Mill Mountain and had very little area to grow (Flannagan, 2000). The RHA bought so many local properties that residents wishing to sell property close to the hospital began to inform the RHA when they wanted to sell (Kelly, 6/21/92).

Tom Robertson, former president and CEO of CHS, recounted that in 1984, the RHA bought its first manufacturing concern, the Richmond-based Sterile Concepts, a surgical equipment manufacturer. As the RHA purchased more and more real estate, it also acquired additional hospitals. Beginning in the 1970s, Roanoke Memorial acquired

small hospitals in the Roanoke and outlying areas to create a medical network to which it provided consulting services or managed. Under its contract management, a community hospital signed an agreement with Roanoke Memorial to purchase consulting or managerial expertise in the decision-making processes affecting its hospital operations and long-term planning (Robertson, 2000). Flannagan recalled that the community hospitals had discovered that new, medically advanced technologies could not be readily available unless insurance reimbursed for them under hospital-covered services.

Small community hospitals, not knowing how to cut costs for new technologies to insurance companies and to the government programs, while still offering the new services to the public, turned to Roanoke Memorial for solutions. Flannagan watched as other area hospitals began to feel pressure from insurance companies to reduce escalating hospital costs and he decided that Roanoke Memorial, building on its established relationship as supplier of trained personnel and medical staff to southwest Virginia community hospitals and its image as a facility for state-of-the-art care, could carve out a new role for itself as a contract manager of hospital services (Flannagan, 2000). Houston Bell, Carilion senior vice president for its Western Division, stated that Roanoke Memorial was successful in marketing its contract management service to many southwestern communities. Southwest Virginia hospitals that initiated contract management relationships with the RHA included: Franklin Memorial Hospital (1975); Lonesome Pine Hospital (1977); Wythe County Community Hospital (1978); Russell County Medical Center (1978); Giles Memorial Hospital (1980); Tazewell Community Hospital (1980); Southside Community Hospital (1985) (Bell, 2000). According to Bell, by 1985, the RHA's contract management business to southwest Virginia hospital and

medical groups included about 30 concerns (Bell, 2000). Besides management services, the RHA purchased outright two other area hospitals: Burrell Hospital, Roanoke, in 1981, and Gill Memorial Hospital, Roanoke, in 1982. The RHA deemed these two hospitals to be important assets within their communities but unable to survive financially on their own without an influx of capital (Bell, 2000).

Flannagan described how in the mid-1980s, the RHA and HCA, parent company of Lewis-Gale Hospital in Salem, were vying for a small hospital in Bedford. The Bedford County Memorial Hospital served a small community approximately 30 miles from Roanoke. Both the RHA and the HCA offered the hospital board purchase agreements. HCA offered the Bedford Hospital board a better financial deal than the RHA, but the Bedford Hospital board favored an affiliation with the RHA because it was local. The Bedford Hospital board believed the RHA appeared more open and receptive to their members' suggestions and demands for the Bedford County Memorial Hospital.

One of the most important requirements made by the Bedford Hospital board that the RHA agreed to uphold was that the Bedford hospital would stay open until the turn of the 21st century (Flannagan, 2000). The merger of Bedford County Memorial Hospital with the RHA was completed in February 1984, when the RHA contributed \$2 million to the Bedford Memorial Foundation to sweeten the purchase deal (Kelly, 6/21/92). The additional dollars given to the foundation assured the Bedford board that the RHA was indeed concerned about the Bedford community's health care needs. Virginia House of Delegate Lacy Putney of Bedford commenting on the merger and fund gift said, "The Bedford community benefited tremendously by the merger. The fund has been a godsend.

It has given money to rescue squads and scholarships to nursing students” (cited in Kelly, 6/21/92, p. 2D).

Tom Robertson, who in 1984 acted as chief financial officer (CFO) for the RHA, recalled that the RHA rejoiced that its offer to purchase the Bedford Memorial Hospital succeeded over the offer made by HCA. At the same time the association readied plans to incorporate the Bedford Hospital into the RHA’s holdings. However, it began to rethink its competitive strategies against health care giants like HCA. The RHA had won the Bedford Memorial Hospital competition, but questioned whether using current strategies it could continue to compete against well-known health care systems (Robertson, 2000).

In the early 1980s, as the RHA began to manage or own other hospitals in the region, Flannagan set out to create another new business to strengthen Roanoke Memorial against competition. Knowing that Roanoke Memorial offered state-of-the-art services, the most up-to-date medical equipment and that it must continue to do so or else risk losing the hospital’s accreditation and reputation, Flannagan pondered how to purchase and make better use of services and equipment if patient levels and revenue remained low. Flannagan’s queries resulted in an entirely new type of hospital – a mobile Roanoke Memorial Hospital (Flannagan, 2000).

Flannagan explained that if patient volume and revenues were not what Roanoke Memorial needed to survive financially, then the hospital would find patients outside its hospital doors. The hospital would become mobile and travel to other locations. Roanoke Memorial had many viable locations in mind deriving from its network of contract-managed facilities. The network it established with other area hospitals for management or consultation services had shown the RHA and Flannagan that southwest Virginia

hospitals lacked and could not afford what was increasingly in the medical industry being considered vital services, such as CAT scanning. Roanoke Memorial had the equipment for CAT scannings, MRIs, and other services, but the equipment was exorbitantly expensive and was being underused at Roanoke Memorial alone (Flannagan, 2000).

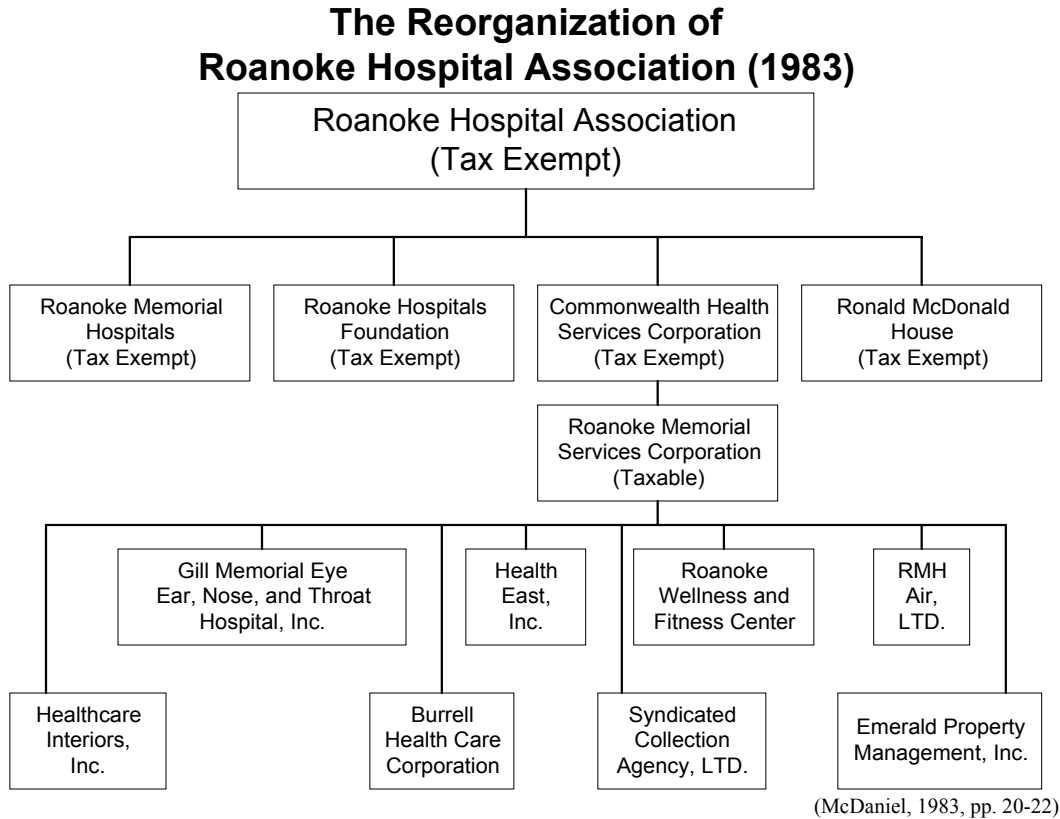
Both Archie Cromer, a Radford Community Hospital board member, and Flannagan explained how the mobile Roanoke Memorial maximized the equipment's use and in an accounting sense made the machines financial assets rather than liabilities. The mobile Roanoke Memorial began sending out units for CAT scannings in 1982 and then other services later. Besides a means of cost accounting expensive medical technology, the mobile hospital provided another link to solidify the connection of southwest Virginia communities to Roanoke Memorial. The mobile units offered medical services to small, rural communities that otherwise residents would have had to go without or else would have had to travel to larger metropolitan areas like Roanoke, Richmond, Virginia, or Winston Salem, North Carolina to receive the services. The net result and financial benefit of its mobile units to Roanoke Memorial was a new way to feed patients (customers) and dollars into Roanoke Memorial (Cromer, 2000). Patients flocked to the mobile units traveling around southwest Virginia, a move which generated income for Roanoke Memorial. Often the test scan findings resulted in patients seeking services at Roanoke Memorial (Flannagan, 2000).

As Archie Cromer stated, by 1982, Roanoke Memorial's growing network and alliances to other area hospitals and communities through its mobile units and management services represented an increasing percentage of the hospital's income. As a result, Roanoke Memorial's reason for the RHA board and charter for a not-for-profit

hospital had become less important to the RHA than its new businesses of networking other Virginia hospitals and medical concerns together through profit-making businesses such as the mobile hospital or the hospital contract management business (Cromer, 2000). Roanoke Memorial, like many not-for-profit hospitals had started for-profit companies such as property management and health care consulting businesses in an effort to offset declining profit margins caused when government and private insurers demanded discounts on hospital charges (Seplaki, 1994). Once those for-profit businesses took-off, however, the RHA had to find a way to safeguard the not-for-profit status of the Roanoke Memorial Hospital itself. To maintain the tax exempt, not-for-profit status of the hospital, the RHA decided to reorganize its holdings.

By 1982, the RHA completed its initial thrust into becoming a for-profit corporation with both for-profit and not-for-profit subsidiary holdings. Figure 1 shows how the RHA looked after the diversification and reorganization:

Figure 1: The Reorganization of the Roanoke Hospital Association (1983)



The organization included four tax-exempt companies: Roanoke Memorial Hospital (700 beds), the Roanoke Hospital’s Foundation, the fund-raising arm of the association, the Commonwealth Health Services Corporation, a company which operated the hospital’s allied health services, such as mobile CT scanners, and oversaw the operations of the taxable subsidiary corporations, and the Ronald McDonald House, an organization that operated a home in Roanoke to provide lodging and food to families who wanted to be close to their sick children in the hospital. The taxable holdings of the Roanoke Hospital Association included the following:

- The Roanoke Memorial Services Corporation: a stockholding company for all the taxable subsidiaries
- Gill Memorial Eye, Ear, Nose and Throat Hospital, Incorporated, a Roanoke-based hospital for ear, nose and throat patients

- Health East, Incorporated. The management and consulting firm which administered management contracts with five southwestern Virginia community hospitals: Franklin Memorial in Rocky Mount, Wythe County Community Hospital, Tazewell Community, Giles Memorial in Pearisburg and Lonesome Pine in Big Stone Gap
- Roanoke Athletic Center (RAC), a fitness center
- RMH Air, LTD, an air ambulance service with Life Guard 10 helicopter
- Healthcare Interiors, Incorporated, an interior healthcare decorating business
- Burrell Health Care Corporation, a 200-bed assisted living home for adults who were physically unable to maintain independent lifestyles. Formerly Burrell Hospital
- Syndicated Collection Agency, LTD. A collection agency for all member companies under the association and also for other health related businesses in Virginia
- Emerald Property Management, Incorporated, a property holding company for the Association. This held all non-hospital properties such as physicians' office buildings, apartments, and Apple Valley Motel (McDaniel, 1983, pp. 20-22)

The RHA's reorganization and diversification drew criticism from many Roanoke groups and residents. According to Flannagan, much of the criticism resulted from a misconception of RHA's tax-exempt status. Flannagan said that all our businesses, not medically-related, were on the tax rolls, like real estate and for-profit companies, but all our clinical and medical buildings we did not pay taxes on (Flannagan, 2000). The dollar amounts of what was tax-exempt and what was taxed were quite different, though. In 1982, the RHA reported \$40 million of untaxed medical facilities and only \$8 million in taxable property holdings. Flannagan told Roanokers that the disparity should be viewed in other ways. In 1982, in lieu of taxes and based on its residents' admissions to Roanoke Memorial, Roanoke City received \$2,300,000 in free medical care and \$1,795,000 in free education/training services (McDaniel, 1983).

Others argued that the hospital's tax-exempt status was not fair to for-profit companies who could not compete to buy moneymaking businesses such as the Roanoke Athletic Club. Flannagan insisted there was no disparity between the two types of

corporations, because Roanoke Hospital Association did not use any tax-exempt monies to purchase taxable businesses. He commented, “All of Roanoke Memorial’s money stayed at the hospital” (Flannagan, 2000). Flannagan explained that the RHA borrowed money from local banks to purchase the fitness club. But, once again, many argued that this situation represented an uneven playing field, because many competing health club businesses could not finance loans for business purchases or renovations at the same interest rates as the powerful, large RHA (Flannagan, 2000). In 1983, to defuse the public outcry against the disparities arising from the RHA’s for-profit and not-for-profit entities, Flanagan stated to the Roanoke press, “Any money made by profit-making corporations goes into Roanoke Hospital Services Corporation which then sends the money back to the non-profit ventures” (cited in McDaniel, 1983, p. 21).

Bell recalled that the redefined RHA functioned as a holding company or parent company for the new businesses and programs Roanoke Memorial had conceived. Roanoke Memorial became a not-for-profit subsidiary holding of the newly reorganized RHA. The reorganization of the RHA charter proved Roanoke Memorial was no longer merely a hospital. Through Flannagan and the RHA’s work to meet the medical needs of southwest Virginia communities, Roanoke Memorial had transformed itself into quite a different institution. The hospital had become a business corporation (Bell, 2000).

Flannagan noted, from this juncture, the history of the RHA and Roanoke Memorial are connected, but in new and different ways. They remain linked because the RHA continued to hold Roanoke Memorial as one of its subsidiaries. They are no longer one organization, however. After 1982, the RHA became more concerned about its business holdings as a whole, not just the Roanoke Memorial Hospital. Although

Roanoke Memorial became known as the facility that allowed the RHA to achieve regional status by the 1980s, Roanoke Memorial represented only one interest, not the whole business, of the RHA. Roanoke Memorial became for the RHA its “hub” facility to connect all its managed hospitals. Roanoke Memorial became a showcase facility where the RHA could exhibit to southwestern Virginia its state-of-the-art medical services (Flannagan, 2000).

It's All In A Name: Roanoke Hospital Association Becomes Carilion

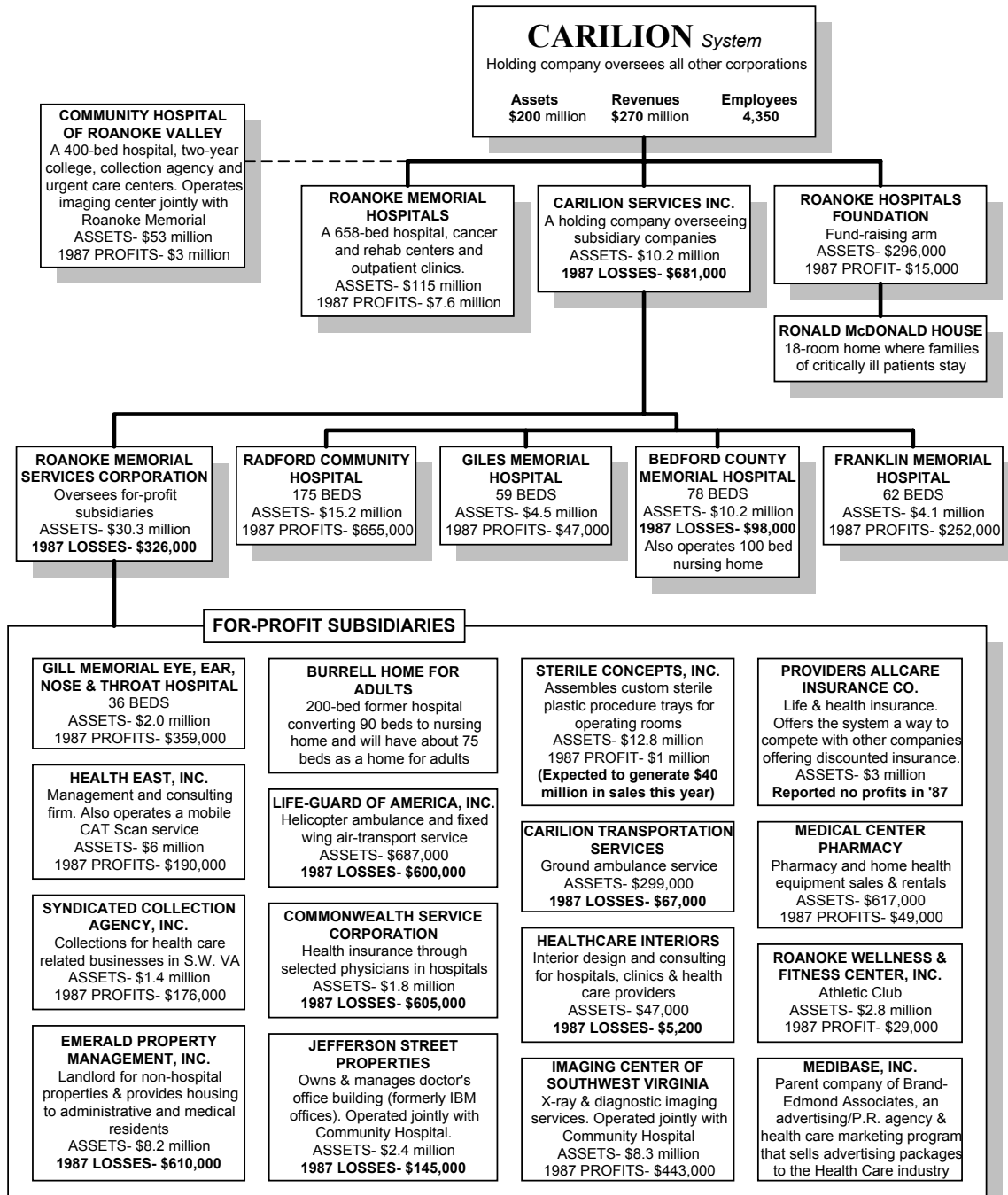
Not long after the purchase of the Bedford County Memorial Hospital (1984), William Flannagan retired as chief executive officer (CEO) of the RHA. In 1986, Thomas Robertson, former chief financial officer (CFO) for RHA, succeeded Flannagan as CEO of the RHA. One of Robertson’s first objectives as CEO was to unify into one organization the group of hospitals the RHA consulted with and/or managed. Robertson recognized that hospital management and networks were becoming increasingly important in health care delivery and the rapidly expanding business of managed care. Robertson argued that the RHA needed to rethink its hospital strategies to compete better with rival HCA/Lewis-Gale. Robertson decided the best place to start in his competition against HCA was with a new name for the RHA.

Robertson said he desired a name that would symbolize the growing network that the association was forming and one that would not be limited or tied to its geographical identity. Robertson wanted a name that would convey a strong, caring image and be easily recognized by all. The RHA hired a New York consulting firm to devise a new name for the association. The consulting firm came up with a manufactured moniker Carilion, playing off the words “care” and “lion” (Robertson, 2000). Archie Cromer

explained that the name “Carilion” is actually derived from the French word for “tower bells” that ring in unison (Cromer, 2000). Robertson said he liked the name and convinced the RHA board to approve it (Robertson, 2000).

Robertson recalled that he and the RHA board contended that the name Carilion would best describe how the growing system of hospitals and other properties would work in unity to meet the health care needs of southwest Virginian communities (Robertson, 2000). The RHA formally became the Carilion Health System (Carilion) in 1988 (Robertson, 2000). The empire Flannagan had built was not just to be inherited and protected by Robertson. Robertson, like Flannagan, was eager to add to the caring lion’s share of the Roanoke and surrounding areas’ health care market dollars and territory. For 1987, Carilion Health System reported the financial information found in figure 2.

Figure 2: Carilion Financial Data (1987)



(Source: Hite, 12/7/88, p. 12A)

The first place Robertson looked to enlarge his share of the market was only about one mile away at the Community Hospital of the Roanoke Valley. In 1986, while

Robertson sat at his desk looking over an architect's sketches for a new six-story addition for Roanoke Memorial Hospital to expand facilities for outpatient surgery and to renovate an old 1950s emergency room being used for a trauma center, he became aware of the huge financial commitment, about \$30 million, the expansion would cost. Meanwhile, just a mile away, Community Hospital had just completed an expansion project that afforded better outpatient services, a modern emergency center and other new service centers. Robertson envisioned merging the two hospitals into a medical center that could rely on the strengths of each hospital to complement one another (Robertson, 2000).

In July 1986, Robertson and William Reid, Community Hospital's administrator, met at "Penicillin Point," a finger of land on Smith Mountain Lake near Roanoke dotted with homes owned by physicians (Hite, 5/7/88). The two men discussed a possible merger of Community Hospital with Roanoke Memorial and the Radford Community Hospital. Robertson and Reid assumed they could cut operating expenses and future construction costs by combining operations. Robertson said, "We think it's a very worthwhile endeavor. We think that it would improve quality of care and result in significant reduced costs for health care consumers in Western Virginia and Roanoke" (cited in Hite, 7/9/88, p. 4A).

At the time, both Roanoke Memorial and Community Hospital were financially secure. According to two key financial indicators, profits on patient revenues and profits on total income, American hospitals averaged 0.13% profit on patient revenues and 4.15% profit on total income in 1987. Roanoke Memorial averaged 2.34% and 7.09% respectively for those indicators, while Community Hospital reported 0.65% and 7.10% (Hite, 12/7/88). The merger did not make either one of the hospitals financially sound;

instead, the proposed merger saved operating costs for the two hospitals. The proposed savings represented about four percent of the combined operating budgets of the Roanoke Memorial Hospital and the Community Hospital of the Roanoke Valley (Hite, 3/12/88).

In March 1988, Tom Robertson, speaking at a meeting of the Roanoke Valley Health Care Coalition (a group concerned about local health care services), said the merger would save almost \$30 million in operating costs for the hospitals over a five-year period and an immediate \$17.5 million would be realized in reduced construction costs that Roanoke Memorial had planned (Hite, 3/12/88). Robertson explained that Roanoke Memorial was planning a \$30 million six-story expansion and he said the merger would allow the hospital to scale back that expansion. Robertson commented, “If the merger does not go through, Memorial will embark on a \$30 million expansion program and Community will spend millions of dollars developing new programs in order to compete with Memorial and Lewis-Gale. Neither of these steps would be needed if we put the two together” (cited in Hite, 7/9/88, p. 4A).

As the RHA, Radford Community Hospital, and Community Hospital discussed possible savings that could arise from a merger, the hospitals learned a merger could itself bring costly expenses to the hospitals in terms of infringement to Federal Antitrust laws enforced by the United States Justice Department (Burda and Greene, 1988b). After announcing a possible merger in July 1986, the RHA and Community Hospital spent the next 10 months justifying to the Justice Department why a merger would be beneficial to the Roanoke community and had to delay construction plans for needed buildings and technologies until the hospitals saw whether the merger would go through or not (Burda and Greene, 1888a). The merger of the hospitals became not only crucial to the network

of hospitals Robertson envisioned for Carilion, but also significant to other health care systems (Hite, 7/8/88). The possible merger began to have national implications. If the Federal Justice Department denied the merger, a landmark court case would result and involve hospitals throughout the nation who were attempting to merge the same types of community hospitals together as Carilion Health System was doing (Greene, 1988).

The Caring Lion Takes On the United States Justice Department

Up to the 1980s, the health care industry, especially non-profit institutions, had been exempt from antitrust lawsuits because of clauses in judicial decisions and federal statutes pertaining to non-profit community institutes (Burda, 1989c). Since hospitals enjoyed an exemption from antitrust lawsuits, as beds were getting harder to fill for hospitals and as reimbursement from Medicare and insurance companies became less and less, hospitals looked at mergers as a way to reduce costs and consolidate expensive medical programs. Indeed, due to changes in the way the Federal Government reimbursed hospitals, hospitals across America in the late 1980s started to see mergers and/or consolidations as a way to stay alive financially (Wagner and Burda, 1989). The United States Justice Department's opposition to the merger of Community Hospital of Roanoke Valley, Roanoke Memorial and Radford Community Hospital carried a message to all American hospitals that mergers may not be the solution to their mounting financial ills (Greene, 1988, and Burda and Greene, 1988c).

The Justice Department's opposition to the merger appeared contrary to the message hospitals had been receiving from federal and state regulatory agencies in the past. For years, the message from federal and state health officials had been that empty

beds and duplicated services increased health care costs. Larry Sartoris, executive vice president of the Virginia Hospital Association said:

Now we get two hospitals saying they are going to do something about it, and who steps in to thwart it but the Federal Government? Once again, we have different branches of government meeting themselves coming and going. You try to please one and immediately you turn around and run into the eager arms of the other saying thou shall not (cited in Hite, 5/27/88, p. 1A).

Linda Tomaselli, an attorney with the American Hospital Association noted, “We are afraid that federal enforcement authorities may inappropriately use antitrust laws to try to block transactions that would benefit a community” (cited in Hite, 5/27/88, p. 1A).

In July 1988, the U.S. Justice Department formally filed suit opposing the merger of Community Hospital of the Roanoke Valley with Roanoke Memorial.¹ The U.S. Justice Department stated that the merger posed a significant risk to competition among Roanoke’s hospitals (Burda, 1988a). At the same time that the U.S. Justice Department brought suit formally against Community Hospital and Carilion, the Federal Justice Department announced it was challenging another merger involving two non-profit hospitals in Rockford, Illinois (Hite, 7/8/88).

According to Charles Rule, head of the Justice Department’s Antitrust Division, “antitrust laws do not permit mergers that reduce unjustifiably an already small number of viable hospitals in a market” (cited in Hite, 5/27/88, p. 1A).² If the Justice Department allowed the merger between Roanoke Memorial and the Community Hospital of the Roanoke Valley, then the only other general acute care hospital in the area would have been the Lewis-Gale Hospital in Salem. Based on patient days in the Roanoke market, the Justice Department argued that Roanoke residents would lose if a merger took place, because Roanoke Memorial and Community Hospital would control approximately 70%

of the local hospital market. The Justice Department estimated that Lewis-Gale Hospital received about 29% of total patient days in the marketplace and could not provide a merged Community and Roanoke Memorial Hospital with enough competition to keep hospital costs in check (Hite, 12/7/88).

The Justice Department insisted that with 70% of the market, Carilion and Community Hospital would be able to raise prices with impunity (Hite, 12/7/88). The Justice Department contended that besides dominating the health care market, the merger would discourage the formation of alternative forms of health care, like HMOs, which could possibly lower health care costs in the Roanoke Valley. Lastly, the Justice Department believed that Carilion's projected cost savings from the merger were being exaggerated (Hite, 7/8/88). Karl Miller, the administrator for the Lewis-Gale Hospital agreed with the Justice Department. Miller said, "I was surprised with all the talk about cost-savings by way of the merger. Mergers generally result in a larger bureaucracy which necessitates higher expenses and not the operational efficiencies and lower patient costs which are generally touted" (cited in Hite, 7/9/88, p. 4A).

Archie Cromer described how Carilion officials countered the Justice Department and Lewis-Gale's opposition with two arguments. First, Carilion insisted that the three competing hospitals in the Roanoke Valley (Lewis-Gale, Roanoke Memorial, and Community) did not compete only with each other. They competed for patients with other health care service providers such as outpatient surgery centers, physicians' offices, rehabilitation clinics, and drug treatment facilities. Secondly, the three hospitals did not compete just for Roanoke area patients. The three facilities brought patients in from

outlying areas. Thus the hospitals were competing against health care facilities in other areas as well (Cromer, 2000).

Ironically, as Carilion and Community Hospital attorneys were arguing that Carilion did not just compete for patients in the Roanoke Valley, but also in its outlying communities, Carilion was quickly taking over some of those outlying competitors. Carilion was attempting to stave off competition from other health care systems like Health Care Corporation, Health Trust (a spin-off of HCA) and Century Health, Inc., which were quickly moving into the southwest Virginia region. Robertson maintained that if Carilion did not expand its own hospital system, it would not survive in the region as a health care system (Robertson, 2000).

By 1988, Carilion had six of the Blue Ridge region's sixteen hospitals under its umbrella. Carilion also managed four other hospitals outside the Blue Ridge Region. The merger of Community Hospital of Roanoke Valley into Carilion would have given Carilion influence over a total of 11 area hospitals.

The hospital officials for Community and Roanoke Memorial argued the bottom line for the merger was to save money by achieving operating efficiencies and by avoiding future cash drains for duplication of construction and new equipment purchases (Hite, 3/12/88 and 12/7/88). If the merger failed, Robertson argued, Community Hospital would spend \$7 million in construction costs to offer programs to compete with Roanoke Memorial and Lewis-Gale Hospital, and Roanoke Memorial would spend \$30 million for new and upgraded facilities (Hite, 7/8/88). Dr. Hayden Hollingsworth, a Roanoke cardiologist who headed a doctor's study group examining alternative forms of health care for the Roanoke Valley commented that he believed "Costly duplicated services

would continue in each facility without a merger. It's [the Justice Department's opposition] a decision that's clearly against the best interests of the community" (cited in Hite, 7/9/88, p. 4A).

On December 6, 1988, CHS, Community Hospital officials, their team of lawyers and experts, and the U.S. Justice Department appeared at a hearing before the U.S. District Court Judge James Turk. With a trial scheduled to begin December 12, 1988, Judge Turk urged the hospital officials and the Justice Department to settle differences. The hospitals asked the court to give them a chance to show whether or not the merger could work and benefit consumers (Hite, 12/7/88).

The hospitals' attorneys argued that the Justice Department's case was based solely on speculation of what would happen to the marketplace competition and costs. Carilion attorneys claimed that unless the merger went ahead, a determination of its impact on consumers could not be made. Judge Turk sympathized with the hospitals' proposal. He even stated that the merger might lower health-care costs. Turk said, "There is no way you can tell anything with absolute certainty. You [the Justice Department] might win the case and the people would be the losers" (cited in Hite, 12/7/88, p. 13A). Judge Turk approved the merger under specific restrictions (Burda, 1989b). The restrictions included: 1) the hospital had to submit any proposed price increases to the government for review, 2) any price increases would have to be approved by the Virginia Health Services Cost Review Council, a state government agency that oversees hospital prices, 3) Judge Turk retained jurisdiction in the case, and the U.S. Justice Department would be free to go to court anytime it had evidence of the merger's harm to consumers (Hite, 12/7/88), and 4) the two hospitals were placed under an injunction that barred them

from discussing the merger until after the U.S. Justice Department's appeals process was exhausted (Hammock, 10/5/89).

On October 4, 1989, officials from both the Community Hospital of the Roanoke Valley and Roanoke Memorial appeared before a federal appeals court in Richmond asking the court to uphold Judge Turk's decision to approve the merger based on restrictions. A three-judge panel of the 4th U.S. Circuit Court of Appeals heard arguments from U.S. Justice Department attorneys who stated again that the merger would reduce Roanoke hospital competition and raise prices for services (Hammock, 10/5/89). Carilion attorneys argued that, if the merger did not take place, the Roanoke Valley health care industry would enter a "medical arms race," because the three hospitals would be competing against one another to provide services and acquire new medical equipment (cited in Hammock, 11/30/89, p. 11A). The 4th U.S. Circuit Court of Appeals concluded the hearing by agreeing that in three to six months they would decide if the merger could continue (Hammock, 10/5/89).

The court's decision took less time than anticipated. On November 29, 1989, the U.S. Circuit Court of Appeals released its decision. The court upheld Judge James Turk's decision that the merger did not violate antitrust laws and approved the merger of Roanoke Memorial and Community Hospital of the Roanoke Valley (Burda, 1989a). The U.S. Justice Department's decision ended litigation that had started nearly three years prior and cost Carilion and Community Hospital over \$2.5 million in legal fees (Burda, 1990 and Hite, 4/27/90). On July 18, 1990, Community Hospital of the Roanoke Valley officially merged with Carilion. Robertson acknowledged that the merger established a precedent regarding the merger of non-profit hospitals. He said, "I anticipate there will be

more mergers across the country, especially where it can be demonstrated – as was here in Roanoke – that the affected communities will receive a higher quality, more cost-effective care” (cited in Hite, 7/18/90, p. 1A).

Whether or not the merger of Roanoke Memorial and Community Hospital was a victory or a loss for patients was hotly debated long after the merger took place (Hite, 2/12/92). Karl Miller, administrator of the Lewis-Gale Hospital, argued that the people of Roanoke needed to establish a test to measure the contribution of each of the non-profit hospitals (Roanoke Memorial and Community Hospital) in terms of their free care to indigents against the taxes paid by the for-profit Lewis-Gale Hospital to the community. Miller said, “The Community needs to weigh what they get from a non-profit entity compared to what they give to that non-profit entity. Capitalists take care of people. I think there is a balance and it may be way out of sync with today’s non-profit hospitals” (cited in McWilliams, 5/10/92, p. 1B).

In an April 29, 1992 essay published in the Roanoke Times, Carilion’s CEO, Robertson, responded to Miller’s remarks by saying, “For-profits seek profits for their shareholders, non-profits have missions to provide care to patients regardless of their ability to pay and to meet community needs” (cited in McWilliams, 5/10/92, p. 1B). Besides concerning himself with Lewis-Gale Hospital’s locally generated criticism, Robertson found himself having to deal with the fact that the Carilion merger had drawn national attention. An article in Modern Healthcare, a weekly magazine covering medical and health news, reported in February 1992, that the two CHS affiliates – Roanoke Memorial and Community Hospitals – had “the power to do just about anything they want” (cited in Burda, 2/10/92, p. 58).

Burda denounced the merger, saying it increased prices, costs, and construction of health services and facilities in the Roanoke Valley. Burda stated that the two hospitals “spent more money on construction and capital equipment than they had suggested would be necessary before the merger” (cited in Burda, 1992b, p. 58). The article’s criticism and conclusions, according to Robertson, were “totally without substance and without documentation” (cited in Hite, 2/12/92, 1B). Robertson insisted that the merger had accomplished its three goals: 1) to lower construction and operating costs, 2) to provide services that may not have been available for either hospital to provide alone, and 3) to contain costs for health services. In response to the criticism, Robertson noted, “We never said we were going to reduce health-care costs. We said we were going to contain health-care costs” (cited in Hite, 2/12/92, p. 1B).

During the trial, Carilion had provided testimony from its hired consultant groups, which stated Carilion and Community would avoid \$25-30 million in construction costs if the Justice Department allowed the merger. The consulting experts had informed Judge Turk that Roanoke Memorial would need to spend \$76 million to replace its outdated facilities (some as old as the 1920s) if the merger did not take place (Hite, 2/12/92). After the merger, Carilion was left to defend its hospital construction underway to Roanoke Valley residents and the entire nation as they waited to see what was going to happen to Roanoke’s health care since the merger. A new nine-story addition planned for Roanoke Memorial Hospital to be completed by 1993 at a cost of \$55 million received much attention (Burda, 1992a). Robertson insisted that the \$55 million was a figure within Carilion's testified budget for hospital construction costs before the court.

Besides criticizing Carilion's merged hospitals' construction costs, Carilion had to defend itself against Modern Healthcare's attack that since the merger, patient stay costs had increased for all three Roanoke hospitals. In 1991, the average charges per adjusted admission rose 12.9% at Lewis-Gale, 9% at Roanoke Memorial and 6.8% at Community Hospital (Hite, 12/7/91). The average charge for both Lewis-Gale (\$8,271) and Roanoke Memorial (\$8,854) were much higher than the state average of \$6,325. Robertson argued that Modern Healthcare failed to mention that Roanoke Memorial's patients were generally much sicker than the other two community hospitals. If the charges were adjusted for the severity of patient illnesses, then Lewis-Gale was the most expensive hospital in the area (Hite, 2/12/92). Robertson's comments prompted Modern Healthcare to take a closer look at the Lewis-Gale Hospital as well. Roanoke's health care merger and hospitals became a case study, a microcosm for the health care industry to analyze.

The merger of the two hospitals may have initiated local and national criticism about whether mergers were good for patients or not, but its immediate and most far-reaching impact was that it allowed other similar hospital mergers to take place in American cities, prompted the growth of health care systems, and made Carilion a nationally recognized name. The merger greatly impacted health care in Virginia. Carilion became the largest health care conglomerate in southwest Virginia and the largest employer in the Roanoke Valley. In 1990, CHS with its two Roanoke hospitals, Roanoke Memorial and Community Hospital, employed approximately 4,600 people and had an annual payroll of nearly \$100 million in the Roanoke Valley. Throughout its entire system, with its affiliates, CHS employed 7,665 employees from Richmond to Big

Stone Gap and ranked as the 58th largest multihospital system in the United States with 1,830 beds (Hite, 7/18/90).

Inside Carilion Hospital Walls

Since the 1980s, scholars in several fields have directed their efforts to unraveling the complexities found within America's hospitals, especially America's not-for-profit hospitals such as Carilion's facilities. American hospitals have generated questions among historians, politicians, economists, accountants, engineers, sociologists, and operations managers who have closely looked at health care delivered in these institutions. Sociologists question why hospitals deviate from the standard model of a bureaucracy in lacking a single line of hierarchical authority (Levey and Loomba, 1973). Economists discuss what exactly hospitals maximize if it is not profits (Alexander and Morrisey, 1988). Politicians argue over the future of health care in hospitals (Birenbaum, 1997). Historians ponder the anomaly of a system that resisted corporate takeover for so long (Johnson and Johnson, 1996). Why so much attention? The answer is simply because hospitals represented the core of the American medical care delivery system for most of the 20th century. Also, the ever-increasing rise of the cost of health care services has focused attention on how hospitals manage themselves and manage care (Johnson and Johnson, 1996). Regardless of each profession's methods of studying hospitals, students of the subject agree that hospitals are unique institutions, which represent an essential component of health care delivery in most communities and are deemed essential community resources (Johnson and Johnson, 1982).

According to Carilion New River Valley Medical Center's administrator, Virginia Ousley, communities view hospitals with pride and consider them the focal point of

health care services in most localities (Ousley, 2000). The image of hospitals is visualized in hospitals' sprawling, huge complexes found in many towns or cities that attract interest, awe and confidence in medical care. Hospitals determine community growth, as well. Carilion Franklin Memorial Hospital board member, Abe Essig, identifies hospitals as one of the most important community assets displayed to businesspersons considering locating a business in a specific area (Essig, 2000). Questions concerning a community's hospitals and/or medical care locations are on the top of realtors "most asked questions" from potential home buyers, says Ila Montgomery, a Roanoke real estate office manager. Hospitals represent a community resource usable to market the community for economic growth, citizen pride and health awareness (Montgomery, 2000).

Overall, hospitals are complex organizations that represent integral parts of American communities. Hospitals are viewed as important and necessary institutions to the development and welfare of communities (Stevens, 1989 and Rosenberg, 1987). The basic mission of most hospitals is to promote a community's medical well being (Snook, 1981). Carilion Health System fits this general profile, its current mission being to "promote the health of the communities it serves" through its many health-related businesses, but Carilion's mission began within its hospitals (Cromer, 2000).

Carilion hospitals represent the oldest and most tradition-based links to the overall Carilion Health System and to southwest Virginia communities. The 11 hospitals Carilion currently owns (or partially owns) were originally locally, owned community assets, highly regarded and protected by individual localities. Most of the 11 facilities began operations in the 1940s-1950s and, therefore, by the late 1980s-2000 when Carilion

purchased these hospitals, they already had a significant presence, history and bonding experience to their individual communities. Carilion's affiliation with these community hospitals meant not only the purchase of a care facility but also the purchase of long-standing community traditions of care, hospital-community relationships and community expectations of future care. How these relationships and traditions merged into Carilion as the hospitals themselves merged into the system helps to define how Carilion manages care.

This section chronicles two of Carilion's 11 hospitals to determine how boards, administrators, medical staffs and communities establish local hospitals. The Carilion hospitals chosen for examination are the Carilion Franklin Memorial Hospital (FMH) (Rocky Mount) and the Carilion New River Valley Medical Center (CNRVMC) (Christiansburg). The two chosen hospitals depict how CHS enlarged its hospital system. They represent the small, rural hospitals Carilion operates throughout most of its system. According to Mathew Perry, FMH administrator, Carilion organizers began to view Roanoke Memorial as the focal point or "hub" of their hospital care with the other hospitals in the system, like Franklin Memorial and Radford Community Hospital, acting as "feeder" hospitals or "spokes" to the Roanoke Memorial "hub" (Perry, 2000b).

Combined, an examination of Franklin Memorial and Radford Community and their relationships with Roanoke Memorial open the doors to Carilion's hospitals in expected and surprising ways. One finds the practice of medicine is not the only activity occurring within the facilities. Businesses are being managed and cutting-edge science and technology are being innovated, utilized, and evaluated. Local communities in the form of patients, consumers, and concerned groups are helping to evolve Carilion

hospitals' goals and strategies. Governmental agencies are engaging in the hospitals' activities. In turn, the hospitals themselves are involved in the efforts, roles and business of each of the groups mentioned. By looking inside hospital walls, I bring to life the story of how communities, science and technology and Carilion hospitals have interacted to become the institutions they are today.

The Franklin Memorial Hospital

Up to the 1940s, mostly known for its tobacco farms, Franklin County was a desolate, rural area serviced mainly by doctors who made house calls (Salmon and Salmon, 1993). In 1947, local doctors obtained a charter to build a hospital facility in Rocky Mount, the county seat. According to William Flannagan, who served as a Franklin Memorial hospital administrator (1952-1955), the group formed a not-for-profit corporation to work toward generating necessary funds to match the federal Hill-Burton grants the new hospital would be eligible to receive.³ In 1950, the Franklin County community had raised \$209,000, qualified for matching Hill-Burton funds and began construction on a new hospital (Flannagan, 2000).

In 1952, Franklin Memorial Hospital opened its doors with 62 beds. Throughout much of its first few years, the small hospital flourished. Flannagan recalled that Franklin Memorial was one of the first small American community hospitals to receive the Joint Commission on Accreditation of Hospitals approval. When the hospital celebrated its 10th anniversary in 1961, although population growth for the county was stagnant, the hospital had maintained growth (Flannagan, 2000).

By the 1970s, the increased usage of the hospital for emergency services, coupled with the rapidly rising prices of new technological services and the mounting

governmental regulations of Medicare and Medicaid, initiated new demands on the hospital. Like most small community hospitals, Franklin Memorial was not financially prepared to meet those demands. According to Sid Mason, a FMH board member in the 1970s and the current Carilion Franklin Memorial Hospital board president, by the mid-1970s, Franklin Memorial recognized that in order to continue its medical services to community residents, at costs the citizens could afford, the hospital would have to find a partner to share those expenses (Mason, 2000a).

In 1975, Franklin Memorial signed a contract-management agreement with the RHA, the charter association for Roanoke Memorial. Initially, in the late 1970s, the contract-management partnership breathed life into the struggling Franklin Memorial Hospital through its provision to network the facility to Roanoke Memorial's state-of-the-art facility and services. As the next decade unfolded, Franklin Memorial's contract with the RHA was not even enough to ensure its financial viability. Mason remembered that Franklin Memorial faced an ever-increasing financial crisis in a climate of continued escalating health care costs due to new technologies, services and demands by both physicians and patients and the refusal of government and third-party payers to pay for rising costs (Mason, 2000a).

In early 1986, Ed Robertson, the administrator for Franklin Memorial, recognized that the small rural hospital needed more than a management contract with the RHA if it was going to continue to serve the Franklin County area with quality care. Robertson, working closely with the Franklin Memorial board, initiated talks with the RHA (which was itself undergoing change as it was being transformed into the Carilion Health System at that time) to become a full affiliate of the RHA. A full affiliate status would designate

Franklin Memorial as a member and facility owned by the RHA, not merely a contract-managed hospital of the association. If Franklin Memorial became a full affiliate of the RHA, it would be eligible for capital investment by the association, not just management services. Franklin Memorial's board of directors held numerous meetings concerning affiliation. As Mason described the issue: "We had three options in the 1980s: 1) affiliate with another hospital, 2) sell the hospital, or 3) close the hospital's doors" (Mason, 2000a).

Franklin Memorial's board struggled with a decision. The board did not want to close the hospital, because it was deemed a valuable community asset. If they decided to sell the hospital, board members recognized they had an even bigger dilemma: "Who would get the check?" (Mason, 2000a) The answer was unclear, since the community owned the hospital. Even the lawyers the hospital board hired to draw up contracts in case it decided to sell the hospital did not know who would receive the profits resulting from the sale. Not knowing what to do, some of the board members traveled to Richmond to meet with state officials to decide who would receive the money if the Franklin Memorial board sold the hospital. State officials decided that if the board chose to sell the hospital, since it was a community asset, the money would have to go into other community projects, such as the county library, the health department, or recreation department (Mason, 2000a).

To avoid having to decide where the money belonged from the sale of the hospital, and possibly creating rifts in the community, the board members began to consider seriously their only other alternative: affiliation with a hospital association. This option was not without its own set of problems. "Who do we affiliate with?" asked Sid

Mason (Mason, 2000a). Franklin Memorial had ties to both the Roanoke Memorial and to the Martinsville General Hospital (each about 25 miles away from the Franklin Memorial Hospital). Residents of Franklin County closest to Martinsville often went there for shopping, physician appointments, and hospital stays. Residents in other areas of Franklin County conducted much of their business in nearby Roanoke.

Mason recounted how Franklin Memorial's board initiated affiliation talks with groups outside both the Roanoke and the Martinsville areas, as well. The board discussed affiliation and merger possibilities with HCA and other health care organizations. The board took those affiliation overtures less seriously because many of the health care management groups it talked to, like HCA were for-profit groups. Board members feared what the for-profit companies might do to the not-for-profit status of their hospital (Mason, 2000a).

Ultimately, the Franklin Memorial board decided that its ties to the Franklin communities and its communities of medical practitioners were stronger to Roanoke, and the hospital board voted to affiliate with the RHA. This decision was in large measure based on the performance the RHA had exhibited in its management of Franklin Memorial since 1975, noted Mason (Mason, 2000a). According to Janice Holland, Franklin Memorial administrator for patient services, the board acknowledged that the contract-management partnership of Franklin Memorial with the RHA had greatly aided the facility in terms of consultation, adjunct services and administration. The partnership fostered trust and relationships between Franklin Memorial Hospital staff and RHA facilities and personnel (Holland, 2000).

Because of these strong ties, in 1988 Franklin Memorial signed an affiliation agreement with the Carilion Health System. The agreement signified much more than the former partnership management contract Franklin Memorial had with the RHA. Under the new agreement, Franklin Memorial became a full affiliate of CHS, which meant the hospital combined its assets with those of Carilion. Full affiliation also stipulated that the Carilion board of directors became the final decision making authority for Franklin Memorial.

As Mason tells it, relinquishing control of their hospital to Carilion's board was a difficult choice for Franklin Memorial's board. Yet, the board of directors believed this was the best choice, given the current high costs of medical services and the increasingly small reimbursement of fees. Mason recalled, "Once the affiliation decision had been made, we [the Franklin Memorial board members] could only hope the 13-year-old relationship we had developed with Roanoke Memorial and the Roanoke Hospital Association would continue to be a prosperous one for the Franklin Memorial Hospital's continuance of operations and community well-being" (Mason, 2000a).

According to Mason, "The board's assessment of its ties to Roanoke Memorial Hospital and Roanoke Hospital Association [Carilion Health System] proved to be accurate" (Mason, 2000a). Carilion desired to continue Franklin Memorial Hospital's operations just as they were prior to affiliation. First of all, Carilion reassured Franklin County community members that their hospital would remain a not-for-profit facility which would guarantee care to all residents. The board later found out that a merger with HCA would have overturned the not-for-profit status of Franklin Memorial and decreased charitable care (Mason, 2000a). Carilion also chose to continue the service of the local

hospital board. Carilion recognized that while its corporate board had the ultimate decision making authority, the local board was closer to the community and better understood its needs. The local Franklin Memorial board would continue to direct the hospital operations, implement budgets and oversee community involvement.

The most important change that took place because of the affiliation was that Franklin Memorial was no longer just a small rural hospital. As Abe Essig, a Franklin Memorial Hospital board member stressed, the Carilion affiliation connected the hospital to other facilities in the Carilion network, to advanced medical services, and to shared medical knowledge of a regional health care system (Essig, 2000). According to Matthew Perry, hospital director at Franklin Memorial, the affiliation was a beneficial arrangement to the hospital because “It gives access to whole levels of managerial as well as clinical resources. A facility the size of Franklin Memorial Hospital would never be able to afford it otherwise” (Perry, 2000b).

Perry identifies four significant changes the full affiliation meant to Franklin Memorial. First, the affiliation with Carilion upgraded services by providing access to capital through the system. Under its 1975 management contract, Franklin Memorial received group purchasing discounted services, administrative consolidation of some paperwork and consulting advice. No exchange of funds was possible under the contract-management agreement. According to Perry, the new affiliation agreement denoted full integration of Franklin Memorial with Carilion which meant “synthesizing of capital funds” (Perry, 2000b).

Bud Thompson, a current Carilion executive and former Franklin Memorial administrator recalls that, besides allowing for an influx of desperately needed capital

investments into Franklin Memorial, the affiliation brought better clinical services and much-needed specialists to the hospital. Specialists working at Roanoke Memorial were able to come to Franklin Memorial on a part-time basis to see patients in the area, rather than patients going outside the community. Access to medical services increased too, as Carilion provided mobile units for services such as CT scanning. At the same time, the affiliation linked Franklin Memorial to other Carilion hospitals to provide care that was unavailable at Franklin Memorial (Thompson, 2000).

Perry explained that the affiliation supplied funds to develop necessary hospital services and community programs to link Franklin Memorial with Roanoke Memorial Hospital. Carilion's Life-Guard 10 helicopters and neonatal transporters allowed faster transport for seriously injured patients from Franklin Memorial to Roanoke Memorial. Carilion Transportation Services, Inc. transported Franklin Memorial patients who could not drive themselves to the hospital or to their physicians' offices and then back home. More importantly, the affiliation provided funds for Franklin County communities to initiate health education programs and provided speakers for health related issues to speak at community functions (Perry, 2000b).

Lastly, according to Perry the affiliation standardized policy and procedures within Franklin Memorial to mirror those of other Carilion hospitals, thus easing problems arising from the transfer of a patient from one Carilion facility to another (Perry, 2000b). According to Perry:

It created a seamless transfer from this [Franklin Memorial] hospital to other Carilion hospitals in Roanoke. We started to balance the best of both worlds. We were able to focus the hospital on being able to serve the community individuals and the different hospital departments whereas, at the same time, we gained significant synergies by being part of a system (Perry, 2000b).

Thompson explained how, in turn, the Franklin Memorial affiliation aided Carilion by helping the system expand. By 1988, Carilion was beginning to recognize its own need to grow deeper roots within southwest Virginia communities like Franklin County in order to compete successfully against other health care systems such as Columbia/HCA. Thompson noted, as part of its methods to compete advantageously with Columbia/HCA owned hospitals, Carilion Health System began to take a hard look at updating hospital facilities at its affiliated institutions like Franklin Memorial (Thompson, 2000).

The hospital board saw that the continued growth and modernization of their hospital would come through its links to the Carilion Health System. The Franklin communities forged partnerships with the hospital and Carilion to initiate ventures in health services and education it would not have been able to do alone. Lastly, Carilion, through its involvement with affiliated small community hospitals like Franklin Memorial, began to evolve into a hospital organization with facilities linking to each other through health care services, consumers and communities. In general, Carilion combined with the Franklin County communities and the Franklin Memorial's board recognized that the hospital was a key partner in preserving the quality of life in Franklin County.

According to Mason, without Franklin Memorial's affiliation with Carilion, the hospital would have most likely become financially inoperable and closed (Mason, 2000a). Affiliation with Carilion allowed the Franklin community's traditions of hospital care to continue and the expansion of services to occur. Franklin Memorial has had to make very few sacrifices in terms of services since its merger with Carilion. For some

services, such as the more costly technological nuclear medicine, cardiac and neonatal services, Franklin County patients must go to Carilion's Roanoke area facilities. Franklin Memorial remains a feeder hospital to the larger Roanoke Carilion medical centers for high tech medical services, but Franklin Memorial's connection with Carilion provides those services to its patients. In other words, a patient does not have to go outside the Carilion Health System to receive an entire spectrum of care for a medical condition like open-heart surgery.

From the 1980s-1990s, many southwest Virginia hospitals like Franklin Memorial began looking at affiliation with Carilion or other health care systems to insure their continued viability in the delivery of medical services to their communities. In the next part, I examine how the Radford Community Hospital made its decision to affiliate with the Carilion Health System. Although the Radford Community Hospital did not face a possible closing of its doors without an affiliation, like Franklin Memorial, the hospital needed an affiliation to afford services it deemed necessary for its patients.

The Radford Community Hospital

The Radford Community Hospital located in Radford, Virginia, the heart of the New River Valley, began operations in September 1943. The hospital, hastily constructed from 1942 to 1943, responded to the need for health care among the burgeoning Radford community. In the early 1940s, Radford's population and economy went from bust to boom almost overnight. In 1940, the United States government announced they would build a \$25 million powder plant at Radford. This ammunition plant pumped hundreds of thousands of dollars into Radford's economy (Barnes, 1968).

The 1960s ushered in a new era for the city of Radford. It was recognized as an “All-American City.” Radford, the first city in the eastern United States awarded the distinction, received the honor because of its dedication to attracting industry and its continual modernization of municipal facilities such as its hospital (Lockwood, 1999). In 1965, a new era was ushered into health care as well. The introduction of Medicare and Medicaid changed the demands and usage of medical services for the American population in general and in Radford, the “All-American City,” the story was the same.

The Radford Community Hospital faced expansion needs to meet the increase in patient visits and the paperwork Medicare produced. To help administer the necessary changes the hospital needed to handle increased patient visits and insurance paperwork, Radford Community Hospital hired Lester Lamb, who was one of the first Virginia hospital directors to be educated in a graduate program for hospital administration (Lamb, 2000). Lamb held a new vision of hospital administration that included attention to patient satisfaction, timeliness of services rendered, and hospital quality of care. Lamb stated:

We had a strong commitment to going beyond the four walls of the institution and making our services as convenient for people as possible and trying to take the attitude that we are in a service business and that we should act accordingly, not react accordingly. Frankly, I think for too long, hospitals had pretty much done things certain ways to be at the convenience of their own employees and the convenience of physicians. We took the attitude that we’ve got to get off of this and we’ve got to try to do things the way the customer, the patient, expects us to. Try to minimize waiting times, try to offer greater amenities in the facility itself (Lamb, 2000).

Lamb instituted a Guaranteed Customer Service Satisfaction Program to register patient complaints. The program allowed patients to complain about hospital services, food or anything else they did not like, and if their complaints were not

taken care of to their satisfaction, the customer received their money back for their hospital stay (Lamb, 2000).

Lamb's vision of patient satisfaction went hand-in-hand with his attempt to reorient the philosophy of Radford Community Hospital from merely meeting present community needs toward fulfilling national healthcare trends and long-term hospital-community requirements. The bottom line for Lamb was that the hospital could not remain unmoved or static by the changes occurring in third-party payment systems and medical technology. The hospital, instead, needed to initiate change itself to become a successful business rather than a struggling non-profit entity. "But was it already too late?" Lamb queried (Lamb, 2000). In 1971, the Radford Community Hospital experienced declining patient utilization due to the opening of the Montgomery Regional Hospital in Blacksburg about 20 minutes away. Lamb acted on this reduced need for patient beds at Radford Community Hospital by converting hospital bed space into more outpatient service areas.

For the hospital to survive financially, Lamb decided the facility needed to develop additional, non-traditional hospital services such as outreach programs and other health-related services that could be managed by hospital personnel. Lamb took the "community" in Radford Community Hospital's name literally to mean the institution must be community focused and community needs should determine hospital growth (Lamb, 2000). In 1973, the hospital began a meals-on-wheels program. This program provided and delivered a daily meal to any homebound Radford area citizen a physician recommended to receive food. The program, one of the first of its kind in the nation, established a valuable outreach service to the community. The most noticeable attribute

of this program and subsequent Radford Community Hospital outreach programs was that they allowed local residents to use hospital services while still remaining outside the hospital itself. In commenting about the meals-on-wheels program and other outreach programs, Lamb said:

I always had the philosophy, and the board and other people agreed with it, that a hospital is more than just four walls. I mean, if you have a true commitment to health care in the community that you serve, you've got to out reach and you've got to do a lot of things that go far beyond the four walls of the institution (Lamb, 2000).

Even though the hospital's financial operations had been restructured successfully to broaden health-related community services and to invest in for-profit medically related businesses by the mid-1980s, Radford Community Hospital's board recognized the national trend from declining patient stays to increased outpatient services was not lessening, nor was the cost of technology (MoneyPenny, 12/15/87). Cromer recalled that the Radford Community Hospital's board feared the hospital could still collapse under the high costs of technology and decreasing reimbursements for inpatient medical services. To compete successfully with new techniques utilized in outpatient surgeries, the hospital board determined their facility needed another massive renovation and they needed advise on how to plan for the expansion (Cromer, 2000).

In December 1986, Radford Community Hospital's board initiated informal discussions with the RHA (soon to become the Carilion Health System) to consider a merger or management contract between Roanoke Memorial and the Radford Community Hospital. Archie Cromer, acting as chairman of the Radford Community Hospital board at the time, described those talks:

We talked about how many times we had to remodel this hospital. I don't know how many times, more times than I have fingers, so we

started thinking. We looked at other hospitals. We talked to people. In doing so, it became obvious from a monetary point that our resources would be limited. We started putting money aside while at the same time having conversations with Community Hospital in Roanoke, and, then, Roanoke Memorial, which eventually became more serious. One of our motivations was to be within an entity that would give us added financial power to build a new hospital (cited in Lockwood, 1999, p. 59).

Cromer recounted that Radford Community Hospital's board brought formal affiliation talks before the RHA's board in February 1987. In May of the same year, the Radford Community Hospital employed two health care consulting firms, one out of New York and the other from Chicago, to make recommendations concerning the affiliation (Cromer, 2000). The consultants were quite explicit in their recommendations. The consultants told the board, "The bottom line is if you [the board] stand still where you are; you are going to get run over. Get out and get with somebody" (Cromer, 2000). Even though the consultants demanded that the hospital associate immediately with a larger partner, the board members were indecisive. The board did not want to sell the hospital, because it was a community owned asset. They questioned how to protect the community's interests if the hospital affiliated with the RHA.

The hospital board met on several occasions and wrestled with many questions concerning affiliation. Cromer argued before the Radford Community Hospital board that the affiliation was necessary because "we firmly believe that the benefits of the proposed affiliation are significant and essential for our future viability. This affiliation represents a bold commitment that we believe will help ensure our community's continued access to state of the art services and facilities" (cited in Cromer board statement, 1987). Cromer also told the board that the RHA and the Radford Community Hospital both possessed essential "features, services and programs that make them distinctive in the minds of

patients” (cited in Cromer board statement, 1987). In a statement prepared for the Radford Community Hospital board, Cromer stated:

Radford Community Hospital brings a 45-year tradition of providing the highest quality services to the community. As a not-for-profit provider, Radford is recognized for a quality medical staff with strong specialty representation, quality nursing care, and a progressive management, which has brought innovative health care delivery programs to the community (cited in Cromer board statement, 1987).

Cromer insisted that the hospital’s traditions for quality of care would be mirrored in an affiliation with the RHA. He argued, “These traditions combined with affiliation with two well-known and respected health care providers [Roanoke Memorial and Community Hospital] will form a springboard for what we think will become a health care delivery system second to none” (cited in Cromer board statement, 1987).

In July 1987, the Radford Community Hospital board voted that the hospital’s affiliation with the RHA was necessary to insure the continued success of the facility (Swim, 11/17/87). Addressing the board, Cromer commented on the board’s decision:

In this fluid healthcare market, continued adaptability will be required. Investments in facilities, in new technology, in new expertise will be required if we are to sustain our ability to provide the highest quality care to the residence of the New River Valley. We have studied all our options carefully, and have concluded that affiliation is the best strategy. Affiliation will allow us to keep pace with industry change, providing opportunities to share technology, to share the risk of developing new programs and to build on our own existing clinical relationships. We look forward to working with the boards of Roanoke Memorial Hospital and Community Hospital of the Roanoke Valley in continuing the fulfillment of our shared missions of providing the highest quality health care (cited in Cromer board statement, 1987).

In his statement to the board, Lamb said:

As Mr. Cromer mentioned, Radford’s decision to affiliate with Community Hospital of the Roanoke Valley and Roanoke Memorial Hospital is based on our belief that it will best serve the healthcare needs of the New River Valley. Radford had maintained productive

informal relationships with Community Hospital of the Roanoke Valley and Roanoke Memorial Hospital for many years. We believe that a formalized affiliation will yield significant tangible benefits for our community (cited in Lamb board statement, 1987).

Bill Murkt, Radford Community Hospital's vice president, in describing how the merger would strengthen the hospital, commented:

If the railroad business had stopped and thought about themselves as being in the transportation business instead of the railroad business, they might still be around today. Well, we're trying to avoid that. We are no longer just in the hospital business, we're in the health service business (cited in MoneyPenny, 12/16/87, pp. 1A, 2A).

In 1987, Cromer recalls that the Radford Community Hospital, Roanoke Memorial, and Community Hospital of the Roanoke Valley formed a holding company to pool their financial resources and to operate their medical programs jointly. Under the affiliation a new board formed with representatives from each of the three hospital boards (Cromer, 2000). While the hospitals kept their names and local autonomy of daily operations, the affiliation signified some important changes, though (Southwest Virginia Health Services Corp., 1987).

Cromer explained that the affiliation meant the three member hospitals would possess more financial capital to develop and expand into new services that were sweeping the health care industry, such as: nursing homes, retirement communities, freestanding clinics, or their own health insurance programs. The affiliation signified the three hospitals could negotiate for discounts with Blue Cross and Blue Shield (Trigon) and other health insurance carriers. The affiliation also ended the three hospitals' duplication of costly services and thus saved each facility in terms of expensive technological equipment and services. One hospital, instead of all three, could provide for an expensive medical service (Cromer, 2000).

Cromer discussed how the affiliation provided Roanoke Memorial, Radford Community Hospital, and the Community Hospital of the Roanoke Valley with a small, primitive-type feeder hospital system to serve the New River Valley area. Radford Community Hospital supplied local medical services to the New River Valley. The large Community Hospital of the Roanoke Valley furnished additional services that Radford Community Hospital could not afford, and finally, Roanoke Memorial provided care in departments such as cardiac, neonatal and nuclear medicine that only large medical centers could supply (Cromer, 2000). The creation of a feeder hospital system was important to Radford Community Hospital and the Roanoke hospitals for one primary reason. The three hospitals needed to compete with the HCA (Columbia/HCA).

Due to the affiliation, Cromer asserted, both Roanoke Memorial and Community Hospital assumed better positions to compete with Lewis-Gale Hospital, part of the huge for-profit chain Hospital Corporation of America. Radford Community Hospital's decision to join Roanoke Memorial gave the RHA an outpost in the New River Valley against HCA. In general, the affiliation of Radford Community Hospital with the RHA and the Community Hospital of the Roanoke Valley occurred for three reasons: 1) to compete more successfully against competitors like HCA, 2) to avoid unnecessary duplication of services and thus to lower costs, and 3) to provide greater financial backing for developing new services. At the time of the affiliation, each of the three hospitals was in good financial shape, but each anticipated that the pressures of high medical costs, the threat of intensified competition, the tightening of reimbursements, and the decline in patient stays would require a major change in the way hospitals organized and did business (Cromer, 2000).

Cromer recalled that in November 1987, the Federal Trade Commission approved the affiliation of Radford Community Hospital, Roanoke Hospital Association and the Community Hospital of the Roanoke Valley. Almost one year later in October 1988, Radford Community Hospital formally affiliated with the RHA, which had by then been renamed the Carilion Health System. While the merger meant greater access to Roanoke Memorial and its venues to continued care, the immediate reason Radford Community's board finally agreed to merge with the RHA was because the system would underwrite the building of a new Radford hospital (Cromer, 2000). As Cromer stated, "We agreed to join the Carilion Health System in exchange for them agreeing to financially back us and build our new hospital" (Cromer, 2000). Lamb, a board member and former director of the Radford Community Hospital, echoed Cromer's statement with his own:

While the hospital had been financially sound, a key factor in the decision process was that we received assurance that we would have Carilion's assistance and backing in building a replacement hospital. That was a significant factor in our decision making process because it was obvious, due to the size of Carilion, that monies for construction and financing would be more available at a much lower rate of interest than if we were financing it as a freestanding hospital (cited in Lockwood, 1999, p. 60).

The Radford Community Hospital board agreed to merge with Carilion since they knew their hospital would eventually need a new facility. Franklin Memorial Hospital's board sought an affiliation because they feared a possible closing of the hospital without funds to stabilize finances. The stories of Radford Community Hospital and Franklin Memorial Hospital are mirrored in the other hospitals which joined Carilion from 1986-1992. Franklin and Radford Community Hospital can serve as examples of all 12 hospitals that joined the Carilion Health System between 1986 and 1992. Like Franklin Memorial and the Radford Community Hospital, each hospital became an integrated

piece of the hospital system Carilion sought to establish from 1988 to 1992. Carilion's hospitals, such as Franklin Memorial and Radford Community, began feeding patients into the Roanoke Memorial Hospital. In turn, Roanoke Memorial sent patients, services and staff, back out into Carilion's smaller hospitals.

According to Tom Robertson, the addition of 12 hospitals into Carilion's network of facilities from 1988 to 1992 hastened Carilion to think differently about how it managed administrative and clinical services at each of its owned hospital facilities.⁴ Robertson recalled, that by 1992, fearing a continued decrease in hospital revenue from third-party payers, a decline in hospital in-patient services and a rise in outpatient services, he decided to transform Carilion. Carilion Health System would become, not only a collection of individual hospitals that serviced the southwest Virginia region, but would begin to look and act more like a regional system with corporate identity. Robertson proposed three goals directed at making Carilion Health System a regional corporate entity: 1) corporate centralization of administrative services, 2) regionalization of hospital services, and 3) redefinition of Carilion's mission (Robertson, 2000).

Thinking Like a Hospital System

Beginning in 1992, Carilion centralized its services at the corporate level to bring greater efficiencies system-wide to its hospital holdings. Human resources, management, financial services, purchasing, legal services, risk management, planning and marketing for each individual hospital and/or Carilion business were all centralized as corporate functions. The CHS member companies or facilities were then charged individually for these services performed corporately. Such centralization brought savings to the system as a whole, but Tom Robertson, Carilion's former CEO, admitted, disturbed some

community relationships. For example, under Carilion's new corporate restructuring of services, the local companies that had been hospitals' suppliers had to reapply for the business. They had to bid for the jobs and if others' bids were lower, the business passed into new hands. Thus, longtime relationships were disturbed among local hospitals and the business community (Robertson, 2000).

Responding to criticism resulting from these torn relationships, Robertson stated, "A lot of things that bring some efficiency to the system mean you can't always do what you want to do in a relationship" (cited in Kelly, 6/21/92, p. 1D). According to Robertson, Carilion worked hard to do its share as a good corporate citizen, but at the same time he admitted, "We're a tough competitor. I don't apologize for that. We try to drive a hard bargain. It's the responsible thing to do" (cited in Kelly, 6/21/92, p. 2D). Robertson believed the health care Carilion delivered to the communities it served, offset any discontent about its business practices (Robertson, 2000). CHS's ultimate goal for centralizing services was to control costs so it could be competitive with other hospital systems (Kelly, 9/10/95).

Mason explained that although Carilion hospital facilities changed to a centralized distribution of administrative services, the hospitals operating within the system retained much of their autonomy. According to Mason, Franklin Memorial Hospital board president, the individual hospitals maintained their administrators' day-to-day decision making responsibilities and relied on their local boards to direct the hospital's future and to oversee budgets (Mason, 2000a). While the hospitals retained a great deal of autonomy and decision making over day-to-day operations, the hospitals' clinical services were redefined and reconfigured to produce a regionalization of services for Carilion overall,

says Dr. Heathcliff Quioco, a former Carilion Franklin Memorial Hospital medical staff member (Quioco, 2000b).

By 1990, the CHS board began to view the hospitals in the system as regional units with the provision of specific hospital services being offered in one hospital unit per region to avoid costly expenditures and duplication of some services, noted Lester Lamb, Carilion board member and former Radford Community Hospital administrator. For instance, the Radford Community Hospital's cardiac catheterization unit served, not only Radford and Montgomery County, but also the Wytheville, Giles, and Tazewell communities for their cardiac service needs. The result of regionalizing services meant patients from outlying areas would not have to go to larger hospital facilities like Bowman-Gray in Winston-Salem, North Carolina, for sophisticated treatments. Instead, they could remain in the Carilion system (Lamb, 2000).

Robertson viewed Carilion as a viable player in the health care future of southwest Virginia and envisioned growth to the hospital system by providing as many additional services as Carilion possibly could. Robertson believed those additional services could best be supplied on a regional basis. The new regional philosophy of services included the use by Carilion of part-time clinical services in its outlying smaller hospitals. For instance, Carilion began providing part-time MRI scanning services in small, outlying hospitals. In 1992, Carilion owned three MRI's that cost more than \$2 million each. The MRI's started traveling with a mobile unit in 1992 as far southwest in Virginia as Grundy. According to Lucas Snipes, Carilion senior vice president, the scanners allowed smaller community hospitals to establish much more sophisticated services.

Robertson's vision of Carilion's hospitals as part of regional units accomplished three goals. First, the Carilion regions became self-sufficient as a unit for monitoring the health care needs of the region's patient population. Secondly, regionalization was cost-effective in terms of providing the latest medical technologies and services without having to duplicate services in many areas. Thirdly, regionalization meant that once a patient entered the Carilion Health System for care, she did not have to leave the system to get additional specialized care. Snipes said the idea was to "offer a value and not continuously have to bombard a patient with having to make decisions" (cited in Kelly, 6/21/92, p. 3D).

For Carilion, the regionalization of clinical services within its hospitals solved one of its main problems – how to maintain operations at small, rural community hospitals (Smith, 1/1/90). According to Robertson, by 1992, small, rural hospitals could hardly exist alone. "The business was too complicated," said Robertson, "and smaller hospitals couldn't generate economies of scale" (Robertson, 2000). Carilion's regionalization or "Strong Advocacy System," as it was known, provided a means for small communities to be assured of quality health care, said Carilion's board member Lester Lamb (Lamb, 2000).

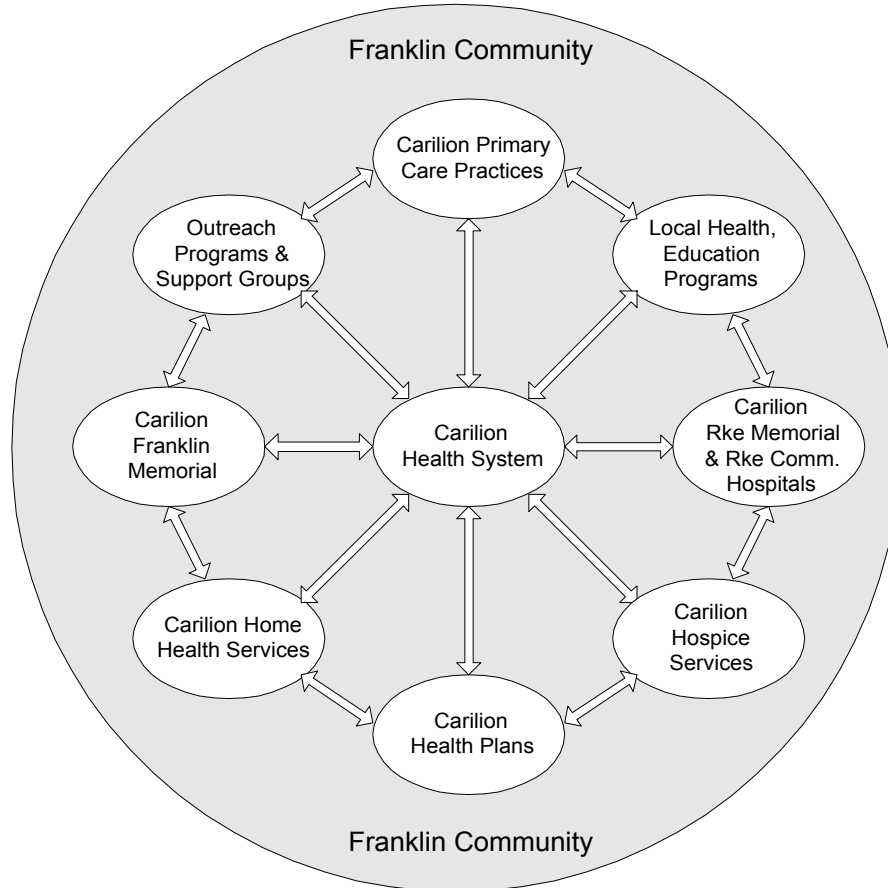
According to Archie Cromer, former Carilion board president, Carilion's Strong Advocacy System set in motion what Carilion executives and board members described as the "hub-and-spokes" system (Cromer, 2000). The concept of the "hub-and-spokes" system was of Carilion's smaller community hospitals feeding patients into Carilion's Roanoke Memorial Hospital, which could provide more sophisticated care. Roanoke Memorial was the "hub" of the "hub-and-spokes" system. The facility represented the

centerpiece of the Carilion Health System. Roanoke Memorial was the largest tertiary care facility in the Carilion Health System and its location in Roanoke, made it also the epicenter of Carilion's operations (Click, 2/16/93).

The "hub-and-spokes" system benefits Carilion because small local community hospitals like Franklin Memorial provide an essential link Carilion needs to network its managed care system across Virginian communities. The network crisscrosses communities like Franklin County in a tangled web. The web includes primary care provider practices, local hospitals for emergency and acute care medical services, large medical centers such as Roanoke Memorial and Community Hospital, Carilion Health Plans, and community outreach programs for support, health awareness and education. The sites at which a consumer may enter the Carilion system in this network are multiple. A person may find herself as a Carilion Health Plans holder through her employer and thus a customer of any of the system's businesses. A community member may attend a Carilion outreach program and from there see she needs additional services or, at least, become aware of Carilion's other services. An emergency patient could be admitted to the local Carilion Franklin Memorial Hospital then require additional services at Carilion's Roanoke Memorial. A person may need a physical and chose one of Carilion's physician-practice businesses in Franklin County who, in turn, could send the patient to the Carilion Franklin Memorial Hospital for laboratory tests. Patients treated at Roanoke Memorial may find themselves arranging follow-up visits or rehabilitation services with Franklin Memorial staff or its home-health services. From any one originating point, a patient therefore, could potentially network to other Carilion sites (Robertson, 2000).

Figure 3 provides a diagram of how the Carilion network crisscrosses Virginian communities like Franklin County.⁵

Figure 3: Carilion Franklin Memorial Web of Care



For Carilion, Franklin Memorial and Franklin communities, the network accomplishes an important goal. This type of system “gives everyone breadth of a managed care network,” explains Perry (Perry, 2000b). The “little hospitals,” says Perry, “generate operating margins and goodwill to the system as a whole” (Perry, 2000b). The small, local hospitals in the Carilion system like Franklin Memorial therefore, become necessary links in Carilion’s attempt to manage care, consumers and communities in

small areas like Franklin County. If Carilion attempted to not provide local hospitals in its network of services to small communities, the system would most likely fail. Perry says, “If Carilion tried to serve Franklin County without this local hospital, its managed care network would be much more difficult [to maintain] and not nearly as comprehensive” (Perry, 2000b). Perry goes on to state:

And so what we're [Carilion Health System] trying to do is we're trying to maximize the delivery service system here to be able to keep more patients here. For the primary care types of things. I'm not talking about open-heart surgery or that kind of stuff. And that's good for patients because they can stay local. They don't have to drive. They're closer to the service delivery. We get to know them. We can provide a little bit more personal service than the bigger facilities. What we do here we do just as well or better than the big facilities. And what benefits the system and the hospital is if you took our patient volume and took half of them to Roanoke, you would just have created an unprofitable hospital. This hospital would start to lose money. And when a hospital starts losing money, you can't add services, and when you start losing more money, the viability of it decreases. So it's in the system's best interest of these hospitals to serve their community fully. The more business you keep here the more financially viable Carilion Health System becomes. Because just to open the door to the hospital, Carilion Health System has to have so much infrastructure, fixed infrastructure costs it has to incur. And the only way to underwrite those is with patient volume. And the more patient volume Carilion Health System adds on, the better they underwrite their fixed resources to keep the doors open to hospitals like Franklin Memorial Hospital (Perry, 2000b).

Along with Carilion's attempt to regionalize services within its hospitals, Carilion also added another hospital and a nursing home during this period 1990-1992, which it needed in order to provide services the system did not offer. To provide long-term care for its served communities, Carilion purchased the Burrell Nursing Home Center in December 1990. St. Albans Psychiatric Hospital in Radford joined the system in July 1991 to accommodate Carilion's mental service needs. The addition of St. Albans helped Carilion in its competitive war for patients against the Lewis-Gale Psychiatric Center in

Salem. St. Albans provided Carilion with a facility for adolescent psychiatric care and substance abuse programs. Carilion's "strong advocacy programs" or regionalization of a wide spectrum of clinical services represented an attempt to network its hospitals, communities and consumers together by instituting a continuum of care services via the CHS network of facilities (Lamb, 2000).

Tied closely to Carilion's centralization of administrative services and its regionalization of hospitals was a redefinition of the Carilion mission. Robertson believed after the merger of Roanoke Memorial with Community Hospital, Carilion could get back to the business of providing quality care at good prices, but soon Robertson began to see changes needed to be made to the Carilion mission if the system was going to survive and grow in the industry. Robertson insisted that while the old mission to provide health services was still the motivation for Carilion, the system needed to become more "pro-active" in its delivery of health care (Robertson, 2000). As a result, Carilion began to initiate community programs that would promote healthy life styles and broaden access to health care for communities. The new mission read: "Carilion Health System exists to improve the health of the communities it serves" (Carilion Health System, 1999).

The refocusing of the mission, the regionalization of hospital services, and the centralization of all Carilion services under corporate management, brought two important changes to Carilion. First, Carilion began to go directly to the community to educate, train and deliver health care. Carilion caregivers no longer waited until the patients came to them for care. Secondly, and more importantly, Carilion was on its way to becoming more than a hospital system: it was becoming a health care delivery system. According to Robertson, simply defined, a health care delivery system denotes a set of

mechanisms through which human resources, facilities, and medical technologies are organized by means of corporate administrative structures. A health care system provides integrated services in sufficient quantity and quality to meet a community's demand at a cost compatible with the community's financial resources (Robertson, 2000).

In 1994, after fighting so long to assemble a network of hospitals, physicians and health plans; it looked as if Carilion itself might be bought by a larger hospital system. Roanoke Memorial's rival hospital in Roanoke, Lewis-Gale in Salem, owned by Hospital Corporation of America (HCA) merged on February 10, 1993 with Louisville, Kentucky-based Columbia Health Care Corporation creating Columbia/HCA, the largest health care service organization in the world (Clement and McCue, 1993). Combined, the two organizations hosted a \$10 billion network. During a visit in 1994 to the Lewis-Gale Hospital, Richard L. Scott, Columbia president and chief executive officer, mentioned he might be interested in purchasing the Carilion Health System (Williamson, 2/11/94).

Given Scott's merger and acquisition record, the interest in Carilion seemed like it could materialize into an offer. Scott founded Columbia Hospital Corporation in 1987 in Fort Worth, Texas. In 1993, Scott merged Columbia Hospital Corporation with Galen Health Care, Incorporated, of Louisville, Kentucky. The merger of the two created a network of 96 hospitals in 19 states. Scott's philosophy was to provide "one-stop shopping" health care in the markets he served. Generally, Scott purchased acute care hospitals from publicly traded companies like Hospital Corporation of America, then purchased not-for-profit hospitals (like Carilion's hospitals) and home health networks. In 1994, Carilion appeared to fit Scott's "one-stop-shopping" philosophy of health care,

according to Linda Richardson, Columbia/HCA spokesperson (cited in Williamson, 2/11/94, p. 1A).

Richardson said, “We are always in the process of buying facilities that might complement our network” (cited in Williamson, 2/11/94, p. 1A). Carilion’s Lucas Snipes claimed the interest and a potential offer “would not surprise him.” He said, “There’s no reason to believe they won’t do this sort of thing in this market” (cited in Williamson, 2/11/94, p. 1A). Snipes acknowledged, however, that a merger of Carilion with Columbia/HCA may not be feasible, since the merger would create a health care monopoly in the Roanoke area and most likely violate antitrust laws (Williamson, 2/11/94).

CHS recognized, however, that consolidating health care companies into larger and larger networks to reduce costs seemed to be the trend in national health reform and fit well with President Clinton’s proposed managed care plan of 1993-1994. Carilion CEO and President Tom Robertson supported Clinton’s health reforms, too. He was open to any ideas to cut health care costs while broadening the coverage for more Americans. Speaking before the Radford Chamber of Commerce in 1993, Robertson said, “The [United States health care] system we have is not working. The problems are multifaceted and can’t be corrected with a Band-Aid approach” (cited in Stowe, 4/9/93, p. 7A). Robertson believed a national health care plan, still provided by private managed care companies, could help provide care to the 35 million uncovered Americans (Stowe, 4/9/93). To compete for plans, managed care organizations like Columbia/HCA held the advantage because through their large size, they had more purchasing and negotiating clout for supplies and patients.

Robertson believed Carilion might be better off under the umbrella of a Columbia/HCA. If Federal Antitrust laws ruled out a sale of both Carilion's Roanoke Memorial and Community Hospitals to Columbia/HCA, and if Columbia/HCA could only purchase one of those two Carilion hospitals in the Roanoke market, Robertson said the sale would not be made. According to Lori Fein, spokeswoman for Columbia, Columbia/HCA would not rule out the purchase of one of the two hospitals "if it makes sense for that market," but Robertson insisted Carilion would not consider the offer (cited in Williamson, 2/15/94, p. 1A). He argued, "We're not interested in selling a piece of Carilion" (cited in Williamson, 2/15/94, p. 4A).

Robertson pointed out that Carilion had not consolidated its hospitals and developed a more efficient system for it to be taken apart piece-by-piece by larger health care conglomerates (Williamson, 2/15/94). Given Robertson's sentiment of not selling Carilion Health System piece-by-piece, and Columbia/HCA's problems in 1994-1995 concerning government investigations about billing practices and fraud in their home-health business, the offer from Columbia/HCA to purchase Carilion or one of its facilities in Roanoke never came. By 1997, Columbia had more to worry about than buying a Carilion hospital.

In July 1997, Columbia's board of directors ousted Richard Scott, CEO of Columbia/HCA and President David Vanlewater. Both men faced federal charges for defrauding the United States Government Medicare program. Robertson, who was worried about the Carilion Health System being taken apart piece-by-piece if Columbia purchased some of Carilion's holdings, certainly did not want the system's name tarnished by Columbia/HCA's wrongdoings. According to Archie Cromer, who was a

CHS board member at the time of the offer, Carilion has not entertained buyout offers from Columbia/HCA since 1997 (Cromer, 2000). Instead, Carilion has concentrated its efforts on expanding its hospital system into a fully integrated health care system.

Conclusion

Since its reorganization in 1982, the Roanoke Hospital Association, which became Carilion Health System in 1988, grew from a single hospital to a system comprised of 13 affiliated hospitals. The Roanoke Hospital Association (1899) originally established a hospital to care for specific groups in Roanoke – railway workers and the city’s poor. For most of its early history, the association accomplished that goal (Barnes, 1968). From the 1960s-1980s, government programs, private insurance reimbursements, declining patient revenue and escalating technology costs meant that the RHA (by 1988, the Carilion Health System) had to rethink its business strategy to include new businesses or else watch the closing of Roanoke Memorial Hospital’s doors.

For the RHA, survival was accomplished through transformation of Roanoke Memorial into a hospital system. Roanoke Memorial went outside traditional hospital walls to establish a larger hospital. Roanoke Memorial networked by means of its diverse services to stretch across southwest Virginia communities. Communities, in turn, looked to Roanoke Memorial, which had aided them through contract management agreements, to help them even more as the health care industry began to undergo volatile changes in the 1980s and 1990s. The result of this network of dependency was that Roanoke Memorial became a “hub” or center for Carilion’s other hospitals which fed patients into Roanoke Memorial for sophisticated care and Roanoke Memorial, in turn, sent patients back out into Carilion’s network of community hospitals for additional services or

programs. The Roanoke Hospital Association ultimately had to reorganize its holdings. Under its reorganization, Roanoke Memorial, although important for positioning the RHA into a hospital system, became only one of many interests to the RHA (Carilion) by 1992.

By 1992, Carilion had consolidated its holdings under a recognizable corporate name and survived a federal lawsuit that gave credence to the regionalization of corporate health care systems in America. Carilion had continually reshaped its strategies as a corporate entity to fashion itself into a successful hospital system. In 1992, Robertson recognized being a hospital system was not enough to ensure Carilion's viability in an increasingly managed care marketplace. Robertson believed for Carilion to continue to succeed in its delivery of health care services, it would have to transform from a hospital system to a managed health care system. Robertson contended that Carilion was positioned well to become a managed health care system due to its network of hospital facilities and other services, such as home health and some community outreach programs. Robertson recognized, however, that Carilion lacked two elements to transform it from a hospital system to a managed health care system – a network of physicians and a health plan to market Carilion hospitals, physicians, and services to area employers (Robertson, 2000).

Notes

¹ In June 1988, the Justice Department announced that it would not oppose one portion of the merger- the Radford Community Hospital's affiliation with the Carilion Health System. The Radford Community Hospital formally affiliated with Carilion in October 1988. The Justice Department had found no antitrust violations to oppose the merger with the Radford Community Hospital, but voiced opposition to the merger of Community Hospital with Roanoke Memorial on the grounds of antitrust violation. See Burda and Greene, 1988b, Burda and Greene, 1988a, and Burda, 1988b.

² According to William Kopit, the Washington D.C. attorney and special antitrust counsel for the American Hospital Association who represented Carilion in its suit against the U.S. Justice Department, there were three exceptions for hospital mergers. First, a merger could take place if the merging hospitals could prove consumers maintained access to other hospitals in the market. The market could include areas outside the immediate locality. Next, hospitals could merge if they provided complementary, not overlapping services. A third exception to Federal Antitrust laws could occur when one of the hospitals seeking a merger was financially unsound and had to close. Then, the U.S. Justice Department would approve the merger so a community would not lose the hospital services. See Williamson, 2/15/94.

³ In August 1946, the U. S. Government passed the Hill-Burton Act (formally known as the Hospital Survey and Construction Act). The Hill-Burton Act authorized \$3 million for state survey and plans for hospitals and approved \$75 million a year to be spent for five years to aid hospital construction. Subsequent additions to the law provided for Hill-Burton funds from 1947 to 1971. \$3.7 billion was disbursed in the program's history. The funds contributed to 30% of all American hospital projects. The program generated \$9.1 billion for hospital construction in matching community and state funds. According to the Act, the federal government had no authority to decide which hospitals would receive the funds. Instead, the states received the funds and then decided which hospitals would obtain grants based on surveys the states conducted for analyzing regional hospital needs. The Act's formula for allocating the money to the states was based on their population and per-capita income. See Starr, 1982.

⁴ The 13 hospitals under Carilion's umbrella by 1992 included: Bedford County Memorial Hospital; Franklin Memorial Hospital; Giles Memorial Hospital; Gill Memorial Eye, Ear, Nose and Throat Hospital; Burrell Hospital; Lonesome Pine Hospital; Radford Community Hospital; Roanoke Memorial Hospital; Community Hospital of the Roanoke Valley; Southside Community Hospital; Tazewell Community Hospital; Wythe County Community Hospital; and St. Albans Psychiatric Hospital.

⁵ The Carilion Franklin Memorial Web of Care diagram is my own depiction of how the Carilion network crisscrosses Virginian communities like Franklin County.

Chapter Three

Transforming Carilion from a Hospital System to a Managed Care System: 1992-1996

In 1992, Carilion Health System (CHS) needed to complete two additional objectives to accomplish its goal of transforming itself from a hospital system to a health care delivery system. According to Tom Robertson, Carilion's former CEO, a health care system is defined as a system that can provide all the services necessary to meet the needs of patients from "insurance, to primary care, to acute care, to home health care and other care needs" (Robertson, 2000). First, Carilion needed to add to its own holdings to complete the necessary requirements of what defines a health care system. In 1992, Carilion did not yet fit the definition of a health care system. While Carilion had organized a corporate collective that centralized administrative operations and had regionalized its hospital units into a workable organic whole, the system still lacked necessary pieces to its health care delivery to make it a viable organic whole.

Those pieces Carilion lacked included a network of physicians to feed patients into the system and a health plan to secure patients to the system. The two parts, a network of physicians and a health plan, represented the "logical plans linking the various parts" (Robertson, 2000). In 1992, Carilion formed Carilion Health Care Corporation (CHC) and Carilion Health Plans, Incorporated (CHP), thus evolving from a mere hospital organization to what its name had been designed to convey all along- a health care delivery system. Commenting on the connection between the Carilion name and the definition of a health care system, Lucas Snipes, Carilion senior vice president, said, "We are interested in what our name says...we are becoming a health system with all parts working together" (cited in Kelly, 6/21/92, p. 3D).

Robertson described the transition of CHS from a hospital organization to a health care delivery system encompassing a physicians' network and health plans as a necessary addition to their hub-and-spokes system. He said the concept was to have Carilion Health Plans network doctors who referred patients into Carilion community hospitals. Then the smaller Carilion facilities would feed patients into the larger Carilion hospitals that provided the more sophisticated care (Robertson, 2000). The reason for becoming a health care system was to compete with other health care systems for patients. Robertson was convinced Carilion could get more patients and be more competitive in its hospital markets by forming a physician network and providing health plans (Robertson, 2000).

Robertson recognized that what Carilion wanted to become, a health care system to manage all types of care, was still much in its infancy in 1992, but that over time Carilion would achieve its goals (Robertson, 2000). By 1992, Carilion was definitely in an enviable position. It held over 100 properties and was the largest employer in the Roanoke area, with 4,900 employees. The system itself employed 8,900 people. Carilion had a net income for the 1991 fiscal year of \$19.2 million with total assets of \$475 million and \$300 million in liabilities (Kelly, 6/21/92).

In this chapter, I analyze how from 1992-1996, Carilion developed its Carilion Health Care Corporation (physician network) and Carilion Health Plans (insurance plans division) to transform itself from a hospital system to a health care system. In section one, I discuss how Carilion struggled to create a physicians' network. Dr. Jack Bumgardner, a Rocky Mount Carilion physician, explained Carilion's struggle. He said, "many physicians feared aligning themselves with a health care system with so many hospitals. Physicians believed their interests would take a back seat to those of the

hospitals” (Bumgardner, 2000). In section two, I examine the creation of Carilion’s CHP and explain why Carilion’s newly created physicians’ network corporation (CHC), spawned difficulties in Carilion’s insurance business. The two sections combined show how if the CHC did not succeed in establishing a network of physicians, CHP would have no provider network to sell to other insurance companies or to market as its health maintenance organization (HMO) and how Carilion as a system, could not become a fully integrated health care delivery system.

From a Hospital to Health Care Delivery System:
The Creation of the Carilion Health Care Corporation

As Carolyn Chrisman, CEO of CHP tells it, in the early to mid-1990s, independent physicians and small group practitioners in southwest Virginia watched as managed care with its cost management systems, physician associations, and HMOs took shape around them. Across America, alliances, partnerships and networks were being hurriedly assembled to combine consumers, providers, technology and medicine. Southwest Virginia was no exception. In 1995, Trigon/Blue Shield marketed healthcare packages to southwest Virginia employers that sold health care services in the form of a network of providers and health care facilities throughout the region (Chrisman, 2000). Most of these packages included new types of medical procedures – outpatient services. For Virginia hospitals, outpatient services were a fast-growing business which allowed them to utilize excess beds and hospital space that were underused due to low Medicare reimbursements.

Physicians grew alarmed by the increasing number of hospital outpatient procedures encroaching on some of the services they had for years offered at their

offices. Physicians found themselves competing against a major competitor- hospitals- who had better financial strategies in place to garner HMO dollars. Hospitals were better positioned to afford new office technology systems and medical equipment, and hospitals were prepared to handle HMOs' bureaucratic cost management and utilization review paperwork. According to Lester Lamb, board director for Carilion New River Valley Medical Center (CNRVMC) and CHS, by the 1990s, hospitals, for the most part, were well ahead of physician practices in building a system to connect facilities geographically, medically and economically (Lamb, 2000).

As physicians found themselves dominated by hospitals better prepared to manage care, they conceded that changes in how they ran their practices were imminent. The business they had entered – practicing medicine – was becoming a new business – managing care, and if they wanted to retain their careers and their role as community leaders, doctors knew they must come to terms with managed care's dual agenda: managing care and dollars. For some primary care physicians and specialists in southwest Virginia, like those in the multispecialty group at Lewis-Gale Clinic in Salem, the decision to come to terms with managed care meant selling its physician practices (the clinic) to PhyCor, a national physician management company. Appendix Three provides a look at PhyCor's management of the Lewis-Gale Clinic. For other physicians, the decision signified an attempt to retain some local community control over physician practices by aligning with a regional system- Carilion Health Care System.

The Lewis-Gale Clinic and the CHC shared one similar characteristic in the 1990s. Their physicians found themselves “practicing without walls” (Amos, 2000). The phrase “practicing without walls” became the descriptive tag to identify physicians

working within physician-managed organizations during the decade. Carilion's Dr. Jack Bumgardner recalls, "'Practices without walls' was a business organization where practices would join together and have a business that was managed by someone who would then look after their business needs" (Bumgardner, 2000). The phrase was used specifically by the Blue Ridge Primary Group, a group of southwest Virginia physicians, which organized in 1994 (Amos, 2000). Physicians "practicing without walls" had no boundaries to define their practice sites. They tore down walls and formed networks so physician practices could collectively assert greater control over HMO reimbursements, hospital outpatient services, and purchasing of equipment for practices (Amos, 2000). This section chronicles the southwest Virginia physician movement into physician management organizations, like the CHC, in which physicians began to practice medicine without walls.

In the late 1980s, the CHS acquired a few physician practices in southwest Virginia through the umbrella of its contract-managed hospitals. These acquired practices were considered hospital extensions to some of the small, community hospitals Carilion managed. According to Hugh Thornhill, CEO of CHC, most of the physicians' practices which Carilion accumulated in its early years as a system (1986-1992) came about in one of two ways. When a doctor in a rural Virginia community wished to retire, he may have wanted to sell his well-established business, but needed aid recruiting a replacement physician for the practice. In such cases, Carilion would buy the practice and hire a physician to replace the retiring one. At other times, Carilion purchased practices that were financially unsound, but were deemed necessary for primary care services in the communities they were located (Thornhill, 2000).

Thornhill explained that since Carilion, in its early (1986-1992) phase was basically a hospital organization with its first concern being its hospitals, these managed/owned physician practices were considered adjunct to Carilion's hospital business. Thornhill claimed that CHS, even if it wanted to at that time, could not have engaged in too much purchasing activity of physician practices due to Virginia laws governing the corporate practice of medicine. Under the code known as the Friendly Physician's Model, physicians wishing to partner with corporate health systems or organizations had to have a physician sign as a private corporation. In other words, physicians' practices under the Friendly Physician's Model were still treated essentially as independent practices (separate private corporations) even if they were part of a health care system's larger holdings. The physician signing as the private corporate organizer represented little more than a ghostwriter signing as owner of the corporation. State governing agencies knew the practice was under the ownership of the purchasing health care system, but "they merely looked the other way," hence the name the "Friendly Physician's Model" (Thornhill, 2000).

Thornhill continued his account by saying this corporate practice of medicine worked fairly well with the few practices Carilion and other Virginia health care corporations purchased until the early 1990s, when corporate health systems began to think in terms of managing provider care. In the 1990s, Carilion began watching the emerging link in the health care marketplace between hospitals and primary care physicians. Carilion scrutinized the marketplace to see if enough primary care physicians were available, where primary care practices were in proximity to Carilion hospitals, and how sophisticated the practices were in the area of office information. CHS in essence,

was preparing to manage care on another front- from physicians' practice sites. Carilion, however, acknowledged that it could not begin to network physicians together until the Virginia laws governing the corporate practice of medicine became better defined, because they feared that legal entanglements, possible suits and tax issues would ensue. From 1990-1992, a series of private rulings concerning Virginia health care systems and physicians' practices brought change to the Friendly Physician's Model. In 1992, the Virginia Attorney General, acting on behalf of the Virginia State Government, determined physicians' practices could be held directly by corporate health care organizations (Thornhill, 2000).

According to Thornhill, Carilion acted on the new state policy quickly. In 1992, Carilion examined what its hospitals were doing individually to affiliate with practices and recognized they could do a better job bringing practices into the system if Carilion tried to organize the physicians together (Thornhill, 2000). In 1992, Carilion formed the CHC as a corporate entity to tie together its already system-owned, but un-united, physicians' practices and to provide an organization to ease affiliation with more practices. While the immediate reason for creating the CHC was to consolidate its physicians' practice holdings, a more important reason for the CHC formation was to better position Carilion to link its not-for-profit hospital system with its for-profit physician practices for possible collaboration under managed care. The health care industry's contention at that time, noted Archie Cromer, former Carilion board president, was that hospital systems needed to provide "cradle-to-the-grave" coverage and services. Systems like Carilion, therefore, started to move into primary care to coordinate preventive care with their acute-level hospital services (Cromer, 2000).

The newly formed CHC did not initially do much to change how Carilion acquired physician practices, however. Thornhill recalls that CHC continued to add practices to its holdings if practices failed financially or to acquire practices when retiring physicians needed to recruit new physicians (Thornhill, 2000). As the threat of managed care seemed more real to Virginia, the CHC began to rethink its strategy of adding a practice here or there. As Thornhill stated:

A lot of [the acquisition opportunities] were driven in the early days of Carilion Health Care Corporation by community need. When managed care began to come into the market everyone said well statistically managed care is going to drive more need for primary care and we looked at the supply of primary care based on market demographics and said we are way under supplied. We needed to recruit more physicians into the area (Thornhill, 2000).

CHC initiated strategic initiatives to increase physician capacity in southwest Virginia communities in an effort to solidify a base of primary care providers for patient populations under managed care plans if necessary. The CHC had found through community assessment reports it assembled, that most of the localities they served had too few primary care facilities, said Dr. Wayne Grayson, a Carilion physician who helped compile the reports (Grayson, 2000). CHC decided, therefore, to build more primary care practices in Carilion hospital communities and/or consolidate existing practices into more modern facilities (Thornhill, 2000).

While much of CHC's initial efforts were undertaken in an attempt to consolidate or build on physician resources in the communities where Carilion operated hospitals, CHC also undertook two other important missions. First, it attempted to create a system by which it could successfully recruit new physicians. Secondly, CHC instilled capital into its existing mature practices to purchase needed office technology systems and

medical equipment. The CHC quickly found out that recruiting new physicians to mature, rural practices was often as difficult and expensive as installing sophisticated office information systems and equipment into existing practices.

It was common, according to Thornhill, in the years 1992-1994 to have two or three older physicians who had mature practices, but who because of a physician shortage in primary care were probably earning less than the starting salaries of doctors coming out of residency programs. There were no viable means for the physicians in those practices to recruit new physicians to the antiquated practice sites. CHC, therefore, was faced with some very mature practices that were going to “whither away on the vine,” said Thornhill, unless they had some corporate resources put into them (Thornhill, 2000). Much of CHC’s initial efforts (1992-1994) were directed to supplying the necessary resources in those not-so-profitable practices, which demanded physician recruitment, capital for technology and office information assistance so they could continue serving community needs. The CHC’s objectives then, were to increase physician capacity into Carilion hospital served communities, consolidate its existing practices into better geographic locations, and to supply capital investments for office information systems, medical technology and equipment.

While CHC organized to perform these functions in 1992 to 1994, Thornhill acknowledges those years were also spent by CHC wrestling with the questions: “If the company really wanted to be in the business of primary care practice, how much did they want to be in it, and what was its value?” (Thornhill, 2000) In the summer of 1995 under Robertson’s leadership, CHS made the decision that it was in the business of physician management to stay and that the CHC needed to acquire more physicians’ practices due

to the increased momentum of managed care. Carilion's decision was brought about by a couple of factors. First, Carilion acknowledged that primary care was considered the front line of the managed care movement. Next, acting on that information, Carilion purchased an insurance company that ultimately evolved into Carilion Health Plans (CHP) with the intent to form a managed care plan themselves to compete with other plans for its primary care services in the southwestern region of Virginia (Robertson, 2000).

Don Lorton, senior vice president of Carilion's Strategic Development, recalled, "Carilion decided to get into the insurance business before they were merely the recipient of managed care companies who came knocking on their doors telling them what they felt like paying them on any given day" (Lorton, 2000). Carilion quickly discerned, however, that having a managed care plans company was of little use to them if they did not have an established network of physicians for the HMO to contract with for provider services. Blue Cross/Trigon represented the largest managed care, contracting plan in southwest Virginia in the mid-1990s. If Carilion wanted to offer a managed care plan to compete with the market-saturated Blue Cross, then its managed care plan representatives were going to have to "knock on almost every physician's practice door in town to sign a contract with them, since it did not have a network and that was going to take sometime" (Thornhill, 2000). The CHC had a competitor who could compete against Trigon for managed care contracts as an established network- The Lewis-Gale Clinic in Salem.

Carilion quickly learned the full impact of what having a group of providers to act as a network could mean. In 1994, the General Electric plant in Salem, decided to sign an exclusive managed care contract with the Lewis-Gale Clinic because of the ease of

negotiating with a group of providers instead of independent practices. As Thornhill stated:

They could come in and one guy could sign the contract and it was done and then they had 180 doctors in a network; it was a done deal. Meanwhile, if one employer or HMO wanted to negotiate the same type of contract with Carilion physicians or other physicians in southwest Virginia, she had to go out and visit as many as 50 different practice sites and attend 20 to 25 meetings a day. It was a very time consuming and generally inefficient way to negotiate with providers (Thornhill, 2000).

Once CHC decided to increase its physician practice sites, the corporation formed a physician-hospital organization (PHO). The PHO allowed CHC to negotiate managed care contracts on behalf of Carilion's physicians and its hospitals as a network. As Thornhill stated, with the physician-hospital organization "CHC physicians could now say to managed care companies you can go out and contract on you own, have at it, or you can come to us [CHC], who are all together in this and if you want to contract with all of us, then here are the terms" (Thornhill, 2000).

CHC, organized as a PHO in its early stages (1992-1995), acted like an information dissemination machine for Carilion as it negotiated with HMOs and other managed care organizations. CHC received contracts from managed care plans and then informed all CHC members about the contract's terms. After examining the plan, CHC physicians would vote to sign or not sign the managed care agreement. CHC's decision to accept or not accept a plan would be made based on how many physicians said yes to the terms of the contract. The initial PHO alleviated some of CHC's legwork to get managed care contracts negotiated. No one person had to go out into each practice and "sell" a managed care contract. Information could be disseminated quickly through the central CHC administration to all its networked physicians and hospitals.

This type of PHO soon proved inefficient, however. Each individual CHC physician still decided what was best for her practice and then the majority of the network determined which contracts to negotiate. CHC quickly realized that its PHO needed to work as an organic whole with CHC itself representing or negotiating on behalf of its network of physicians, not each individual physician having decision-making authority (Thornhill, 2000). As a result of the inefficiencies, CHC established a new type of Carilion Health Care PHO in 1995. Under the new physician-hospital organization, CHC physicians would adhere to the CHC's board and management recommendations for contracts. Such a PHO allowed for more effective bargaining power with managed care plans, greater flexibility at the CHC corporate level and allowed for more growth potential in designing Carilion's own managed care plans (Thornhill, 2000).

As the new physician-hospital organization took shape, the management at CHC determined that hospital stays were still continuing to get shorter and that primary care physicians were increasingly managing most care. CHC worried that they still did not have a large enough physician network. Thornhill noted: "We needed to acquire additional practices, but if we stood a chance at growing our practice sites, we had to become more aggressive in our practice acquisition strategy" (Thornhill, 2000).

From 1994 to 1996, Thornhill conducted several practice-by-practice acquisitions. He recalled, "I went out and talked to physician practices to discuss where CHC was going strategically and tried to determine if there was a 'fit' between CHC and the practice groups" (Thornhill, 2000). If there was a "fit," CHC would make the physicians an offer for the practice. Once accepted, CHC acquired the practice and then the physicians came to work as employees of the CHC. Using this acquisition strategy, CHC

acquired 23 additional practice sites from 1994 to 1995 (Thornhill, 2000). Thornhill reluctantly admitted this practice-by-practice acquisition was still not enough to give CHC the network of primary care it needed to enlarge Carilion as a physician-hospital organization and to adequately supply Carilion Health Plans with its necessary physician-base to sell managed care plans and compete against Trigon. By 1995, CHC had to acquire more practices, but how, queried Thornhill (Thornhill, 2000).

As Thornhill attempted to revamp CHC's acquisition strategy, the Blue Ridge Primary Care Group in Roanoke developed their own acquisition plan to strengthen primary care doctors' stronghold against managed care. The Blue Ridge Group organized initially in 1994 as a way to compete with the CHC and the Lewis-Gale Clinic and to create a niche or network for themselves to play in the managed care environment of southwest Virginia. Dr. Jack Bumgardner recalled the impetus for the Blue Ridge Group:

Dr. James Nuckolls of the Blue Ridge Health Association in Galax, Virginia, one of the founders of the Blue Ridge Group claimed, even though Carilion Health Care Corporation seemed to only be buying cheap practices, practices with problems of recruitment, practices with retiring doctors or practices that were not financially strong, Carilion's involvement was seen as a threat to other area physicians. Also, the Lewis-Gale Clinic with their primary care groups and specialists, all housed in one building and their ability to manipulate managed care contracts better than individual practitioners in terms of bargaining power for contract purposes was viewed as a potential threat to independent practitioners (Bumgardner, 2000).

Dr. James Nuckolls in Galax, Dr. Wayne Grayson at the Brambleton Clinic in Roanoke, and a few other southwest Virginia physicians decided to form their own physicians' group. Dr. Nuckolls described the Blue Ridge Primary Care Group's formation:

We went individually to the practices and said this is our vision of the future. We started in Galax, Marion, and Wytheville, Virginia, and then

started lining up with Dan Jones [a physician] in Roanoke, and then came back to the New River Valley. Then we hired some people from Texas to help us. One guy who was an organizer, one guy that was a negotiator, and one that was an attorney; three different people that would help us put this thing together and then a financial officer who happened to be my son who is a CPA. The differences in our practices from Carilion's were that we tried to pick those people that we wanted to practice with. Who is a good doctor in Wytheville? Who are the best doctors in Blacksburg? Who do we want to practice with? And so, that's how we picked our practices, so we could get good strong leadership in those groups (Nuckolls, 2000).

Through their careful observations of the CHC and the Lewis-Gale Clinic, the Blue Ridge Group believed they could manage primary care better for two reasons. First, the group consisted of more financially sound practices, not like the failing practices CHC seemed to be networking together. Secondly, the Blue Ridge Group represented a geographically dispersed network covering all southwest Virginia, unlike the one location only Lewis-Gale Clinic (Nuckolls, 2000).

The Blue Ridge Group assembled close to 50 physicians in one year (1994). Each of the members held a similar vision for the future of health care: primary care physicians would be the keepers (managers) of managed care, says Dr. James Nuckolls, former Blue Ridge Primary Care Group organizer and current medical director of the CHC (Nuckolls, 2000). The Blue Ridge Group members, such as Dr. Wayne Grayson, believed primary care doctors should be the key individuals managed care companies sought to negotiate contracts, because those physicians controlled the greatest patient population resources (Grayson, 2000). The Blue Ridge Group recognized by associating together, they could acquire lower purchasing rates for office medical supplies and equipment, provide a larger network of care for their patients and negotiate for better payment reimbursements under managed care contracts, recalled Dr. Elizabeth Carmichael, former Blue Ridge

Primary Care Group physician and now recently retired CHC physician (Carmichael, 2000). Dr. Grayson, one of the Blue Ridge Group's founding members and a current Carilion physician, stated:

Basically we just felt that the writing was on the walls. Systems like Carilion, Lewis-Gale, or whoever, controlled a lot of the insurance companies and so we really were trying to protect ourselves. We felt the more numbers we had, the better we could deal with insurance companies and hospitals to determine care of patients and to control how much insurance companies were going to pay per patient. Also, we could determine better our own capitation (Grayson, 2000).

The Blue Ridge Group quickly discerned that if its future vision of managed care was going to materialize, with primary care doctors becoming managers, then changes had to take place to move physicians into a better position to manage care. The Blue Ridge Group physicians determined that the change necessary to secure their role of managing care was the installation of an electronic infrastructure into their practice sites. Physicians, said Dr. Nuckolls, "needed to have an information system so they could know what they were going to manage" (Nuckolls, 2000). He used the example of capitation to explain the idea of managing care. Dr. Nuckolls said:

If we [the Blue Ridge Primary Care Group] took on managing 100,000 patients for \$10 million, I'd want to know every day how much money I had left. And to know how much money I had left, I had to know how much money I spent that day and what services were delivered that day, and at the time we didn't have an information system with that data, and we knew we had to have it if managed care came (Nuckolls, 2000).

The Blue Ridge Group's vision of an electronic information system was a costly one, however. Their spokesperson and CEO, Dr. Nuckolls, soon began thinking in terms of the group's affiliating with Carilion or other physician-management companies to procure a sizable capital investment for the group's electronic information system. At the same time, to safeguard the group's future, which appeared as if it would be determined

by capitation, HMO patient management, and utilization reviews, the group began assessing how an affiliation with a physician-management company could benefit their objectives. Nuckolls noted:

And whether that [vision] came from PhyCor, Columbia, or Carilion, it didn't matter, we had to figure out where we could leverage best what we saw the future becoming which was capitation, patient management and primary care. We asked: Where do we need to go to realize our vision? (Nuckolls, 2000)

After over a year's worth of attending meetings and discussions with PhyCor, Columbia, and Carilion, the Blue Ridge Group decided to join the CHC in 1996. Nuckolls claimed the group's decision was based on their belief that Carilion shared their vision of the future of health care. CHC agreed with the Blue Ridge Group's view that primary care providers' role in managing care was paramount and the need for electronic infrastructure was immediate (Thornhill, 2000). Therefore, the Blue Ridge Group determined it would have a more strategic fit with CHC than another physician management company and/or hospital system. As Dr. J. Francis Amos, a member of the Blue Ridge Primary Care Group and current CHC physician in Rocky Mount, said:

The ideals were more in line with what we thought we would feel comfortable practicing with. It [Carilion] was also semi-local. PhyCor was national and ... one of the things they wanted to do is they wanted to put us in with Lewis-Gale Clinic and group us together and we said, no way. We turned that down real quick. We talked to lots of different systems, groups, and managed care companies, but we felt like we could work with Carilion. Many of us had had experience with Carilion, knew their people, their management, and if everything else was equal, we felt like, with the philosophy that they had had, they had a great deal of interest in primary care. And that's not altogether true, elsewhere (Amos, 2000).

CHC focused most of its efforts throughout 1995-1996 on negotiating a contract with the Blue Ridge Primary Care Group. The acquisition of the Blue Ridge Group by the

CHC changed the history of the CHC forever. As Thornhill stated, “The history of the acquisition made CHC” (Thornhill, 2000). CHC was a growing company, yet their one-on-one acquisitions, while bringing in practices, had proven to be time-consuming and difficult work. The purchase of the Blue Ridge Group meant Carilion no longer needed to go door-to-door to physician practices to enlarge the physician-hospital network one practice at a time.

Although the door-to-door acquisition strategy was time-consuming, it had proven successful. By 1996, CHC had 59 primary care physicians within its network. The merger of the Blue Ridge Group into CHC, however, meant the immediate addition of 80 new physicians to CHC’s network of providers. These 80 practices represented most of southwest Virginia’s most successful practices, too (Grayson, 2000). The practices that CHC purchased from the Blue Ridge Group cost Carilion more than \$20 million, but gave CHC what it needed – a geographically dispersed provider network with respected and financially sound practices in southwest Virginia (Nuckolls, 2000). One Roanoke Times reporter characterizing the Blue Ridge Group’s merger into CHC wrote, “If medical practices were army camps, one could say the CHS was setting up a mighty long line of defense in southwestern Virginia” (cited in Kelly, 5/15/96, p. 8B).

With the purchase of the Blue Ridge Group, CHC operated primary care practice sites from Abingdon to Strasburg. According to Thornhill, when the Blue Ridge Primary Care Group negotiations concluded in May 1996, 42 medical practices representing about 90 physicians with more than 200,000 patients joined CHC (Thornhill, 2000). Figure 4 provides a list of the Blue Ridge Physicians joining CHC in 1996.

Figure 4: Blue Ridge Group Physicians Joining Carilion Health Care Corporation (1996)

List of practices and physicians involved in the Blue Ridge Primary Care Group affiliation with Carilion Health Care Corporation (1996)*

Martinsville

Dr. Charles Bethea

Dr. Paul Eason

Dr. Linda Buchanan

Martinsville Internal Medicine #1 and #2, Drs. Benton Lewis and William Zimmer

Piedmont Health Associates, Dr. Sinclair Harcus Jr.

Dr. William Prince

Franklin, Botetourt Counties

Burnt Chimney Family Practice, Wirtz; Drs. George Chaconas and Eric Bourhill

Family Physicians, Rocky Mount, Drs. Francis Amos and Jack Bumgardner Jr.

Boones Mill Medical Clinic Inc. and Southwest Medical Clinic, Roanoke; Drs. Paul Page,

Lourdes Page and David Cummings

Physicians to Families Inc., Daleville, Dr. Max Bertholf

Roanoke Valley

Dr. A. Gibson Davis

Brambleton Family Physicians P.C., Drs. Don Brady, Robert Patten Jr., William Ward,

Wayne Grayson and Donald Smith

OB-GYN Associates of Roanoke Valley P.C., Drs. Steven Farber, Jorge Garcia and Lee

McLennan

Parkway Physicians Inc., Blue Ridge and Vinton; Drs. Elizabeth Carmichael, Henry Ivey Jr.,

Daniel Jones, Ronald Overstreet, Randall Rhea and E. Mark Watts

Roanoke Family Medicine Inc., Drs. William Ball and Stephen Morgan

New River Valley

Dr. William Hendricks, Blacksburg

Dr. David Hudgins, Christiansburg

Dr. Lucian Robinson, Blacksburg

Dr. Chad Thompson, Blacksburg

Dr. Robert Stockburger, Blacksburg

Elsewhere

Bridgewater; one doctor

Dayton; three doctors

Galax; nine doctors

Fort Defiance; four doctors

Shenandoah; one doctor

Strasburg; three doctors

Staunton; two doctors

Harrisonburg; three doctors

Timberville; one doctor

Waynesboro; six doctors

Weyers Cave; four doctors

Woodstock; two doctors

(Source: Kelly, 6/15/96, p. 8B)

* The list does not include four other physicians who sold their practices because those physicians were involved in group practices where the other members did not choose to sell their practices to Carilion Health Care Corporation.

Dr. Amos explained that the Blue Ridge Primary Care physicians sold their practices for fair value to CHC and, in turn, the physicians received assurances from

Carilion that the primary care doctors would maintain as much control as possible over the future of health care in southwest Virginia (Amos, 2000). Ironically, five of the Blue Ridge Primary Care Group physicians who accepted Carilion's buy-out were affiliated with Montgomery Regional Hospital, Carilion's New River Columbia/HCA competitor. Three of those five physicians had even held positions with the Montgomery Regional Hospital's board of trustees. Although the physicians affiliated with the Columbia/HCA hospital system resigned their positions, they still made sure CHS would not force them to send their patients to CHS hospitals if the patients did not want to go. Dr. Hendricks, in Blacksburg, one of the physicians resigning his position with Montgomery Regional Hospital said: "I will not be telling patients they have to go to Radford [Carilion's hospital in the New River Valley]. The patient preferences will be honored and patients will be given a choice" (cited in Kelly, 6/5/96, p. 1C).

To insure they possessed a voice in the future of managing care, the Blue Ridge Group negotiated for three key assurances from CHC. The doctors demanded the right to become stockholders in the CHP, to see CHS implement an electronic medical records system in their practices, and to acquire a set number of CHC board seats, so that physicians would be able to participate in the organization's decision making (Bumgardner, 2000). The CHC agreed to each of the Blue Ridge physician's demands. The CHC also agreed to restructure its entire organization in terms of its board, management and future plans in a way that was more typical of how physician practices operate.

For CHC, the acquisition of the Blue Ridge Group meant the company went from operating 23 sites to managing 65 sites overnight. Thornhill said:

That kind of growth places significant strain on any organization, especially an organization without individuals trained to specifically deal with real problems. The strain of developing infrastructure to run an organization like a Carilion Health Care Corporation in an industry [managed care] that doesn't have any organizations that have infrastructure is difficult (Thornhill, 2000).

Thornhill noted that after the 1996 Blue Ridge Group merger, CHC began “back-filling in the corporation” to give it infrastructure. In its first years (1992-1995), “CHC was simply trying to get the bills paid, the payroll done and get the checks out on time,” said Thornhill (Thornhill, 2000). After the Blue Ridge Group purchase (1996), CHC began “trying to build something that was more like an organization” (Thornhill, 2000).

Following the Blue Ridge Group acquisition, CHC attempted to build standardization into the offices of its practices and to provide infrastructure to support CHC's management of multiple office sites. “It was an interesting time,” recalled Thornhill, “trying to have CHC begin to look like a group because, generally speaking, physicians are an independent lot and they don't want to look like a group” (Thornhill, 2000). According to Lorton, “doctors' practices, historically are more like cottage industries with practices cut up into one physician to five physician size-groups and it is very different managing that kind of environment and its issues than managing over 150 physicians at one time with almost one million patient visits a year” (Lorton, 2000). The working environment changed completely for the physicians, as well. Thornhill claimed, “The corporate management of care wasn't necessarily the environment or career physicians envisioned and it certainly wasn't the career they trained for” (Thornhill, 2000).

Besides bringing a geographically wide network of financially stable physicians and providing the incentive to reorganize CHC's operations, the Blue Ridge Group

transaction brought a very important, and missing piece to the CHS's managed care puzzle: group culture. Group culture, according to Thornhill, is what drives a corporation's future goals. "Group culture underwrites an organization's mission," says Thornhill (Thornhill, 2000). Until the Blue Ridge Primary Care Group joined CHC, the company was indeed only a subsidiary of the CHS. CHC possessed no true mission of its own. The corporation basically existed to fulfill the needs of the Carilion hospitals or communities. Recall, CHC's acquisition strategy for buying physicians' practices involved purchasing practices close to Carilion hospitals or within communities where a practice was failing financially. Although this strategy of supporting practice sites essential to communities and Carilion hospitals was a valuable service to Carilion communities, it was not a long-term strategy that would expand the CHC. Thornhill confessed that overall, the CHS had a long-term vision to grow its hospital organization, its health plans and its network of physicians, but in order to survive, each of Carilion's subsidiaries needed its own corporate vision. Thornhill acknowledged the CHS closely resembled a three-legged stool in its earliest form. The three legs were the Carilion hospitals, the Carilion health plan, and the Carilion Health Care Corporation primary care groups. Thornhill stated:

By having those pieces, we had enough of the pieces of the health care puzzle to put in something that could stand up without wobbling too much. It could take some weight. That vision has been reasonable for the Carilion Health System as a whole. But Carilion Health Care Corporation needed its own vision and that came with the Blue Ridge Group (Thornhill, 2000).

Prior to joining CHC, the physicians in the Blue Ridge Group possessed a group culture that the previously networked Carilion practices lacked. Dr. Nuckolls recalls that the Blue Ridge Group had invested a lot of time and energy in developing a group culture

of their own (Nuckolls, 2000). Their group culture included a vision of how the Blue Ridge Group physicians believed the future of health care should be managed. For the most part, the group's culture focused on primary care physicians managing care through the use of electronic medical records systems (Nuckolls, 2000). CHC adopted in large measure the Blue Ridge Group's vision and group culture because it appeared as if primary care doctors were going to be the front line managers for care and that electronic infrastructure was essential to managing physicians' practices. Thus, the acquisition of the Blue Ridge Group represented an important stage in the corporate maturation process and future direction of the organization. CHC embraced the Blue Ridge Group's culture as its own to give the corporation a mission and a future vision (Thornhill, 2000).

Dr. Nuckolls noted that the Blue Ridge Primary Care Group practitioners' group culture also included an orientation to the needs of their patients and the communities they served. CHC incorporated the Blue Ridge Group's community devotion and working relations and built on those traditions and relationships within southwest Virginian communities. After the Blue Ridge acquisition, no longer did CHC merely meet community needs in localities where practices were failing; CHC instead established new roles for itself in fulfilling the Blue Ridge Group's community commitments (Nuckolls, 2000).

The Blue Ridge Group brought a group culture to CHC and gave the company a future vision that Thornhill claims, "we couldn't go out and buy for the organization" (although in a way they did buy the corporate culture, because CHC bought the Blue Ridge Group). After acquiring the Blue Ridge Primary Care Group, the next issue for CHC was how to effectively use the Blue Ridge Group culture to its advantage. Thornhill

asked, “How do we leverage the value of that culture to integrate it into Carilion Health System operations?” (Thornhill, 2000)

Thornhill observed closely other physician-management organizations and asked, “Do they have better competing strategies than CHC?” For example, Thornhill recognized that when one looked at the Lewis-Gale Clinic, one of its biggest advantages was that it was a multi-specialty group, all under the same roof. He insisted that the clinic’s group probably resembled a marriage and, like most marriages, there were places where the clinic probably worked really well and others where it did not. The clinic certainly had one distinct advantage over CHC: the clinic fostered close working relationships between family practitioners, specialists and the Lewis-Gale Hospital. The Lewis-Gale Clinic had the mechanisms and infrastructure in place- buildings, people and office technologies to accommodate those relationships. CHC, on the other hand, in 1996 was just beginning to integrate and form collaborative relationships between its physicians, hospitals, and specialists, without letting costs get in the way. By 1996, possessing a network of over 150 physicians with a vision, and armed with their agenda to create a specific role for primary care physicians in managed care, CHC set out to reposition itself into a more strategic competing posture against other physician-management companies like PhyCor’s Lewis-Gale Clinic and to better situate itself into the CHS as a whole (Thornhill, 2000).

Since 1997, Lorton claims that the CHC has initiated three objectives to better align its operations to those of the CHS overall and to compete against other physician management companies. First, CHC began to integrate its network of primary care providers to specialists to sell managed care packages via the CHP to southwest

Virginian employers. Secondly, CHC installed a new electronic medical records system in each of its physician practice sites which queues patient information to integrate Carilion system-wide data and which promotes quality control of care services. Lastly, CHC has continued to evolve its primary care focus in the changing managed care environment through physician recruitment, practice consolidations, practice site constructions, and by designing future types of practice sites (Holton, 11/28/99). Each of these CHC objectives extend the concept of “practicing without walls,” but are proving difficult growth strategies for Carilion to achieve (Lorton, 2000).

For instance, Thornhill recalls that the first consolidated practice attempt and construction of a new Carilion medical facility to house combined practices failed completely to attain Carilion’s goal of increased practice operational efficiencies. In 1997, CHC merged a small group of eight solo-internists practicing in Roanoke. By August 1999, Carilion had terminated its contract with the group. CHC had estimated the consolidation would net the internists savings, generate more operation efficiencies, help with physician recruitment, and make the physicians’ location more accessible to their patients. The savings, however, did not come. Patient waiting times did not decrease, and the consolidated practice (Carilion Internal Medicine Practice) remained unable to recruit new internists.

In August 1999, the decision was made, according to Lorton, “to go back to the way things were” (cited in Holton, 8/13/99, p. 8A). Charles Hiles, one of the physicians in the practice, joined CHC in 1997. He sold his 11-year-old solo practice because he believed becoming part of the CHC would be good for his patients. Hiles’ practice, along with the seven other internists, had an estimated 22,000 patients, mostly elderly patients

who were distressed by the practice consolidation. Hiles commented, “We try to inconvenience them as little as possible. It was a real adjustment for many of them when we moved to Jefferson Plaza [the Carilion consolidation location] several years ago, and now we are going to have to tell them again we’re moving. I don’t think any of us would have entered into this arrangement if we knew this would happen” (cited in Holton, 8/13/99, p. 8A).

Thornhill commented that the decision by CHC to sell the practices back to the physicians was “strictly a business decision and did not reflect on the doctors’ medical performance” (cited in Holton, 8/13/99, p. 8A). Thornhill admits that this is a troublesome example of the control CHC can wield at its discretion over the physician practices it manages. Physicians sell their practices and place their futures in the hands of CHC to manage and, then, suddenly may find themselves displaced and at the mercy of the marketplace.

According to Thornhill, after learning valuable lessons from its failure with the Roanoke group of internists, CHC has undertaken four other major practice consolidations and practice-site building constructions. CHC opened the Prices Fork Carilion Family Medicine Building (1998) in Blacksburg, another practice consolidation building in Harrisonburg (2000), the Martinsville Medical Center (2000) and a practice consolidation building on the grounds of the Franklin Memorial Hospital (2001) in Rocky Mount (Thornhill, 2000).

Regardless of the problems CHC finds itself encountering due to its growth strategies for practice consolidations, Thornhill claims that CHC would not even be executing growth strategies without the incorporation of the Blue Ridge Group into the

CHC. Thornhill insists that the most important result of the Blue Ridge affiliation for CHC was the acquisition of a group culture that has allowed CHC to expand its operations. For Carilion, the affiliation had a much more significant impact; Carilion acquired a significant concentration of physician practices in southwest Virginia. The CHC became a much stronger leg to carry the weight of the CHS as a whole. The CHS began to think very differently about its operations after the Blue Ridge affiliation. Carilion did not have to think “hospital first” any longer for managing care; instead it could think about managing care from a new front – primary care. CHC’s acquisition of the Blue Ridge Primary Care Group positioned CHS into the optimum place most managed care groups insisted care could be best managed, the primary care practices (Thornhill, 2000).

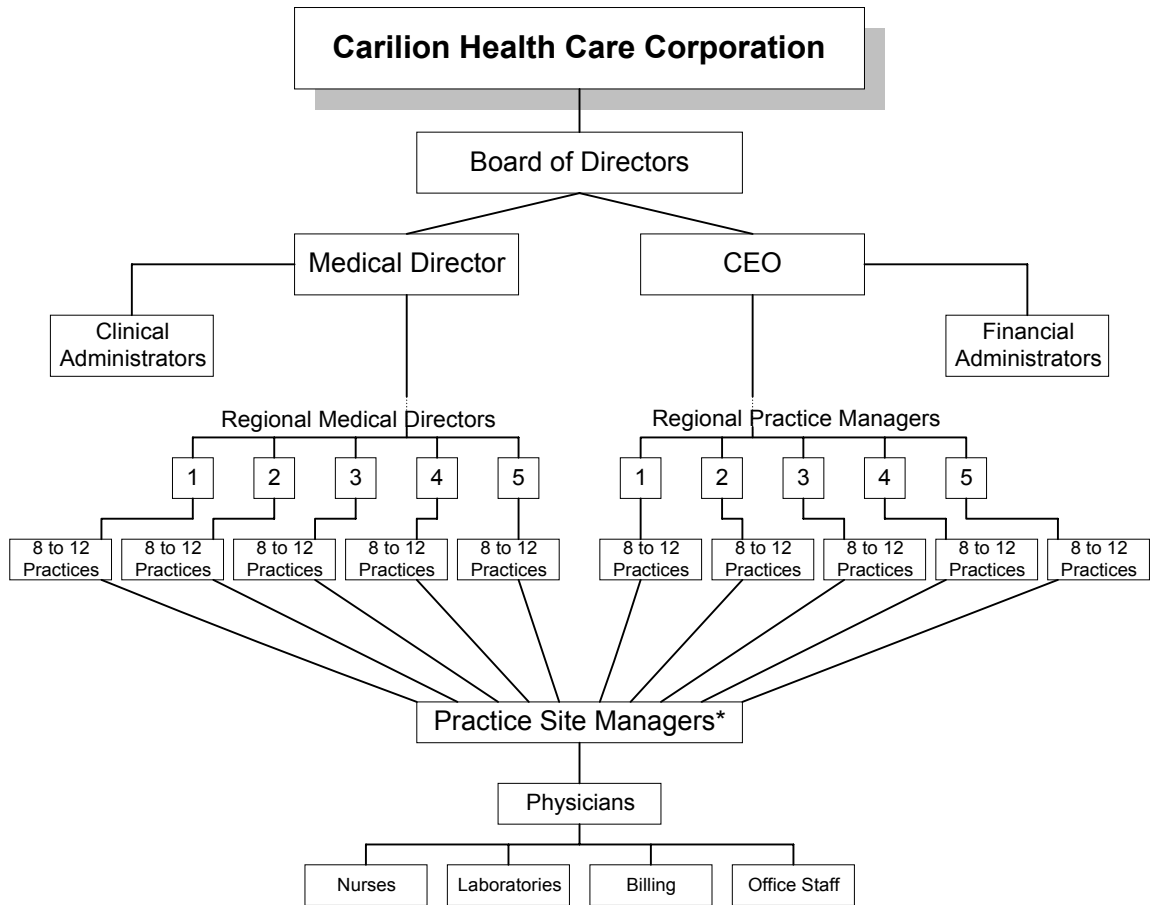
According to Bud Thompson, Carilion’s senior vice president for Administrative Services, today, CHC provides CHS with its network of 60 practices or 150 primary care physicians. The physician network, in turn, allows CHS to function more effectively in a managed care environment. The physician network makes possible CHS’s health plans division (CHP). Without a network of physicians, it is questionable whether a CHP would be able to survive in the Virginia health insurance and HMO regional market where players like Trigon dominate. CHP would certainly have to work harder to market its insurance and HMO to southwest Virginia if Carilion did not have the primary care physician network established by its CHC (Thompson, 2000).

CHC’s managed physicians differ from other physician-management companies’ doctors, such as PhyCor’s physicians in important ways, too. Although both CHC and PhyCor physicians are employees of their respective physician-management

organizations, the CHC physicians are treated quite differently as employees than PhyCor-employed physicians. According to Dr. Darrell Powledge, a former PhyCor physician, CHC physicians possess a cohesiveness or group culture that PhyCor has been unsuccessful at instilling in most of its physician-managed sites (Powledge, 2000). Next, CHC's physicians' group culture enables the doctors to share a common vision of how the future of managed care should look and makes introductions like an electronic medical records system easier to integrate into physician practices, says Dr. Nuckolls. The group culture not only promotes future CHC visions and growth, but also influences how CHC physicians and executives work on a daily basis.

The CHC has been corporately organized to give physicians, as well as corporate administrators, the dual responsibility to manage care and the organization. Figure 5 illustrates the organizational structure of the CHC and its dual management of medical directors and corporate administrators.¹

Figure 5: The Organizational Chart for the Carilion Health Care Corporation



*CHC has a practice site manager for each of its primary care offices. A practice site may include 1 or more physician practices.

Dr. Nuckolls explains that these dual lines of reporting denote that CHC is not only accountable for its financial bottom line, but the corporation is also responsible to Virginia communities for quality of care (Nuckolls, 2000).

Lorton explains that CHC's commitment to both its financial bottom line and quality of care assumes the essence of how Carilion defines managed care- managing dollars, but at the same time, managing care (Lorton, 2000). Lorton might claim that CHC is responsible for its financial bottom-line, but Thornhill admits that CHC has lost money since its creation. According to Thornhill, CHC has to become solvent by 2002 or

else CHS will be subjected to federal laws involving “inurement” (Thornhill, 2000). Inurement is the “practice of nonprofit organizations [like CHS] using their resources to benefit private interests [setting up for-profit corporations such as CHC], instead of using them for charitable purposes in the communities they serve” (cited in Holton, 9/19/99, p. 4B). Non-profit organizations like CHS are only allowed to pour money into a “money-losing corporation” for a set number of years (cited in Holton, 9/19/99, p. 4B). Thornhill argues CHC will be financially solvent by 2002 (Thornhill, 2000).

As this section illustrates, the story of how well CHC accomplishes its managing care strategies is complex. Physicians, corporations, management strategies and medicine remain an odd mix. The additions of a strong group culture, shared future visions and business and clinical oversight to corporate operations, however, generate a firm basis from which Carilion’s physician management company originates and cares for communities. Thanks to its group culture, CHC exhibits a competitive edge other physician management companies do not have. Dr. Henry R. Ivey, a Carilion physician in Vinton, said:

As CHC continues to mature as an organization, we believe our patients will find that the organization enhances their physicians’ ability to provide them with the excellent medical care they deserve (cited in Ivey, 10/9/99, p. 11A).

From a Health Care Delivery System to a Managed Care System:
The Creation of Carilion Health Plans

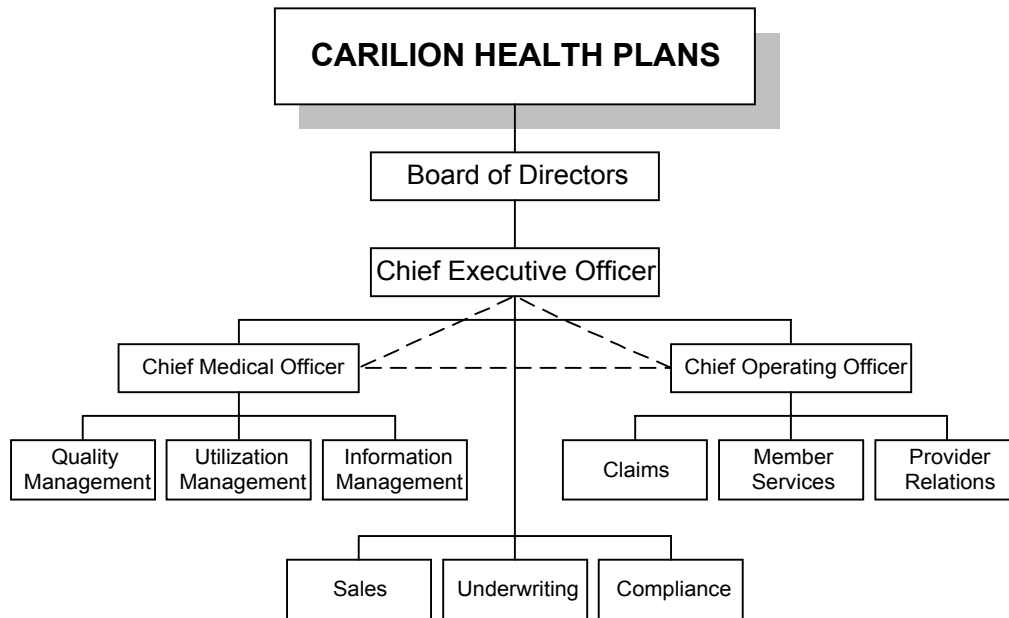
For Carilion to be transformed from a health care delivery system to an integrated managed care delivery system, it needed to incorporate an essential business into its services- a health maintenance organization (HMO). Don Lorton, Carilion’s vice president of Strategic Services, defines an HMO as a prepaid, fixed-price managed care

arrangement for health care services delivered by an insurer that assumes responsibility for providing comprehensive health services to a formally enrolled population (Lorton, 2000). How Carilion integrated a health plans division and HMO into its services is the story of how Carilion moved into the managed care industry. Without the creation of Carilion Health Plans (CHP), CHS would be, although a large one, only a health care delivery system. With CHP, Carilion became a managed care system. CHP extended Carilion's reach into southwest Virginia to manage care, consumers and communities in yet even more unexpected locales, such as consumers' work places. CHP allowed Carilion to manage southwest Virginia's care through contracted health plan agreements with employers for Carilion services, physicians and facilities.

Today, CHP is a for-profit company held by CHS, the not-for-profit parent corporation. CHP is the health care giant's managed care arm. It markets both traditional style health plans and an HMO to employers for the utilization of the Carilion network of hospitals, physicians, and other health care services. CHP also leases the CHC network of physicians to other insurance carriers for their health plans or HMOs.

In 1992, CHS formed Commonwealth Services Corporation (former name of Carilion Health Plans). Carilion set-up Commonwealth Services Corporation for one major reason: Carilion could not market its services profitably in a managed care or planned environment without its own physician provider network. According to Carolyn Chrisman, CEO of CHP, Commonwealth Services Corporation incorporated officially on February 29, 1996 as a for-profit insurance subsidiary of Carilion Health System and was renamed Carilion Health Plans (Chrisman, 2000). Figure 6 illustrates how CHP was organizationally structured.²

Figure 6: Organizational Chart for the Carilion Health Plans



In 1992, General Electric, one of the Roanoke Valley’s largest employers, decided that as a national company, they needed networks of providers with which they could contract to offer preferred provider organization (PPO)-type benefit plans to their employees throughout the United States. PPOs are health plans in which members’ health care is largely or completely paid-for if they use the doctors and hospitals in the network with whom the plans contract (Korczyk and Witte, 1998). General Electric (GE) came to Carilion and asked what networks Carilion had available to service GE’s employees at its local facility in Salem. Caught off-guard, Carilion had to respond, “we have no network available” (Chrisman, 2000). GE then went to Cigna, who was their employer-sponsored insurance carrier and insisted that they [GE] needed a network of physicians in Roanoke for their employees, because GE was paying too much for employee health care by allowing employees to go wherever they wanted for health care services. GE authorized Cigna to acquire a physicians network (Chrisman, 2000).

Cigna observed there were basically two health care systems in the Roanoke Valley: Columbia/HCA and Carilion. According to Hugh Thornhill, CEO of Carilion Health Care Corporation (CHC), Cigna approached both systems and queried what kind of network of providers each could establish for General Electric (Thornhill, 2000). Columbia/HCA operated the Lewis-Gale Hospital, which had for almost 90 years, enjoyed a good working relationship with nearby Lewis-Gale Clinic, a multispecialty clinic with over 100 physicians. The hospital combined with the clinic appeared to provide a readily available network of providers and reduced the time involved in contracting terms for a PPO for Cigna or GE. “One signature from the hospital and one signature from the clinic and the deal would be concluded,” said Thornhill (Thornhill, 2000).

Carilion had much less negotiating power. Although Carilion managed an immense hospital system (13 facilities), in 1992, it possessed no established network of physician practices. Carilion managed or owned a few physician practices, but they were scattered throughout Virginia and clearly unsignable as a preferred provider organization, noted Dr. James Nuckolls, CHC’s medical director (Nuckolls, 2000). Besides the Lewis-Gale Clinic, in 1992 most southwest Virginia physicians still found themselves in independent or small group practices unconnected from one another and disconnected from networks. Carilion could not, therefore, sign contracts easily with these disparate, independent practitioners. By the time Carilion organized its CHC (1992) to corporately network the few practices Carilion managed and to start buying additional practices to form a large enough network to negotiate with GE, it was too late. GE signed a PPO agreement with Columbia/HCA and the Lewis-Gale Clinic in 1992. According to

Chrisman, “The GE disaster was the wake-up call for CHC to piece together a physician network. Carilion said, look, this is going to happen more than once so we better get a network developed” (Chrisman, 2000).

CHP derived directly from the establishment of the network of physicians CHC assembled from 1992-1996. CHP became a way to lease the CHC network of physicians and the Carilion hospitals to insurance companies who wanted to start a PPO in southwest Virginia, or lease directly to area employers who were self-funded and needed a PPO-type product. By 1997, Carilion Health Plans’ contracts to lease its PPO network to other managed care companies or directly to employers represented approximately 40,000 members subscribing to Carilion health plans. At the same time the fledgling CHP worked to lease its network of providers, CHP found itself facing the emergence of HMO’s into the Roanoke market.

In 1994 Carilion learned that three nationally backed HMOs were expected to offer plans in the Roanoke area by 1995. The plans were to be operated by Columbia/HCA, the Louisville, Kentucky parent of Lewis-Gale Hospital in Salem, John Deere and Company of Moline, Illinois, which offered Heritage National Health Plan Incorporated and Trigon Healthkeepers which had a major insurance business in the Roanoke area (Kelly, 9/17/94). Carilion recognized the threat these nationally backed HMOs could mean to its infant CHP. Carilion admitted it could do very little to thwart the threat Columbia/HCA’s HMO could cause, because of Columbia/HCA’s owned market (the Lewis-Gale Clinic).

Chrisman explains that CHP saw how it could benefit, however, from Trigon and John Deere’s HMO movement into Carilion’s marketplace. CHP determined that both

Trigon HealthKeepers and John Deere needed a provider network to contract with for their HMOs in the area. Chrisman recalls that CHP agreed to provide an HMO-level provider network for these insurance carriers, since it did not have a license for its own HMO and could only supply a provider network to other HMOs (Chrisman, 2000).

By contracting with companies like Trigon for HMO-type services, instead of just PPO services, CHP expanded its involvement in the health plans market. HMOs differ from PPOs in one essential way. HMOs are prepaid, fixed-price managed care arrangements for health care services using a network. They represent networks in which subscribers have to use primary care physicians from an approved list for health care services. The physicians work for predetermined fees and refer patients to specialists in the same network. PPOs are usually looser type arrangements than HMOs. They bear more resemblance to traditional insurance, because they rely on fee-for-service payment like reimbursement to physicians (Rynne, 1995). By 1997, CHP had 74 contracts covering approximately 100,000 individuals for its HMO-type services with other managed care companies. The contracts with HMOs included Virginia HealthKeepers (Trigon Blue Cross/Blue Shield), Heritage National Health Plan (John Deere), QualChoice of Virginia and Partners National Health Plan (Kelly, 8/1/97 and 7/6/95).

Although CHP worked with these managed care companies to provide HMO-level provider network contracts, at the same time CHP began to take steps to procure its own HMO. Speaking about Carilion's attempt to market its own HMO, Robertson remarked that Carilion would be competing against companies who could afford to enter the market and lose some money. Carilion needed enough start-up capital to offset the competitive premiums that the other HMOs could initially offer to get employers' health

care business. Robertson said, “The cost of an HMO can be measured in the tens of millions. I hope it’s just one \$10 million” (cited in Kelly, 9/17/94, p. 6A). Chrisman recalled that Sentara Health System, a Norfolk, Virginia hospital and health care organization, spent \$50 million on its HMO service before realizing a profit (Chrisman, 2000).

Cromer explained that Carilion, recognizing the financial commitment it would need to enter into the managed care industry of HMOs, set out to build an “HMO war chest” for its CHP division. In 1994, Carilion sold its most valuable asset – Sterile Concepts, Incorporated. The Roanoke Hospital Association, predecessor to CHS, had purchased Sterile Concepts in 1984. Sterile Concepts, located in Richmond, manufactured sterile, ready-to-use, throwaway surgical trays and equipment for hospitals, outpatient surgery centers and medical clinics. The trays included items such as surgical gowns, sutures, instruments, and gauze (Cromer, 2000).

Sterile Concepts proved to be a corporate jewel for Carilion in the ten years it held the company. Sterile Concepts in fiscal year 1985 netted sales of \$6.3 million and a profit of \$100,000. By 1993, sales had grown to \$121.1 million and profit was \$7 million. The company had 1,300 accounts. Carilion spent \$2.2 million itself to purchase surgical trays for its hospitals, physicians, and clinics. Sterile Concepts by 1994 was the second largest producer of sterile surgical trays and equipment in the United States. The company had 13% of the entire American surgical tray market. Baxter Custom Sterile held 50% of the market (Kelly, 9/17/94). Cromer maintains that through the late 1980s up to 1994, Carilion relied on income from Sterile Concepts to contain its medical costs in

its southwest Virginia hospitals and to help the system respond to the changing financial environment of health care (Cromer, 2000).

Carilion looked to more than the generated income from Sterile Concepts to help it respond to the changing financial environment in health care created by managed care. Carilion turned to Sterile Concepts to bankroll its venture into HMOs (Cromer, 2000). Carilion divested ownership of Sterile Concepts in September 1994, netting \$100 million from selling its stock in the company. \$75 million of its sale went to pay down Carilion Health System debt, \$13 million was needed for the costs of trading the for-profit company publicly, and the remaining \$12 million was used for CHP's HMO (Kelly, 9/17/94).

Chrisman recounted how, by 1996, with managed Medicare in full swing, CHP decided to compete in yet another market – the Medicare market. To compete in the managed Medicare market, a company like CHP needed a commercial match for each of its insured Medicare customers. A commercial match meant for every Medicare customer CHP insured, they had to insure a non-Medicare customer. At the same time CHP was initiating steps to enter the managed Medicare business in 1996, the Virginia State Bureau of Insurance that regulates companies like CHP, informed Virginia insurance carriers that if they were going to assume risk for a population as a provider network, then they had to have an HMO license. Since Carilion's goal was to eventually procure its own HMO and since the license was necessary for its move into managed Medicare, in 1996 CHP filed with the Virginia State Bureau of Insurance for its HMO license. Having received the HMO license in 1997 (Robertson, 1998), CHP prepared to develop a commercial HMO product (match) to secure its Medicare business. Some of CHP's

HMO partners, such as Trigon, wanted CHP to get its own HMO license as well. Trigon wanted Carilion to share some of the risks associated with their HMO contracts, but CHP hesitated to enlarge its commercial HMO business too much. The CHP board believed the competition was too severe among HMO competitors. Carilion, however, had to have enough commercial business to justify being in managed Medicare (Chrisman, 2000).

Carilion Health Plans saw a managed Medicare HMO as an opportunity for the CHC physicians. Chrisman stated:

Carilion Health Plans' HMO is a health plan that is focused on southwest Virginia. We are not going to go into huge other geographies. Carilion Health Plans is not nationwide; the decisions are made here. The decisions will continue to be made here by a group of people who are physicians, hospitals and health insurance folks and if you have any chance to be a part of the decision making process it will be with a company like a Carilion. Cigna is not going to give you that opportunity. Trigon is not going to give you that opportunity (Chrisman, 2000).

The marketing of Carilion's HMO was an opportunity to get the doctors in the Virginia communities to talk to one another and to the hospitals. Chrisman noted:

If one really looked at most of the ways hospitals and doctors worked, the hospitals were at odds with the doctors. Carilion Health Plans said to physicians and hospitals, we [Carilion] get a pot of money to take care of a group of patients and your job [physicians and hospitals] is to do the absolute best you can using that money in the most effective way to take care of patients. So we shouldn't be at odds with each other. Carilion Health Plans' job is to cut through all those social-historical boundaries between traditional hospitals, physicians, and other providers and insurance carriers to forge a new type of relationship in the managed care environment. We have to keep working at it a little at a time and think of this as one big group trying to hit the same goal. And we will get there. There are no magic bullets and it is painful every step of the way, but it is the right thing to do (Chrisman, 2000).

Carilion Health Plans became the financial integrator of Carilion's various components, such as physicians, hospitals and home health providers once managed care

plans like HMOs arrived in southwest Virginia. CHP allowed Carilion to reach out to communities and serve the population's health needs as best as possible financially, given managed care constraints (Carilion Franklin Memorial Hospital board minutes, 7/29/99). Chrisman cited an example using home health providers to illustrate how change took place to connect the various Carilion groups via CHP:

Historically, home health's incentive has been to keep seeing the patient and Carilion Health Plans is saying, well we need to change that. We need to get more home-based programs set up, more things that get the patient doing things on their own, get the patient better quicker, hopefully using less resources with the same outcomes. If this happens, Carilion still has their pot of money and if they can use less of it for one patient, they can take that extra money and put it into something else in the community, the patient still gets better faster, but it's a mind-shift change. Mind-shift changes are difficult to come by, though (Chrisman, 2000).

Some physicians joining the CHC saw the CHP corporation as a possible financial integrator and an opportunity for them financially, as well. According to Dr. William Hendricks, a Carilion physician in Blacksburg, physicians believed that CHP would be the cash cow for them if managed care came to southwest Virginia as it had to California and the Midwest, and they therefore negotiated contracts with CHC to include stock ownership in CHP (Hendricks, 2000). The Blue Ridge Group physicians who sold their practices to CHC got a guarantee in the form of stock ownership in CHP that "managed care was not going to leave them behind without a say in how health care would develop in southwestern Virginia," said Dr. Wayne Grayson, a Carilion physician in Roanoke (Grayson, 2000). The Blue Ridge Group physicians bargained with Carilion for stock ownership in CHP as a necessary prerequisite to selling their practices to Carilion. The physicians contended it was a safeguard to ensure that they would become leaders in the

movement of managed care into southwest Virginia and not just recipients of its fallout (Grayson, 2000).

Chrisman explained that CHP was so desperate to establish a large network that HMOs could purchase in southwest Virginia that they even offered stock options, not only to Carilion physicians, but initially to independent practitioners outside the CHC, as well (Chrisman, 2000). CHP solicited independent practitioners to join its preferred provider network (Quioco, 2000b). Some doctors remarked they were almost courted by CHP to join the network. By 1997 many of those doctors felt CHP was trying to control them. Dr. Larry Monahan, a partner in Carilion's Internal Medicine Associates in Roanoke said, "Doctors have seen the power of Carilion. They've seen the hospital put up clinics near private offices, such as in Vinton and North County, and were alarmed that they would be rolled over by a steamroller, so generally the doctors get on board with Carilion's ideas" (cited in Kelly, 8/31/97, p. 2A). In April 1997, CHP offered 50% of its stock to physicians in its provider network (Robertson, 1998). Chrisman recalls that CHP sold about 35% of that available stock to area physicians. Some physicians used a \$7,500 bonus that Carilion had paid to its network physicians for asking them to sign no compete contracts to pay for their stock. The bonus amount was coincidentally the amount for the minimum stock purchase (Chrisman, 2000).

According to Chrisman, only one-third of CHP's overall network of physicians bought stock (Chrisman, 2000). Some of the physicians contended that physician stock ownership in CHP constituted a conflict of interest. Dr. Monahan said:

Carilion Health Plans is a stock company that provides insurance, a service, and companies pay money to it for those services; then Carilion Health Plans contracts with doctors and sends us patients, and

we send money back. Most call that a kickback (cited in Kelly, 8/31/97, p. 2A).

Even the stock prospectus for CHP in 1996 suggested there could be conflicts of interests for physicians in their roles as practitioners, network members and/or stockholders. The prospectus also acknowledged that conflicts of interest could arise between stockholders and non-stockholders and between hospitals and physicians (Chrisman, 2000). Dr. Paul Page, a Carilion Roanoke primary care physician and Carilion Health Plans board member, noted that some of the CHP's network physicians had not been satisfied with the corporation's board structure, which gave primary care physicians more power than specialists, and that non-stockholders, mostly the specialists, had no power. Yet Dr. Page insisted the non-stockholders should not have any power. He argued:

Physicians who have bought stock in the company have put up a significant amount of money, some up to \$100,000 and have a right to expect some type of return on that. Physicians who elected not to buy, have not put any capital into the corporation, they have not put any effort in the corporation (cited in Kelly, 8/31/97, p. 2A).

Chrisman noted that CHP's networked physicians' debates over the issues of stock ownership and conflict of interests escalated by 1997. Just a few months after joining CHP, doctors learned how wrong they were about CHP being a cash cow for them. In July 1997, CHP notified its network of physicians that they would be charged a quarterly participation fee by CHP based on patient income they received from CHP contracts. The physicians were upset over the fee for several reasons. Many physicians considered the fee an increase in control and revenue over the health plans by Carilion at their expense (Chrisman, 2000). Dr. Larry Monahan said the fee was a slap in the face to the network's doctors. He said, "It's our thanks for serving on hospital committees for no

pay, for sending them patients for x-rays” (cited in Kelly, 8/31/97, p. 2A). Besides the fee, Monahan argued that Carilion’s referral policy was tedious in terms of paperwork, and the doctors were not being compensated for their time involved in filing the paperwork. Monahan rejected CHP’s claim that its network of physicians received better returns than from other insurers (Kelly, 8/31/97).

Dr. David Ellington, a Lexington, Virginia Carilion physician, said CHP operated with a “most favored nation” clause in its contracts with network physicians. The clause stipulated that if a physician with whom CHP contracts for an office visit gets a \$30 fee, but the doctor contracts with another plan for an office visit fee of \$27, then Carilion would only pay \$27 as well. Next, doctors were angered at the quarterly participation fee structure CHP imposed on physicians for patient income they received from CHP contracts: 2% for CHP’s physician stockholders and 4% for non-Carilion physician stockholders. Dr. Ellington claimed he had never even heard of non-stockholders having to assume risk in a company. Dr. Robert Rude, a cardiologist and treasurer for Physicians Care noted that the difference in fees charged to CHP stockholders and non-stockholders was a bid for control by the company or an incentive for the non-stockholder or non-Carilion physicians to become Carilion physicians. Lastly, the doctors were angered at the way the fee was tagged on to their contracts as an add-on stipulation (Kelly, 8/31/97).

The physicians, for the most part, had negotiated their contracts with CHP based on a number of considerations: 1) office expenses, 2) projected income, and 3) future expectations about managed care. Physicians saw CHP’s add-on fee to the contracts as an attempt to jeopardize their income and patient relationships. Chrisman recalled that the

fee was not just an issue for physicians; it became a matter to the physicians' patients as well (Chrisman, 2000).

Physicians were already operating their offices with more staff to take care of the increased paperwork involved in referrals, insurance and other record-keeping concerns associated with managed care, while at the same time, reimbursements to physicians had decreased. Dr. Ellington stated, "In a lot of primary care offices, overhead is 55 and 60 cents out of every dollar. A lot of people are tottering on the edge. If you add another 4%, patient services might be cut back" (cited in Kelly, 8/31/97, p. 2A). For example, Dr. Ellington noted, immunizations were reimbursed at or below physicians' costs already. For some doctors, the fees were just too much in terms of the patient control they would deliver to Carilion Health System. Two doctors resigned from CHP's network because of the fees (Chrisman, 2000).

Carilion's Don Lorton argued that the physicians "just didn't understand that CHP was doing a marketing service for them" (Lorton, 2000). Lorton insisted CHP had brought more patients into doctors' offices, and the physicians were not helping to pay for the marketing CHP was doing for them. Instead, the CHS had been subsidizing CHP since its inception. In 1996 alone, CHS paid \$817,000 in losses for CHP (Kelly, 8/31/97). Lorton believed the fees were necessary so that physicians shouldered some of CHP's financial burden instead of just the CHS (Lorton, 2000).

Dr. Dev Jarrett, chief executive officer for Physicians Care of Virginia, an independent association of a group of ten southwest Roanoke medical practices, said he believed the fees were unprecedented. Jarrett also questioned Carilion's assertion that it was providing more patients to doctors. His group alone estimated it received just 3% of

their patients from CHP. Jarrett stated, “We certainly don’t think we’re getting anything proportionate [patients] to that portion of our fee that’s being asked” (cited in Kelly, 8/31/97, p. 2A).

The fees added on to the CHP’s network of physicians’ contracts clearly illustrated the change taking place in the relationship between physicians, hospitals and insurance. Managed care was not only about networks physicians joined, their associations with hospitals, or their reimbursements by insurance carriers. Managed care concerned costs to physicians, costs to hospitals, costs to insurance, costs for marketing and costs of operations. Managed care was about reshuffling payments to others. In the case of CHP’s fees, Carilion-networked physicians, like Dr. Frank Amos, asserted they were receiving too much of the financial burden of managed care, or a disproportionate share of managed care’s reshuffling of payments (Amos, 2000). Dr. Rude, a Roanoke cardiologist and participating CHP network provider commented:

It’s a mechanism by which the businessmen who are trying to run health care are continuing to try to divide the medical community into different segments so that they can control in one way or another one group at any time (cited in Kelly, 8/31/97, p. 1A).

Dr. Rude’s group practice owed thousands of dollars under the fee structure. Dr. Paul Page, a Carilion board member and physician, argued the fees would average approximately \$300 to \$400 a month per physician office, and the fees would only be assessed to the portion of the doctor’s business accruing from the CHP’s HMO network use. CHP estimated the average practice fee would be assessed against 20% of a doctor’s business (Kelly, 8/31/97).

The Carilion physicians’ outrage over the fees and the resignation of two physicians from its network over the fee issue provoked a meeting of the Roanoke

Academy of Medicine, a professional group of area physicians who discussed the ethics of the fees. The meeting resulted in both the CHS and the CHP sending network providers another letter. This second letter, although friendlier, according to physicians, still sent the same message: the doctors would have to pay the fees to alleviate Carilion Health System's subsidizing of CHP's operational costs. The letter restated to physicians that the CHP mission remained the same: assuring that CHS and the physicians who use Carilion hospitals get their fair share of managed care contracts. The letter listed examples of other hospital-physician groups' fees and provided a compelling reason to pay the fees – CHS could lose its tax-exempt status if it continued to subsidize the CHP insurance company (Kelly, 8/31/97).

Basically, many physicians, like Dr. Jack Bumgardner, decided the fee issue came down to a control issue (Bumgardner, 2000). Dr. Ellington, a Lexington physician, said of his practice and his partner's practice, "[We] have been integrally involved with Roanoke and Carilion most our lives. My partner trained at Roanoke Memorial Hospital's family practice program. We feel a sense of betrayal" (cited in Kelly, 8/31/97, p. 2A). Lorton admitted the fee issue was about control, too. He said, "Within managed care physicians lose some of their control over patients, but someone is going to be in control. CHP is more provider friendly than some manage care organizations" (Lorton, 2000).

According to Dr. Page, CHP contracts with its network physicians were originally negotiated to pass "every dime possible from [the] insurance company to physician. Carilion paid the overhead. Now physicians are bitching because they've got to pay their fair share of the corporation costs" (cited in Kelly, 8/31/97, p. 2A). The fee structure

issue represented just one concern of managed care that Dr. Page insisted would eventually challenge CHP's network providers. Dr. Page admonished that the fees were a necessity and said, "the access fee doesn't amount to a hill of beans" (cited in Kelly, 8/31/97, p. 2A). He warned CHP's physicians to prepare for the large fight ahead – to consolidate CHP in order to compete and grow into a statewide insurer (Kelly, 8/31/97). According to Dr. Bumgardner, physicians took Page's warning seriously. They acquiesced to CHP's fee demands in 1997 and began discussing how the corporation could offer its own commercial HMO (Bumgardner, 2000).

As CHP initiated plans to sell a commercial HMO, the Lewis-Gale Hospital and the Lewis-Gale Clinic began marketing their own HMO-like contract to area employers (Kelly, 1/18/98). According to Larry Patton, president of the Lewis-Gale Clinic board, in 1998, Lewis-Gale Medical Center and Lewis-Gale Clinic in Salem, signed a joint marketing agreement signifying that the two could sell their services directly to employers, bypassing large health insurers like Trigon/Blue Shield. The hospital and clinic formed two limited-liability partnerships, Health Care Network and Medical Management Services, which created a hospital-physician health care network (Patton, 2000).

Together the Lewis-Gale Clinic and hospital employed 2,300 persons in 20 locations. Although remaining under separate ownerships, the hospital with Columbia/HCA and the clinic with PhyCor, Incorporated, expected to pool their services and departments where feasible to provide a network for local employers to purchase. The Lewis-Gale Hospital and the Lewis-Gale Clinic agreement established an organization much like Carilion Health Care, to manage its physicians in both the clinic

and hospital (Kelly, 1/18/98). “It’s a similar model, except in this case the hospital doesn’t employ physicians. Absolutely, it gives us the ability to do what they are doing,” said Lyn Brooks, executive director for the clinic (cited in Kelly, 1/18/98, p. 1A). Dr. Patton explained that the Lewis-Gale Clinic had nearly as many doctors as Carilion, which was marketing its physician group and hospitals as a package to insurance companies and employers. The Lewis-Gale Hospital and Lewis-Gale Clinic believed their new partnership would place them on more equal competitive footing with CHP (Patton, 2000).

To compete against the Lewis-Gale Hospital and Lewis-Gale Clinic partnership, CHP hurried to get its own HMO ready to market. In January 1999, CHP enrolled its first members under a commercial HMO plan. Chrisman claims that Carilion Health Plans’ HMO compared to a Trigon HealthKeepers HMO, is unique. Most HMOs, like those Trigon markets, signify that a health insurer assumes responsibility for providing comprehensive health services to a formally enrolled population (group of patients) in return for a pre-determined payment. Carilion Health Plans’ HMO does do this, but with an advantage. Carilion Health Plans via CHC and CHS, controls the network used by the HMO for most of its comprehensive health services, such as physician and hospital services. Having an HMO to market labels CHP as a managed care organization. The combination of its HMO and its network of physicians, system of hospitals and other health related services positions Carilion Health System as an integrated managed care delivery system (Chrisman, 2000).

While CHP took advantage of managed care trends to create its HMO, the corporation did not discontinue its other venues of business. Presently, besides marketing

an HMO, CHP continues to rent Carilion's network of physicians and hospitals to other HMOs like Trigon's HealthKeepers. CHP also rents Carilion's network directly to other insurance companies marketing plans besides HMOs. Carilion Health Plans' three different product lines: an HMO, a rented network to other HMOs, and a rented network for other insurance plans, appears to meet the needs of southwest Virginia's communities.

As Chrisman said:

Carilion Health Plans seems to be meeting the needs of the population here and that is what Carilion is really all about – saying what does this market need and supplying it. The southwest Virginia market is not directed at managed care to the level of some other regional markets like the Tidewater, Virginia market, and if Carilion Health Plans concentrated entirely on its own HMO, it would not be serving the southwest Virginia market and communities appropriately. Carilion Health Plans constantly asks what does the market need, because the market needs drive the product lines. We keep coming back and saying what does the market need, what makes sense for the community and for Carilion and then picking what we do.

That is the driving force for me to work for these kinds of companies [Carilion and Sentara]. They look at the community needs and say how do we meet them? What makes sense now? How do we need to move forward with the community? (Chrisman, 2000)

According to Chrisman, marketing an HMO allowed CHP to focus much more intently upon members' health than traditional indemnity-type plans or even its preferred provider organization because CHP could control all aspects of members' care. Chrisman said:

Carilion Health Plans' focus on members' health is so much greater in these HMOs than it is in an indemnity or a PPO that if Carilion is really interested in the health of a community, we have to be there. We have to be willing to figure out how to do this [HMO] right and we have to work with the doctors in our community to do it right and we are going to make some mistakes, but we think in the end we are going to come out better (Chrisman, 2000).

Chrisman recalled that the test of CHP's commitment to its managed care arm, its HMO, came in January 2000, when the Virginia Bureau of Insurance decided to change its accounting procedures for HMOs. The Bureau determined that all Virginia HMOs must mirror the National Association of Insurance Commissioner's board guidelines for insurers' admitted net corporate assets. The net admitted assets of health plan companies represented essentially all a company's financial holdings. The National Association of Insurance Commissioner's board wanted to make sure that small health plan companies, like CHP were viable, strong organizations with adequate assets behind them so that their HMOs would not go bankrupt. To safeguard HMOs from bankruptcy, the National Association of Insurance and the Virginia Bureau of Insurance changed how net admitted assets of health plan insurers were to be calculated (Chrisman, 2000).

Before the Virginia Bureau's decision to change how net admitted assets were calculated, a company's property, plant, and equipment were considered a managed care plan insurer's netted assets. These three types of assets, as Chrisman describes, "are a lot of what a small health care plan organization really is. It's your computer's main frame, things you had to buy" (Chrisman, 2000). As of January 2001, property, plant and equipment were no longer considered net admitted assets. Carilion's Don Lorton said the only asset left for most small health care plan companies was cash (Lorton, 2000). However, most small health plan companies like CHP were more heavily invested in property, plant and equipment than cash. For example, CHP had several million dollars of its regulated net assets in computer equipment (Sturgeon, 8/1/00). Chrisman described how the larger managed care insurers, like Cigna, tended to have more net admitted cash assets than property, plant and equipment (Chrisman, 2000).

The Virginia Bureau of Insurance's decision to change accounting guidelines for regulated assets had an immediate and significant impact on CHP. CHP had to decide how to acquire the additional capital necessary to meet the Bureau's guidelines. CHP's board members and stockholders met in the spring of 2000 to decide how to leverage the capital. Lorton explained that the board decided the optimum means to acquire the additional capital was for it to be contributed by Carilion Health System (Lorton, 2000).

In July 2000, CHP sent out a proxy and a prospectus to its current physician shareholders. Recalling the prospectus, Chrisman mentioned:

Here is the situation; our recommendation is that Carilion Health Plans be given the authority to buy additional stock and when they do that they will become the majority shareholder (Chrisman, 2000).

According to Dr. Amos, physician shareholders were informed that if CHS did not purchase the stock and provide CHP with necessary cash assets, then Carilion Health Plans' HMO might go under. If the HMO became defunct, the CHS in general might lose credibility (Amos, 2000). The physician stockholders agreed that the cash inflow would have to come from Carilion Health System because they themselves did not have the cash resources to generate the capital CHP needed to meet the Bureau's netted asset regulation. Chrisman stated, "It was hard for the doctors to just open their checkbooks and write another check for thousands of dollars to Carilion Health Plans" (Chrisman, 2000).

Overall, the physicians did not see the need to invest more of their own money into the HMO or CHP in general. First, the CHP had not made a profit or paid any stock dividends, so physicians had not even recuperated their original investment, much less increased their investment. Next, the CHP board, a 15-seat board comprised of both

physicians and CHS directors was not going to change in representation regardless of CHS becoming the majority owner of CHP stock after the January 2001 stock sales and transfer. CHP informed all its physician stockholders that its board would remain the same, favorable to physicians; the board was comprised of eight physicians and seven CHS representatives. Chrisman stated, “We are not changing the board. We are not changing the way doctors regain input into this. We are not changing how we do business” (Chrisman, 2000). Thirdly, as Dr. Grayson stated, “Although Carilion argued that managed care might eventually penetrate southwest Virginia as it had in California, we [physicians] no longer saw the need to be involved in the CHP, since managed care as we had originally feared, with heavy capitation and risk sharing, had not moved into the area” (Grayson, 2000).

The transaction to sell CHS an additional two million shares of CHP stock and the buyback of 50% or more of physician held CHP shares concluded August 25, 2000. As a result of that transaction, CHS became the majority shareholder, owning 80% of the CHPs’ shares. Chrisman attributed the physicians’ support in the buy-back decision to their contentment with the CHPs’ board representation. The physicians did not lose strength although they basically held no stock any longer. Eight physicians did vote to keep their stock.

Lorton said the physicians had become comfortable with the health plans environment in which they were working and were not afraid that CHP would not look out for their best interests (Lorton, 2000). As Chrisman stated:

By us going out and talking to the doctors and the doctors talking among themselves, the plan just made sense and everyone was okay with it. Maybe we are doing a better job talking with the doctors and

with the health plan than we [CHP] thought. We are not against doctors and we are really trying to make this work (Chrisman, 2000).

Chrisman believed that it all could have blown up and CHP could have faced severe turmoil with the physician stockholders who had invested so much of their own monies into the company. Instead, the physicians, for the most part, saw the selling of their shares as an opportunity to recoup at least some money from their initial investments into the corporation that had not brought any profits (Chrisman, 2000).

Even though many of the physicians, like Dr. Wayne Grayson, saw their investments in CHP as personal financial failures, the investments represented decisions most of the physicians were glad they had made, given the information they possessed when they first decided to invest in managed care in 1997 (Grayson, 2000). Most Carilion physicians were just glad managed care had not penetrated the southwest Virginia market to the full extent they feared. Dr. Hendricks claimed that the investment he sacrificed to CHP seemed a small amount compared to the uncertain financial futures he envisioned if complete managed care had taken over his market with extreme capitation and risk sharing plans (Hendricks, 2000).

Besides the selling of HMOs, CHP has another important side to its business-reimbursements to physicians. CHP's reimbursement to physicians involves a discounted-fee-for-service which works off a fee-for-service schedule. A fee-for-service schedule provides physicians with a rate or allowable cost to be collected for a medical service from the health plan. The fees are assigned based on a regional average of medical services. The 1,200 participating physicians in the CHPs' PPO and its HMO agree to a fee schedule before they join a Carilion health plan. In Carilion's health plans there is a 20% withhold of the fee. For instance, if a physician's office visit charge is

\$120 and the Carilion health plan's fee-schedule is for \$100, then the doctor receives \$80. The remaining \$20 is put in the CHPs' withholding fund. The withholding fund covers plan over-utilization. If there is money left in the withholding fund at the end of the year, then that money goes back to the CHPs' physicians with interest (Bumgardner, 2000).

Chrisman remarks that many insurers use withholding funds, along with incentives, to motivate physicians to curtail costs and become more efficient in patient management. To date, CHP does not offer its physicians incentives if they provide better services to their patients, especially for specific diseases like diabetes. CHP has discussed the possibilities of using incentives in the future. When CHP first began operations, Carilion officials believed that if it became profitable in the future and paid stock dividends, then those stock dividends would become a source of physician incentives to provide better services in order to keep their patients healthier so that plan use would remain low. Change in the ownership structure of CHP in 2000 from physician stockholders to Carilion Health System ownership, has meant CHP has to consider physician incentives in a new way. The biggest difficulty connected to a different reimbursement schedule is what to use as a measurement. Chrisman said, "You can develop all kinds of really neat measures but it costs you so much to measure it, that it is prohibitive" (Chrisman, 2000). Carilion Health Plans is currently discussing how they can perhaps use the Carilion Electronic Medical Records System (EMRS) for possible physician reimbursement and bonuses.

Chrisman believes that Carilion's EMRS may provide easier ways to measure CHP contracting physicians' productivity, because no longer will CHP have to go back and look through each individual medical record to statistically analyze data. At least for

the 150 CHC physicians contracting with CHP, the EMRS may provide a solution to physician productivity measurements. For the other 100 primary care physicians and 800 specialists who contract with Carilion Health Plans who are not CHC employees and who will not be utilizing the Carilion EMRS, measurements of their production and provision of their incentives are problematic. The EMRS may help CHP institute some new measure of payments, but it fails to provide a total schedule of reimbursements for CHP's entire physician work force (Chrisman, 2000).

CHP's contractual relationships with these other physicians, especially the specialists, are essential to its marketed health plans. Thus, finding some sort of incentive plan agreeable to those specialists is important to CHP's future. The 800 specialists do not work directly for CHC, but in a way they do work for Carilion by contracting with CHP. CHC's primary care doctors refer patients to CHP's contracted specialists, and the specialists, in turn, refer patients to Carilion hospitals. The Carilion relationship with the specialists is a unique relationship on all fronts, and one that may change considerably in the future. Lorton notes that in general, most specialists have been able to remain in independent or small group practices and work outside hospital systems or physician-management companies, but by contracting with CHP, Carilion has been able to draw together a substantial number of specialists (800) to promote greater use of specialists, hospitals, primary care physicians and health plans interactions (Lorton, 2000).

CHP, regardless of what type of reimbursement schedule it chooses in the future, must be certain the physicians think it is fair. This will mean, according to Chrisman, instituting a combination of measures that judges not just what is cost-effective or what receives satisfactory patient surveys, but, more importantly, measures outcomes of

patient health. Outcomes for physician productivity, however, are the toughest things to measure. How does one measure a physician if a patient does not get better and eventually dies from a disease? Was it because of the doctor's care, the lack of sufficient medical technologies, or the patient's own diseased state? Chrisman said CHP must come up with a useful methodology to collect the data necessary to judge outcomes. Until CHP develops a method to adequately judge patient health outcomes, it will continue using its discounted fee-for-service. Chrisman contended that the discounted fee-for-service system is working fairly well. She said:

We are not that big yet. Let's give ourselves a couple of years to grow and to learn some things and then we will move into change. Then, some of the technology like the Electronic Medical Records System may be in place to help us at that point (Chrisman, 2000).

According to Robertson, Carilion's move in 2000 to buy-back the physician shares and put \$2 million into CHP to satisfy the Virginia Bureau of Insurance asset guidelines defines clearly how important CHP is to Carilion. Carilion Health System views the CHP organization as a necessary corporate piece in its health care delivery to southwest Virginia and as a guarantee that Carilion is positioned for managed care delivery (Robertson, 2000). The commitment to include a managed care organization into CHS has been a heavy financial burden for the system, though. At CHP's inception, Carilion projected the managed care company would not make a profit until 2002.

Chrisman said:

We knew going into it, it would be five years before we could even think of becoming a profitable plan and the key to that is not only managing the patients well, but also getting enough membership. The law of large numbers is very real in health insurance. You have to have a population base to spread the risk and that is really what insurance is all about, and until you grow that population base, you know you are going to have some negative years (Chrisman, 2000).

Currently, CHP is losing more money than it anticipated, however, due to the limited market of large-group employers (companies with more than 50 employees) Carilion can sell to in southwest Virginia. But Chrisman contends that CHP will meet its projected 2002 profits, because CHP's entrance into a commercial small employer group HMO market (less than 50 employees) will increase rapidly the company's patient population base (membership). Also in 2000, Chrisman claimed, "the administrative costs for CHP are done on a per member per month basis and these are already coming down and it is just a matter of time before that figure denotes a profit margin instead of red ink for Carilion Health Plans" (Chrisman, 2000). Thornhill explained that it is essential that CHP meet its 2002-targeted profits for the system. Like the CHC, the CHP, a for-profit subsidiary, can only be funded by Carilion, a not-for-profit organization, for a set number of years before incurring legal liability for loss of profits itself (Thornhill, 2000).

Chrisman contends that CHP is achieving its managed care or HMO goals. CHP's long-term managed care goal is to work closely with its HMO population to assess their health care needs and to provide them with the right services at the right time (Chrisman, 2000). The goal of indemnity insurance was quite different. An individual or employer paid the insurance company a premium, and then the company processed the claims as they came in, but the insurance company never asked the individual how they were doing. Chrisman reflected:

When did your indemnity insurance ever do anything for you in the 1970s? With the start of preferred provider organizations, patients started being asked some health-related questions. HMOs are now trying to get fairly intimate with you. The progression of managed care to become more knowledgeable about an individual's health needs is an

attempt to bring together the right resources at the right time for an individual's care, that is the managed part of care today. Managed care is not really, well we are going to allow you to have this, but not that, although that is the common perception or media-related image of managed care today (Chrisman, 2000).

Chrisman remarked that the CHP medical director never asks what a treatment costs.

Chrisman admitted that she will ask, but the medical director will not! As Chrisman stated:

They [the medical directors] are really looking at it and saying what does this patient need and what is the right, best way to get stuff there. They are charged with really understanding the health care delivery system and knowing when, say for example home health, can do something for the patient better than putting them in the hospital and when is it that there is a drug therapy that is useful (Chrisman, 2000).

Chrisman explains that CHP has learned that to be successful in managed care they must have the right information to deliver the right kind of care at the right time in order to ultimately achieve the right operational efficiencies for their corporation to compete effectively in its managed care plans market. This does not happen unless the managed care actors: the Carilion Health Plans managers, the employers, the plan members, and the physician providers have good relationships with one another. Managed care is most often defined in business terms: dollars, costs, volume, but it is also about physicians, patients and health (Chrisman, 2000).

Carilion Health Plans encourages its members to schedule office visits with physicians to establish a relationship. Members sometime will argue "but I'll be using care," said Chrisman, and she will respond, "that is okay, go do it" (Chrisman, 2000). Once a member develops a relationship with a primary care physician, then many services may not even necessitate office visits. The physician and the patient become

familiar with one another and they may feel some issues can be handled over the phone or even via the Internet. Speaking of her own physician, Chrisman stated:

When I get a problem I know that I can call him on the phone. He knows who I am. He has made some judgment calls about what he thinks I can handle and if he doesn't think I can handle it, he says, Carolyn, why don't you come in and talk to me? (Chrisman, 2000)

If good relationships are established, then when a plan member feels like an emergency room visit may be necessary, a call to the primary care doctor could circumvent such costly services, lessen the patient's stress, and if they do not have to sit in an emergency room for hours, may foster even more patient satisfaction with their primary care provider (Chrisman, 2000).

Managed care plans are about establishing better relationships between patient and primary care physicians to disseminate information to plan members. CHP has a nurses' hotline it operates which allows members to call-in 24 hours-a-day and talk to nurses about their problems, provides tapes members can listen to about specific illnesses, and has a website. CHP has actually talked about setting up a diabetes chat room at its website for Carilion patients. CHS believes a chat room would provide an opportunity for its patient members to find information, to meet with other patients, and to voice objections and concerns about treatments. The chat room would also afford CHP the opportunity to learn about its members' needs, complaints and opinions. Chrisman argues that CHP cannot fix what is wrong with managed care unless they hear from their members, and this would be a place to air differences and share stories (Chrisman, 2000).

The immediate focus for CHP is to enlarge its member base. The member base must be large enough for CHP to have an impact on what is happening in the managed care plans market. One of CHP's challenges today is that they are a small player in a

large pond. Trigon remains the largest health care provider in southwest Virginia's health plans market (Kelly, 9/25/99). If Trigon demands that the doctors in the Virginia communities do a certain procedure, most of the doctors will, because Trigon pays 15% of their practice bills, says Dr. Elizabeth Carmichael, a retired Carilion physician in Blue Ridge (Carmichael, 2000). According to Thornhill, CHP would like to have more authority in whether specific procedures will be done or not, but must grow its member base to have that type of influence with area primary care physicians and specialists not currently contracting with the CHC (Thornhill, 2000).

CHP is dedicated to providing managed care health plans. Although managed care has not penetrated Virginia as it did in some areas, it is here and CHP must work within a managed care setting. As Chrisman related:

The market is saying let's just get rid of managed care, but the market doesn't know that it cannot afford that. You cannot afford to go back to what was there before managed care. We have to figure out how to find middle ground, where people can afford it, and yet it meets their needs...ten years ago it didn't look anything like it does today and ten from now it won't look like it does today (Chrisman, 2000).

Chrisman argued that maybe managed care would not even be called managed care in a few years since so many people despise the name. In the state of Virginia, HMOs are not called HMOs any longer. They are referred to as "M CHIPs" (Managed Care Health Insurance Plans) because so many consider the term HMO to have negative connotations (Chrisman, 2000). Regardless of whether managed care continues to be the phrase used for the American health care industry or not, Chrisman sees future health care trends toward more managed plans and utilization overview.

According to Chrisman, CHS, because of its Carilion Health Plans, stands at a crossroads in the managed care environment. CHP provides Carilion (a system of

hospitals, physician practices and other health-related products), a vehicle to deliver those services. CHP transmits Carilion's goods, services, and facilities to market (to employers). The health plans package Carilion into neat, easily identifiable small units. The plans box the system into purchasable products for consumers (Chrisman, 2000). By purchasing a Carilion health plan, an employer buys a unified network of health care facilities, physicians and services. An employer purchases peace of mind or a health benefit for her employees by purchasing a health plan. For an employee, a health benefit signifies a necessity of life – health.

CHP facilitates Carilion's marketing of its various divisions. CHP is a Carilion integrator. CHP is Carilion's managed care arm. CHP defines Carilion as a managed care organization and characterizes the system as a managed care integrated delivery system. For employers and employees, CHP facilitates their dealings within the health care world. CHP arranges Carilion Health System services into a single package, a single integrated system rather than separate services, facilities, and providers. Through CHP, Carilion arranges consumers, communities of employers and health into an effective organization to manage care.

Conclusion

Carilion's addition of the CHC, its physician management company and the CHP, its insurance and HMO organization (1992-1996) transformed Carilion from a hospital system into a managed care system. In large part, Carilion was able to accomplish its goals of developing these two organizations because the Blue Ridge Group, a community of southwest Virginia's most successful primary care practices, decided to affiliate with Carilion's CHC. Without the movement of these physicians into Carilion, the system

would not have been able to assemble a network of providers large enough for Carilion to manage care from the frontline of primary care, nor could Carilion have marketed its managed care health plans in southwest Virginia.

Combined the CHC and the CHP represented the necessary parts Carilion lacked in 1992 to become a health care system. The inclusion of the two organizations provided Carilion a means to network its system and to manage more care in Virginian communities at a time when Carilion's hospitals continued to experience declining revenues. The CHC allowed Carilion a way to draw additional patients into the system, while the CHP gave Carilion a way to sell the system to consumers. The CHC and the CHP expanded the Carilion hospital "hub-and-spokes" system. They networked Carilion's hospitals in new ways to southwest Virginia's communities. Because of the CHC and the CHP, community residents did not have to go outside the Carilion system for any type of care. Southwest Virginians could receive health plans, primary care services, hospital care and a variety of other services like home health care from one system – Carilion. The CHC and the CHP transformed Carilion into a health care system. The addition of the CHP alone transformed Carilion into a managed care system. To become a managed care system, Carilion had to offer an HMO.

By 1996, Robertson viewed Carilion Health System as a viable player in the emerging managed health care industry of southwest Virginia because of the addition of the two subsidiaries. Robertson believed if he could continue to, 1) solidify the CHC network of physicians, 2) firmly establish the CHP and continue to develop its HMOs, and 3) stave off other managed care organization encroachments in terms of hospital systems and HMOs into Carilion territory, he could further contain costs for hospital

services and maintain Carilion's advantages and opportunities in southwest Virginia (Robertson, 2000).

Even though Carilion had been successful in transforming from a hospital system to a regional managed health care system in just a few short years, Robertson believed that Carilion still needed to undergo additional transformations to become a more competitive managed care system (Robertson, 2000). Robertson noted that Carilion had to "reengineer itself" to become a fully integrated health care delivery system. Such a system would align all Carilion's system organizations into a more stable and solvent network. While admitting changes needed to occur to make Carilion economically viable in an evolving marketplace, Robertson also counted on Carilion's past successes, regional identity and established local traditions of care to aid in its future endeavor of transforming the system to compete in an increasingly managed care marketplace.

Notes

¹ See Appendix Four for additional explanation of the organizational structure of the Carilion Health Care Corporation. The organizational chart depicted for the Carilion Health Care Corporation is my own interpretation of the organizational structure based on Carilion interviews.

² See Appendix Four for additional explanation of the organizational structure of the Carilion Health Plans. The organizational chart depicted for the Carilion Health Plans division is my own interpretation of the organizational structure based on Carilion interviews.

Chapter Four

Corporate Strategies for Managed Care

Since 1995, Carilion Health System (CHS) has undergone three transformations to enable the health care giant to successfully compete within a managed care environment fraught with increased competition, less third-party reimbursements for medical procedures, and higher demands for health care system services. While the previous transformations discussed in Chapter Two and Three defined Carilion as a health care system and helped to solidify Carilion's role in southwest Virginia communities, the transformations to be analyzed in this chapter redefined Carilion's corporate growth strategies in response to managed care. The three transformations examined include: 1) CHS's 1995 reengineering program which reorganized its various facilities' operations (physician practices, hospitals, health plans, and other Carilion groups) into a corporate system-wide managed network, 2) the rebuilding of the Radford Community Hospital into a medical complex to compete more successfully against Columbia/HCA's presence in Carilion's New River Valley territory, and 3) CHS's marketing blitz over southwest Virginia (1995-2000) to gain market share from Columbia's competitive threat. These transformations tell the story of how a health care system reinvents itself to grow into a newer type of system as its market evolves. These transformations represent Latourian black boxes. Once opened, the transformations identify Carilion's responses and strategies to maneuver in the health care marketplace evolving as managed care swept through southwest Virginia. Along with the earlier transformations, these transformations exemplify corporate system building in America's health care industry. Carilion Health System and its transformations illustrate both the

subtle and swift changes health care systems have undertaken to continue their existence in the delivery of America's private medical care. The transformations are not always successful, but are always meaningful for what they show and tell readers about corporate strategies, community involvement and health care in America.

Carilion Health System Reengineers Itself

By the summer of 1994, Carilion board member Archie Cromer recalled that Carilion faced unbelievable hospital debt (Cromer, 2000). With reimbursements for hospital services from Medicare, HMOs, and insurance continuing to decline, Carilion decided to sale its Sterile Concepts. Carilion had purchased Sterile Concepts in 1984. Sterile Concepts manufactured and sold custom, sterile procedure trays that could be thrown away after each surgery to hospitals and surgery centers (Davis, 4/22/95). In 1994, Carilion's sale of its cash cow – Sterile Concepts, reduced the system's debt load from 275 to \$200 million and provided for Carilion's development of an HMO, but costs remained out of control for Carilion's hospitals (Kelly, 11/27/94).

Cromer recalled that in an attempt to further its vision of promoting quality health care that was accessible and affordable and in an attempt to decrease its debt load further, Carilion launched a comprehensive cost-containment effort in July 1994 at both its Roanoke Memorial and Community hospitals. Carilion hoped to contain costs instead of passing down hospitals' rising costs to patients and the community. Most importantly, Carilion wanted to further decrease its debt load. The program was led by a hired group of health care cost reduction consultants who worked closely with teams of Carilion employees to identify unnecessary costs of products, services and procedures in both Roanoke Memorial and Community Hospital (Cromer, 2000). Tom Robertson, the

former CEO of CHS, noted that the future of Carilion depended on how cost efficient it could become (Robertson, 2000).

All hospitals in America were doing just what CHS was doing- cutting costs because of HMO and government pressure to lower fees. As Carilion began implementing some of the consultants' ideas in 1994 at its Roanoke Memorial and Community Hospitals, however, Roanokers rebelled. People asked how could the “‘caring lion,’ the Roanoke Valley’s largest employer and the largest health care system in the state, cut jobs and services?” (Cited in Kelly, 11/27/94, p. 1A). People were losing jobs and careers; hospitals were losing services.

From July to September 1994, Roanoke Memorial alone cut staff by 113 full-time equivalents. According to Lester Lamb, Carilion board member and former Radford Community Hospital director, Carilion measures hospital staff in the form of “equivalents” rather than employees, since so many part-time workers are employed (Lamb, 2000). In 1994, Roanoke Memorial employed 2,800 full-time equivalents and the cuts were projected to take several hundred more jobs, before the cost containment effort concluded, said Houston Bell, current senior vice president of Carilion’s Western Division and former Roanoke Memorial’s president. Bell commented that CHS’s Roanoke Memorial and Community Hospitals operated above the national average with their full-time equivalents to patients (Bell, 2000). CHS had 5.2 full-time equivalents per occupied bed while the national average was 4.3. Robertson estimated that about half of the Carilion annual budget (\$434.8 million) that went into effect in October 1994 was used for salaries and employee benefits. Robertson insisted that the work force needed to be constantly reviewed for balancing resources with demand (Kelly, 11/27/94).

At Carilion's Community Hospital, positions were also eliminated. The hospital trimmed its 73 department directors to 56. In its department of nursing, the facility decreased its head nurses from eighteen to seven and terminated three of its four nurse directors. Carilion's Gill Memorial Eye, Ear, Nose and Throat Hospital in Roanoke, and its labs that operated as part of Carilion's Community Hospital began leasing out their services to other private lab companies (Kelly, 11/27/94).

Besides eliminating positions and leasing labs, Community Hospital and Roanoke Memorial found other ways to become cost effective. Stained linens were dyed by Carilion's laundry to be reused and trashcan liners were emptied and reused. The eliminations and small everyday savings meant Carilion saved \$2 million a year just at Community Hospital alone. Commenting on the efforts to control costs taking place at Roanoke Memorial and Community Hospital, Robertson declared that the changes were based on a "moderate decline in bed use, but the declines are greater than projected. The average length of stay for a patient is a day less than the average a year ago" (cited in Kelly, 11/27/94, p. 8A).

Robertson claimed two issues were responsible for the programs of cost containment and efficiency: patient capacity and management of health care in transition to greater managed care and outpatient services. Although in 1993-1994 both Roanoke Memorial and Community Hospital had a greater percentage of hospital beds occupied than most American hospitals, outpatient services were increasingly providing a larger portion of their revenue (Robertson, 2000). On average, patients used to spend a week in Carilion hospitals, but by 1994 were spending 48 hours or less, recalled Cromer (Cromer, 2000). Once the main source for hospital revenue, patient days were by 1994 in

significant decline (Robertson, 2000). The number of patient days at Roanoke Memorial in October 1994 was 17 fewer than in September of that same year (Kelly, 11/27/94). Patient days are defined as occupied beds multiplied by days, according to Dr. Edward Murphy, current CEO of CHS (Murphy, 2000).

As the patient capacity of hospitals was changing, so too were the techniques to manage hospitals. Once the delivery of health care shifted from long patient stays and large numbers of hospital beds to fewer hospital patient days and outpatient services, Carilion's concern became how to manage that transition. In 1994, Robertson said, "It's easy to figure where we need to be in the year 2000 and hard to figure out how to do that" (cited in Kelly, 11/27/94, p. 1A). Above all else, Robertson insisted that further changes had to be made to Carilion's "hub" centers in Roanoke: Roanoke Memorial and Community Hospital and would most likely have to come to all CHS "spoke" hospitals if they were to survive in the environment of managed care. Robertson's words seemed to echo the America Hospital Association's (AHA) concerns about hospitals. The AHA noted that between 1990 and 1993, 675 community hospitals closed, and they estimated American hospitals still had an excess of over 200,000 hospital beds in 1994 (Kelly, 11/27/94).

While Carilion went about cutting employees' pay, changing services, and making employees reapply for jobs at Roanoke Memorial and Community Hospital to make its facilities more cost-efficient, the same Carilion employees watched as a \$55 million south pavilion addition opened at Roanoke Memorial. Disgruntled employees also watched as Carilion spent money to enlarge its system of hospitals. In May 1994, an alliance with the Tazewell Community Hospital (managed by Carilion since 1981), the

Bluefield Regional Medical Center and the Carilion Health System formed to meet the different levels of health care needs in the medically underserved area of rural Tazewell. Under the arrangement, CHS and Bluefield Regional Medical Center agreed to invest \$1.5 million in the region's health care in exchange for partial control of the Tazewell Community Hospital's board. For Roanoke Carilion employees losing their jobs through cuts, the Tazewell Community Hospital and Bluefield Regional Medical Center agreement did little to lessen the blow of their losses. Even more discouraging for Roanoke Carilion employees who lost their jobs was the fact that their sacrifices were still not enough (Williamson, 5/11/94).

At the close of 1994, CHS realized its cost-containment and cost-efficiency programs in place at Community Hospital and Roanoke Memorial were not adequate to offset losses of hospital revenue. In the same year, Robertson began making plans to initiate a system-wide reorganization of Carilion. In May 1995, Robertson announced Carilion would reduce annual expenses by \$36 million (9% of its budget) to compensate for an anticipated 9% decrease in hospital revenues over a two-year period (Kelly, 5/20/95).

By the spring of 1995, Carilion board members, such as Cromer, admitted that they feared that over the next four to eight years, CHS could see declining revenues of as much as \$70-134 million and insisted that Carilion had to trim its costs and save at least \$75 million over the next eight years to remain financially viable (Cromer, 2000). Aware of the unrest among Carilion employees and southwest Virginia residents over the loss of some hospital services, Robertson held a news conference in May 1995. At the news briefing, Robertson stated, "Carilion recognizes that its health is of special concern to the

Roanoke Valley, where it employs 5,600 workers,” but the system has to trim costs or else face closing some of its hospitals (cited in Kelly, 5/20/95, p. 1A). By 1995, Carilion operated 13 hospitals and employed 7,300 employees system-wide in southwest Virginia (Kelly, 5/20/95). If Carilion failed financially, so would the economy and communities of many southwest Virginia areas.

Robertson believed Carilion had to “reengineer itself” to accomplish its goals (Robertson, 2000). Robertson acknowledged that the business of managing care was becoming too complex with too many players, and while Carilion needed to compete, its attempts to play on all sides of managed care at once were costly. Robertson remained firm, however, in his commitment to approach managed care on all levels. He maintained that Carilion’s business and future was growing outside its hospital walls (Hoke, 10/18/95). Carilion had no choice but to get its costs under control if it was to participate in the managed care industry at the level it was attempting to operate: a hospital system, a physician network, a health plans division, a nursing home care service, a home health service network- a sort of womb to tomb all-encompassing care. In 1995, when its reengineering program commenced, Carilion reported the following information: CHS employed 7,700 full-time-equivalent employees and had 715 affiliated physicians. It had revenues of \$436.2 million in its 1994 fiscal year and had budgeted \$457.4 million for its 1995 fiscal year (Hoke, 10/18/95).

In March 1995, 75 Carilion employees formed a steering committee chaired by Don Lorton, a Carilion senior vice president and chief financial officer, to chart the course to reengineer the system (Lorton, 2000). The committee worked with the William M. Mercer Company, an international management consultant group, to organize

Carilion's reengineering program (Kelly, 5/20/95 and 1/27/95). In June 1995, the steering committee unveiled a plan to reengineer CHS. The strategy involved a number of steps which were outlined in a newsletter to all Carilion workers. Teams of employees were chosen to develop plans of action to carry out the cuts and changes to the system's operations. Figure 7 contains a chart summarizing the key points of Carilion's reengineering strategy.

Figure 7: Carilion's Re-Engineering Program (1995)

CARILION Re-Engineering Program	
1.	Plan will take a minimum of four years to complete.
2.	In first six months of program, sell excess of the 160 pieces of real estate Carilion owns.
3.	Keep Roanoke Memorial and Community Hospitals open.
4.	Use excess hospital space to provide sub-acute services, such as nursing-home level beds.
5.	Consider consolidating services, such as day-care facilities, that are now scattered at several sites.
6.	Reduce and restructure management; consider if a particular function that takes place at several facilities should be under one corporate-wide manager rather than under several managers as now.
7.	Reduce staff by attrition if at all possible.
8.	Put retraining mechanisms in place and offer retraining for anyone who wants it.
9.	Consider making fewer varieties of drugs available to doctors to prescribe, but save on costs because of volume purchase.
10.	By end of 1995, move from merit pay system to pay-for-performance.

(Kelly, 5/20/95, p. 1A)

The first step in Carilion's reengineering plan was to develop standards for clinical procedures in order to get patients well faster and cut costs in patient care at all Carilion hospitals (Kelly, 9/10/95). In 1994, Robertson implemented and approved some of the standards that the health care consultants who came and worked with Community Hospital and Roanoke Memorial Hospital personnel had said needed to be done. The

standards proved cost effective at both facilities and, therefore, were passed on to other system hospitals in 1995 (Kelly, 11/27/94).

Step two involved selling properties the system did not need for health care. Curtis E. Mills, a Carilion senior vice president who was placed in charge of the sell-offs, said, “The move is part of the health care company’s reengineering to concentrate on its core business and is not the result of any financial distress” (cited in Poff, 9/30/95, p. 6A). All of the properties had been assessed to determine a fair market price, and they were not going to be sold unless acceptable offers were received. Carilion identified 25 properties as surplus properties, unnecessary to its health care business. All of the 25 properties were located in Roanoke, and were a mix of both residential and commercial real estate (Poff, 9/30/95). Some of the properties were prominent structures, such as Cherry Hill, a south Roanoke mansion that once housed the Roanoke Valley’s fine arts center (Poff, 6/6/95). Other properties included in Carilion’s sale were the old Rockledge house, an estate near Roanoke Memorial Hospital and the historic Wellington Apartments in downtown Roanoke (Poff, 9/30/95). The asking price for just one of those properties, the Cherry Hill mansion, was \$1 million (Poff, 6/6/95).

Some of the properties were unused commercial space, such as the former office of Dominion Health Services near the Community Hospital. The properties for sale included nine single-family homes, seven duplexes, one triplex and three apartment buildings. Most of these residential properties were being used to house medical students and residents in training at Roanoke Memorial and Community Hospitals (Poff, 9/30/95).

Robertson recalled that the third step in the Carilion re-engineering strategy was to make certain both Community Hospital and Roanoke Memorial would remain open.

Although the burgeoning emphasis on managed care, with medical services increasingly being delivered in outpatient and home health care settings, had decreased inpatient hospital stays and increased hospital facility capacity, neither Roanoke Memorial nor Community was large enough to handle the patients of both. To compensate for Carilion's having to operate both facilities as acute care hospitals, the re-engineering plan continued to mirror Carilion's 1994 plan to use the hospitals' excess space in non-traditional ways (Robertson, 2000).

One of Carilion's solutions for its excess beds at both Roanoke Memorial and Community Hospital was to provide sub-acute beds in the Roanoke Valley for patients needing less care than normal in hospitals, but more care than traditionally received in nursing homes. These sub-acute beds were in high demand in the Roanoke area, which had only two nursing home facilities that operated sub-acute beds. The beds generated less income than regular beds for the hospitals, but at least it was income. Fortunately, the beds required less staff than traditional hospital beds, which meant less Carilion labor expenditures (Kelly, 11/27/94).

In 1994, Carilion had asked the State of Virginia to license 20 beds in Roanoke Memorial and Community Hospital each as sub-acute beds. Recognizing that this was only a short-term fix to Carilion's oversupply of beds, Robertson said, "Converting beds is not a long-term answer, however. Neither is just cutting staff. There is a balance you have to achieve" (cited in Kelly, 11/27/94, p. 8A). Robertson remarked:

On any given day, half the hospital beds in the valley are empty. The average daily patient census at Roanoke Memorial Hospital, its largest, is down 15% from a year ago. And because 50% of Carilion's business comes from Medicare patients, the hospital census could drop even faster if senior citizens opt for health maintenance organizations as they have in states like Florida. HMOs, which closely monitor health care

use and costs, have been popular with senior citizens because they eliminate the need for a supplemental insurance policy that costs about \$125 a month. All our facilities and training are geared toward in-patient. We need to refocus (cited in Kelly, 5/20/95, p. 2A).

Robertson believed Carilion could not grow beyond its 70% market share in the Roanoke Valley; therefore, it had to generate new uses for its hospital space. The excess hospital space would be used to provide sub-acute hospital services, more outpatient service areas and more room for community-based programs (Hoke, 10/18/95).

The next step in Carilion's reengineering program involved an attempt to further consolidate services that were being supplied at various sites and to sell businesses not directly related to Carilion's health care. On February 1, 1995, Carilion merged its Roanoke and Radford psychiatric facility operations into a more centralized effort. Carilion also consolidated laboratories at three of its hospitals (Radford Community, Roanoke Memorial and Community Hospitals), under a new subsidiary called Consolidated Labs. The consolidated facility was projected to save Carilion at least \$1 million a year in laboratory operating costs (Kelly, 1/26/95).

According to Robertson, the impetus for the laboratory consolidation was "we need to get costs down to compete with commercial labs" (cited in Kelly, 1/26/95, p.7A). When a Carilion hospital became part of a provider network for Health Keepers and Heritage Healthplan's HMOs, Carilion did not get the companies' lab business, because the managed care companies had more lucrative contracts with other labs. "We took business out of our own hands," Robertson said. "Therefore, Carilion Health System had to consolidate the labs to compete for its own lab business" (cited in Kelly, 1/26/95, p. 7A).

Carilion's consolidated lab did not completely eliminate the in-hospital labs. Each hospital was still staffed with a pathologist, had a blood bank, and continued to do tissue tests and tests needed for emergency situations. The consolidated lab resulted in savings, because it was able to do common tests on fluids like blood and urine in large batches. The new company absorbed 60% of the lab work done at Memorial, 38% at Radford and 49% at Community. In addition to savings on personnel costs, the Carilion Consolidated Lab saved on equipment, transportation and courier costs. The large combined lab also attracted more outside business (Kelly, 1/26/95).

Carilion did not stop with just its lab business. It informed the College of Health Sciences in Roanoke, which it owned, to look for new ownership early in 1995. CHS sold also its Presort Express, a mail sorting company, created in 1992 to serve Carilion and other outside clients' medical mailing businesses (Kelly, 9/17/95). In July 1995, CHS told management at its Roanoke Downtown Learning Center, a childcare facility, that it would stop subsidizing the center. Carilion gave \$30,000 a year to the center for its operations, since most of its children belonged to Carilion workers. The potential closing of the childcare facility fueled much unrest and turmoil among Carilion's Roanoke employees. Many questioned when the cuts would end (Kelly, 7/21/95).

The next phase initiated by Carilion was the newest initiative for the system to date in its attempt to become more cost-efficient. The strategy involved a reduction and a restructuring of CHS management from a facility management model to a service-lines management structure. Traditionally, Carilion's hospitals, like most hospitals, had organized management in a hierarchy within each facility. As hospital organizations and health care systems began to dominate the health care industry, this management model

proved costly and unsatisfactory for system decision-making. Searching for new models to structure hospital management functions within systems seemed difficult. But soon health care industry executives were taking their cue for management change from what appeared to be an unusual source – the giant retailer – Wal-Mart. Wal-Mart groups its managers not by facilities, but by service-line duties that permeate the entire Wal-Mart chain, according to Phil Board, a Wal-Mart manager (Board, 2000). According to Board, service-line management meant that services (departments) for all Wal-Mart stores are organized corporately, instead of by each individual Wal-Mart location. For example, all the management functions surrounding the Wal-Mart grocery business is handled at the corporate level, not within a particular store (Board, 2000). Carilion, like other health care systems and hospital organizations, began to see how service-line management, instead of facility management, could save dollars and negate overlap of management of services to improve Carilion's financial efficiencies and the use of resources and personnel. Robertson estimated the change in Carilion's executive management would save the system over \$5 million a year (Kelly, 10/19/95).

Carilion projected the change from facility managed to service-line managed facilities would result in one-third of the total \$75 million the Carilion Health System needed to cut operating costs in the next five to eight years (Kelly, 10/19/95). Carilion began using a system-line management approach in January 1996. According to Houston Bell, a Carilion executive senior vice president, the change meant ten out of fifty senior-level management positions were eliminated immediately (Bell, 2000). Another 125 lower-level management positions were cut by 1997. The terminations were the first forced reductions in Carilion Health System's employment history.

The change collapsed eight levels of management into five. Robertson noted additional layers might be removed later (Kelly, 12/2/95). Robertson, in speaking about the cuts warned, “Cutting these top management jobs is like picking the low-hanging fruit and that further cuts won’t be as easy” (cited in Kelly, 10/19/95, p. 8A). The new plan organized CHS’s service lines into the following five areas:

- 1) Patient services, primary care, cardiac, community-based, medical surgical, oncology, orthopedic, psychiatric, pediatrics, women’s services, sub-acute
- 2) System services including food, health records, pharmacy and the management of Carilion Health System hospitals it affiliates with but does not own
- 3) Medical Education and Clinical Effectiveness Services
- 4) Strategic Planning, managed care, information and marketing services
- 5) A Regional Western Division including Radford, Giles and western Virginia areas and Carilion’s Human Resource Department

A director, known as an executive senior vice president, headed each service line. These five service-division senior executive vice presidents reported directly to Robertson (Bell, 2000). Under the new structure, management responsible for a particular service, such as women’s services, oversaw the service throughout the hospitals owned or managed by CHS. Carilion’s service-lines management converted an organization with a collection of separately operated facilities into a system with divisions defined by the services delivered.

Under its new service-line for patient services, Carilion employed nine medical directors, alongside the senior vice president, to oversee the operations of patient care. Carilion required these physician-directors also to continue their clinical practices. The placement of physicians in leadership positions within the system was an important “landmark” decision for American health care systems (cited in Kelly, 2/20/96, p. 5B).

Robertson said that Carilion wanted to make sure it had a physician at a big decision making level in the organization. He stated, “To get to the next step of where we want to be competitively, we need to look at ourselves more as a system than a collection of hospitals. It will allow us to become more patient and customer focused” (cited in Hoke, 10/18/95, p. 1).

According to Dorman Fawley, executive vice president for Carilion’s new service-line of patient services, the placement of doctors in system management “Puts teeth in the concepts of teamwork and collaboration, the platitudes we talk about” (cited in Kelly, 2/20/96, p. 5B). Carilion’s medical services were divided into ten service-lines:

- 1) Cardiology
- 2) Oncology
- 3) Primary Care
- 4) Women’s Services
- 5) Medical/Surgical Services
- 6) Orthopedic
- 7) Pediatric Medical Education/Pediatric
- 8) Emergency Services
- 9) Psychiatric Education/Psychiatric
- 10) Rehabilitative Medicine/Sub-Acute Services (Cromer, 2000)

Carilion added a medical director to oversee home health/community-based services two years later (Cromer, 2000). The plan to develop medical service lines and to place physicians in top management positions represented an effort to provide a consistent quality and level of services throughout the Carilion System of facilities and to give physicians a sense of belonging. Dr. Randall Falls, the new medical director for women’s services said:

I see a real transition occurring in health care, and I know that a lot of physicians are afraid of it. I can’t say I’m not a little scared myself, but I see it as a way to have some input into changes instead of waiting for them to sweep me over. There is some self-interest. But I see a real

need for doctors to be fiscally responsible; there has been a lot of waste in the system in the past (cited in Kelly, 2/20/96, p. 5B).

Dr. Falls, an Ob-Gyn at Carilion's Community Ob-Gyn Incorporated Group in Roanoke, headed a team of physician volunteers who had worked to eliminate waste and costs for the Ob-Gyn group. The team compiled a standardized physician order for post-operative care for Caesarean deliveries and eliminated several unnecessary laboratory tests (Kelly, 2/20/96). Falls said working with a team to standardize those physicians' orders piqued his interest in becoming a medical director for one of Carilion's service-lines. He insisted that medical directors working with physicians' committees and teams could help design procedures to assure consistency and cut costs for the Carilion system overall (Kelly, 2/20/96).

Matthew Perry, Carilion hospital administrator for Franklin Memorial Hospital (FMH), explained how the new system worked: underneath the five service-line vice presidents and the medical directors for medical services were 43 new senior managers who had system-wide responsibilities for their respective areas. The managers answered to the senior division executive vice president directly above them. Carilion's hospitals, in turn, had on-site directors, who also performed other system duties (Perry, 2000).

Cromer recalled that previously, each of the Carilion hospitals had an on-site administrator/director who reported to the hospital president or chief executive officer. Carilion's restructuring of management from a facility-based approach to a system-wide one eliminated the position of hospital presidents and placed a hospital director at each Carilion facility. Hospital directors were paid less than hospital CEOs or presidents (Cromer, 2000). Instead of managing just hospitals, the new ranking administrators were placed in charge of the ten patient service-lines. The administrators shared management

responsibilities for the service-lines with the medical directors and a case manager who allocated resources for each service line (Hoke, 10/18/95). Most of Carilion's restructuring program toward a service management team was accomplished initially through attrition (Brian Kelly, 6/1/95). As the new system with its five senior levels of services and its 40 to 45 positions of senior management were outlined, employees in the system whose jobs were no longer the same, had to reapply for the new positions, noted Janice Holland, FMH supervisor of patient-access services. Holland who had been with FMH since 1956, recalled having to reapply for a position with the hospital in 1995. She had to fill out applications, put together a resume and interview to assume the same position she held. Holland said, it was very stressful and created a lot of worry in her life (Holland, 2000). CHS did offer training and/or retraining for those employees who were seeking the new positions (Kelly, 10/19/95).

To better understand how a single enterprise fits into the Carilion service-line system and management team structure, we look at one organization, the Carilion Health Plans (CHP) group. When asked how CHP links to the Carilion Health System overall, Carolyn Chrisman, CEO for CHP stated, "We try to figure that out every single day" (Chrisman, 2000). From a reporting perspective for CHP operations, Chrisman defined the following relationships for CHP vis-à-vis the Carilion Health System.

The CHP's CEO reports directly to both the chief financial officer for CHP and one of Carilion's five vice president members of the Senior Leadership Team level. The senior vice president then reports to the chief operations officer (COO) for Carilion's day-to-day operation and the COO reports to Carilion Health System's chief executive officer (CEO).

CHP's CEO, who is also a member of one of the Senior Management Teams, attends all Senior Management Team level meetings, which consists of 40 to 45 people. These meetings provide the CEO with awareness and feedback from senior management in all Carilion Health System organizations and operations. For example, the meetings connect the hospitals, Carilion Health Care Corporation (CHC), home health and all the other various Carilion enterprises to formulate what issues CHP should be concerned about in its operations. In turn, it is the responsibility of the CHP's CEO to inform the Senior Management Team group about opportunities and issues that come available to CHP that will impinge on other Carilion operations (Chrisman, 2000).

The Senior Management Team also works with the Carilion physician committees that are composed of Carilion hospital staff and CHC employees to define issues relating to various Carilion groups. An important issue that the Senior Management Team and Carilion physician committees are currently working through is disease management programs. The various groups comprising the Senior Management Team are interested in determining how Carilion should take care of a patient who has diabetes, a chronic, long-term illness (Chrisman, 2000). CHC physicians have their own set of ideas, based on their electronic medical records, for developing a program for chronically ill patients. The CHP has its own ideas and so, too, do the hospitals. The physician committees and the Senior Management Team attempt to find commonalities that will provide solutions, promote growth for all Carilion organizations, strengthen the system as a whole, and generate the most quality of health return for a community's population. Linking various Carilion organizations together and finding common ways to operate without duplicating services, without excess operations, is the most difficult task for Carilion and the basic

reason to have Senior Management Teams that connect all the various members of Carilion Health System together to communicate, said Don Lorton, Carilion executive vice president for Strategic Services (Lorton, 2000). Chrisman reinforced Lorton's comments. Chrisman added:

We [Carilion organization] could all run successfully little separate companies and they could just keep on going and never talk to each other, but it is that linkage that is going to make a difference. It is the linkage that is going to make a health system-based plan survive over a Trigon or a Cigna because that is the thing that we can bring to the table and do that Trigon or Cigna can't do. Trigon or some other managed care company cannot come to Carilion home health and ask for a senior-level management team meeting. There is an adversarial role there. Trigon must pay Carilion for any services it wants and they, of course, will only pay for what they think is appropriate. While Carilion, on the other hand, wants to get as much reimbursement as it can for its services, therefore it is in Carilion's [best interest for its various organizations] to come together and solve problems as a whole system, not as separate corporate entities (Chrisman, 2000).

Chrisman insisted that by bringing together its Senior Management Teams doctors, home health employees, and the Carilion insurance agents, Carilion makes better decisions for its separate divisions, the CHS overall, and ultimately for the patient. It is, however, a daily challenge, according to Chrisman, to link and communicate with the disparate Carilion Health System groups (Chrisman, 2000).

Although Carilion's incorporation of Senior Management Teams and service-lines seemed to work to link its various organizations together, not all of Carilion's reengineering programs worked as well. The last two steps Carilion instituted as part of its reengineering strategy: to allow fewer varieties of prescription drugs on its physicians' formularies and the move from a merit pay to a pay-for-performance system for most employees, meet with strong resistance from much of the Carilion work force. In the case of the prescriptions, Dr. Amos, a Carilion physician in Rocky Mount, recalled that

Carilion believed that by making fewer varieties of drugs available for doctors to prescribe, the system could save on costs because of volume purchasing of drugs. Physicians resisted because they contended that this type of control jeopardized patient care. As for the installation of a new pay system, Carilion believed it could save money and promote greater productiveness among its workers with a pay-for-performance system, but Carilion's professional employees, especially the physicians, disliked the change. Physicians said they were "seeing as many patients as possible, and paying for more patient visits was not going to change their practices, but it could affect patient care" (Amos, 2000).

The following account provides an analysis of one of Carilion Health System's re-engineering programs that went awry for them, fostered unrest in Carilion's nursing units and posed concerns among Carilion personnel and communities about the system's quality of patient care. As part of its reengineering, CHS standardized its nursing functions in 1996 so that nurses traveling among the system's owned or operated hospitals or within various hospital departments could do the same job, the same way ("Standardizing jobs lets nurses work anywhere in a system," 3/15/99).

Becky Richardson, head nurse of Carilion New River Valley Medical Center outpatient surgery services, said, standardization of nursing jobs allowed for a more mobile staff, gave managers more flexibility in staffing and decreased Carilion's need for nursing staff (Richardson, 2000). Overall, the implemented standards or "best practices" as they were called, were believed to improve care because staff members could work quickly in new environments, noted Connie Sherman, nurse in Carilion New River Valley Medical Center's progressive care area (Sherman, 2000). Carilion nurses learned,

however, that the quality of care was not necessarily better with the “best practices” program. In Roanoke alone, Carilion’s “best practices” program, along with some of its other reengineering strategies, had cut 350 jobs from June 1995 to June 1996, and many of those jobs had been nursing staff positions at Roanoke Memorial and Community Hospital. Nurses at Roanoke Memorial argued that by 1996 the shortage of nursing staff at the hospital was so critical that patient safety had been compromised. Roanoke Memorial Hospital lost so many nurses that some nurses insisted they were too short staffed to watch patient monitors at nurses’ stations in the “step-down” units as regularly as they should. Carilion “step-down” units are hospital areas designated for patients requiring special attention, but not at the intensive care level (Kelly, 11/17/96).

Nurses argued that Roanoke Memorial was so thinly staffed that on an evening in October 1996, one unit with 26 patients had only one nurse on duty (Kelly, 11/17/96). The nurses were also worried that Carilion was hiring less experienced, untrained staff to do professional nurses’ jobs. Facility emergencies resulted due to changes made to Carilion hospitals’ nursing staffs. Changes to nursing jobs included standardization of compensation for on-call status and weekend work for Carilion nurses and mandatory overtime, which meant decreases in pay and longer hours. Some of Roanoke Memorial’s nurses were working mandated 16-hour shifts three times a week as a result of the new standardization guidelines. Mandatory overtime meant the nurses had to work a certain number of extra hours per week if asked, or jeopardize their positions. Even the doctors at Roanoke Memorial complained to hospital administration that the ratio of nursing staff to patients was too low (Kelly, 10/29/96).

By October 1996, conditions had deteriorated to the point that Roanoke Memorial's nursing staff began to talk with labor unions. The nurses discussed their situation with the Kentucky Nurses Association, an affiliate of the American Nurses Association. The American Nurses Association, although not a union, does allow its member units collaborative bargaining services. Next, Carilion nurses met with the Service Employee International Union, which represents about 400,000 health care workers in the United States and Canada. Lastly the nurses were in touch with the United Mine Workers, who represent hospital and nursing home workers in some areas of Virginia (Kelly, 10/29/96). Patricia Tanner, an organizer for the Kentucky Nurses Association, complained after her visit with Carilion nursing staff, that the level of patient care at Roanoke Memorial was being jeopardized by nursing problems and was below acceptable standards. Tanner said, "Articles are being written saying that nurses are being resistant to change. Nurses are accustomed to change. They are extremely efficient in moving through technology, but never have they been asked to do so much with so much less" (cited in Kelly, 10/29/96, p. 2A).

It appeared as though the situation might actually worsen in the fall of 1996, when Carilion announced more workers, including nurses, would be required to reapply for redesigned jobs in the next few months, while CHS instituted a new patient care system. The new patient care system was another Carilion strategy to reduce the number of professional, better paid employees who were involved in patient care to decrease hospital costs. The Carilion Care Model was based on a similar plan used by the University of Pennsylvania Health System in Philadelphia. The plan was used at the four hospitals the University of Pennsylvania Health System operated and in its primary care,

home care and hospice programs. The University of Pennsylvania Health System used professional staff and unlicensed workers to establish an assembly line of “best practices” for treating specific illnesses and conditions (“Standardizing jobs lets nurses work anywhere in a system,” 3/15/99).

Carilion’s patient care system teamed a registered nurse with other less-skilled workers who took on more patient responsibilities (Kelly, 10/29/96). In Carilion’s patient care system, a registered nurse leads a group of non-certified assistants who are assigned duties such as insertion of needles to start intravenous liquids or medications and insertion of catheters for urine capture. These jobs were previously the responsibility of licensed nurse professionals only (Kelly, 11/17/96).

Some Roanoke Memorial Hospital nurses argued that the new in-patient care model resembled a “military medicine model,” which represented a team approach relying on both skilled and unskilled staff to treat a “young, fairly healthy group” of patients, unlike the very sick patients coming to Roanoke Memorial (cited in Kelly, 11/24/96, p. 8A). Roanoke Memorial nurses feared that the new patient care model, using unlicensed workers as part of a team approach to patient care, could place a nurse in the position of jeopardizing her license. If a nurse assigned care to workers who were not trained to handle specific circumstances, such as feeding a patient, the nurse could be held responsible for a mistake. Nurses noted that if a patient had just had a stroke, feeding was not a simple task and could require training on the part of workers, because the patient could choke or aspirate food (Kelly, 12/15/96).

Carilion’s new patient care model using teams of unlicensed, uncertified workers placed licensed nurses in an uncomfortable situation in terms of their training, career,

licensing, and ethics. Beth Cullum, vice president of nursing at CHS and the mastermind behind the patient care reorganization, seemed unconcerned about the nurse's complaints, however. Cullum said, "Nurses spent more than 40% of their time on tasks that could be delegated to less-skilled workers" (cited in Kelly, 4/24/97, p. 1C). As a result of the nursing staff's concerns and Carilion's unconcern about their complaints, 300 to 500 nurses and other Roanoke Memorial Hospital employees signed union cards in 1996 (Kelly, 10/29/96).

Carilion's reengineering to decrease hospital beds and its curtailment of Roanoke Memorial's nursing staff created a dilemma for CHS. During the last week of October, 1996 Roanoke Memorial, which had so desperately wanted patients, had to turn away patients. Carilion informed the Roanoke Emergency Medical Services Workers, who brought patients to the hospital, to transport the patients to Columbia's Lewis-Gale Medical Center because of its shortage of staffed beds (Kelly, 10/31/96). In fact, matters got so acute that David Hoback, district chief of the Emergency Medical Services, instructed his emergency workers to call Roanoke Memorial before patient transport to make certain the hospital could take more patients (Kelly, 10/31/96).

Not only was it becoming difficult for patients to get into Roanoke Memorial, even those patients already there were having problems receiving services. Some surgical patients spent extra time in the recovery room due to understaffing (Kelly, 11/24/96). Carilion did not want to admit it had a problem. Carilion's response to Roanoke Memorial's recovery room patient delay was "that since the recovery room is staffed around the clock, quality patient care is maintained" (cited in Kelly, 11/24/96, p. 8A). Reluctantly, faced with the embarrassment of sending its patients to Carilion's top

competitor because of a lack of staffed beds and with the prospect of Roanoke Memorial's nursing staff being worked by unions, CHS decided in November 1996 to slow down some phases of its reengineering schedule.

In particular, Carilion decided to halt its plans to go ahead with implementation of its Carilion Care Model, the Patient Care System, which assigned a team of both licensed and unlicensed nursing services to a patient's care. While agreeing to halt the plan in most of its 45-hospital nursing units at Roanoke Memorial, Carilion announced it would initiate the Patient Care System in four units at Roanoke Memorial and Community Hospital during December 1996 and January 1997 (Kelly, 11/17/96). Eighteen of the 45 nursing units were scheduled to change to the new plan by 1997. The Carilion Care Model had first been used at the Carilion Bedford County Memorial Hospital since early 1996 with mixed reaction, noted Shirley Kennedy, a Bedford County Memorial nurse in recovery services (Kennedy, 2000).

Besides halting its Care Model plan, Carilion began to hire a temporary nursing service to help meet the staffing shortage and agreed to create ten new nursing positions. Over one hundred of the Roanoke Memorial and Community Hospital nursing staff that had been training for the new patient care system also were returned to their units for service (Kelly, 11/17/96). According to Kennedy, some nursing staff gathering at a collective bargaining information meeting in November 1996 remarked that the changes were merely a way to calm down the nurses without really settling the issues of quality of care for patients and shortage of certified staff that the new Patient Care System would entail (Kennedy, 2000). Some nurses were especially upset that Carilion continued to

install its Patient Care System in other hospitals at the same time it halted implementation of the system at Roanoke Memorial Hospital.

By April 1997, Beth Cullum, vice president of nursing at CHS and the initiator of the in-patient care-reengineering program for nurses, resigned (Kelly, 4/24/97).

Robertson insisted that the Patient Care program continued to be implemented, but at a slower pace. Meanwhile, Robertson acknowledged the concerns of Carilion's nurses and initiated steps to insure nursing staff was always listened to by Roanoke Memorial and CHS management on the subject of maintaining quality patient care (Kelly, 11/17/96).

Beginning in 1997, Carilion nurses, along with the Virginia State Board of Nursing, helped to develop guidelines to help nurses determine the proper roles of non-certified assistants so that nurses would know when it was legal to assign duties like feeding stroke patients (Kelly, 12/15/96). Kennedy commented that CHS has faced subsequent problems with staffing in some hospital areas at different times (Kennedy, 2000). In 1997, Carilion Roanoke Community Hospital failed to meet the qualifications for a surprised Neonatal Intensive Care Unit inspection performed by representatives of the Virginia state's Center for Quality Health Care Services and Consumer Protection.

Acting on anonymous complaints, the group made an unplanned inspection at Community Hospital April 15-18, 1997. The representatives reviewed the hospital's records for its Neonatal Intensive Care Unit from March 1-14, 1997 and found that the unit did not meet state staffing requirements (Kelly, 8/27/97). "The State recommends that there be one nurse for every two to three patients in the Neonatal Intensive Care Unit and one nurse for every three or four patients in the intermediate care area. Sixty-seven, eight-hour shifts failed to meet the standards," according to a state inspection team (cited

in Kelly, 8/24/97, p. 4B). The representatives also found that the unit failed to meet its own quality assurance program requirements. For example, the group found dirty equipment and cluttered areas. In two previous inspections, in December 1996 and March 1997, the hospital had been cited for dirtiness and clutter. In the April 1997 surprise inspection, Community Hospital was cited for failing to take corrective action to meet its quality assurance programs. Community Hospital blamed the problem on an increased patient load. They argued patient count was up 48% over 1996 figures for the Neonatal Unit (Kelly, 8/27/97).

The account of Carilion's movement to standardize its nursing units is just one of many which can be told about the difficulties of instituting the Carilion Reengineering Program from 1995 to 1998. One Carilion board member, Sid Mason, said the reengineering process was a tremendous financial burden and organizational disaster, but Robertson had so much money invested in the program that "they just went ahead with it" (Mason, 2000). According to Janice Holland, who is in charge of patient services at FMH, besides the huge amounts of money Carilion invested in teams of consultants to make the reengineering program work, Carilion employees invested a great deal. All employees were affected. Many employees who did not lose their jobs had to reapply for their existing jobs as positions were reclassified (Holland, 2000). Employees' work was redefined and reorganized, in other words, "reengineered" to fit Carilion's new overall operational strategies. Personnel faced difficulties trying to adjust (Holland, 2000). Carilion executives faced difficulties adjusting to Robertson's reengineering program, as well. Dorman Fawley, Carilion's executive vice president for Patient Services, left Carilion due to Robertson's reengineering program which eliminated many of his

departments and displaced more of his employees than any other area reengineered in the Carilion system. In August 1992, Carilion had recruited Fawley as the “heir apparent” for CHS after Robertson’s retirement. In September 1997, Fawley became chief operating officer of Health Alliance, a six-hospital system in Ohio (Kelly, 7/31/97).

Perhaps, Carilion’s reengineering program could have been undertaken differently and much more slowly, to upset fewer workers and services, but, according to Robertson, Carilion had to reengineer its operations in order to compete and survive (Robertson, 2000). The accomplished reengineering program meant Carilion could control costs so it could achieve its ultimate goal: to be competitive against other health care systems like Columbia/HCA.

According to Robertson, the reengineering efforts allowed Carilion to achieve its goal of becoming more competitive “through fewer managers, group purchasing and standardization of supplies – from antibiotics to bed arm rails – and through a variety of other steps that included ending duplication of services and competition among its own hospitals” (cited in Kelly, 9/10/95, p. 1A). Overall, the 1995 CHS reengineering program succeeded in transforming Carilion into an integral system instead of separate hospitals, a separate network of physicians and a separate start-up health care plans division. Robertson noted that the reengineering phase during 1995-1998 made Carilion “a system with its various parts acting as an organic whole” (Robertson, 2000). As an organic whole, CHS was better prepared to withstand stronger competition in its marketplace. In 1996, Carilion’s first test came in the New River Valley.

Competing against Columbia/HCA:
The Carilion New River Valley Medical Center

Until 1995, Carilion Health System was the main provider of health care in southwest Virginia. By the spring of 1996, through a series of mergers involving Columbia and Health Care Corporation of America (HCA), five southwest Virginia hospitals became part of one giant health care corporation: Columbia/HCA (McCue, 1996). Cromer comments that Carilion's reengineering program was a result of the proposed merger of Columbia/HCA, or at least the very real threat of HCA's presence in Carilion territory. Carilion's reengineering of management and its cost containment programs represented a strategy to position Carilion with resources, teams and services to dominate health care in southwest Virginia (Cromer, 2000).

In 1995, Robertson noted that Carilion Health System was not going to be in every market, but would dominate the markets it served (Kelly, 9/10/95). In May 1995, just two weeks after Carilion announced its reengineering management program and cost cutting plans, Carilion reported that its Radford Community Hospital affiliate would build a new \$60 million health center in the New River Valley (Brian Kelly, 6/1/95). The announcement of the health center was more than a broadcast of a new facility; it was a proclamation of CHS's intent to play hardball to compete against Columbia/HCA, according to Robertson (Robertson, 2000). The struggle Carilion would undergo to build the new hospital in Radford became a symbol for the large conflict arising between CHS and Columbia/HCA that eventually would decide who controlled what and how communities in southwest Virginia would receive health care (Kelly, 9/10/95).

CHS and Radford Community Hospital's board of directors had hoped to build a new facility to replace the aging Radford Community Hospital as early as the 1980s when

the hospital affiliated with CHS. Lester Lamb, a Carilion board member and former Radford Community Hospital CEO, said:

We recognized in the late 1980s, the trend towards outpatient surgery. There was no way we could create a true outpatient surgery center there because of just the way the building fit together, so what we did was to take space on one floor so when patients need outpatient surgery they will come in to that floor, they will be prepared, prepped for surgery, and they'll go to surgery. Well as a result, what happened was the patient came in on the lower level, they had to go to the third floor to be prepped, then once they were prepped they had to go all the way to the ground floor for the actual surgery. Once the surgery was done, they had to come back up to the third floor to be recovered from surgery, and then once they were ready to be discharged from outpatient surgery again, they had to go back down to the first level. So they were spending a major amount of time on elevators running back and forth, so we said we've got to stop that (Lamb, 2000).

Cromer commented that he and other Radford Hospital board members contended that a replacement hospital was the smartest business decision and was in the best interest of the entire New River Valley community (Cromer, 2000).

Besides trying to decide what would be the most suitable facility to construct and where to locate it, the hospital board, administration, and the CHS had a new concern. The Radford Community Hospital and Carilion had to decide whether to build a new hospital, to renovate the existing structure, or if renovations would occur at all due to Radford Community Hospital's new competitor in the New River Valley – Columbia/HCA. Columbia/HCA, the largest private hospital corporation in the nation, acquired five hospitals in and near the Radford Community Hospital in 1995. Two of the newly acquired Columbia/HCA facilities were in the Radford Community Hospital's immediate vicinity: the Montgomery Regional Hospital in Blacksburg, and the Pulaski Community Hospital in Pulaski. Each of these facilities was about 20 minutes away from the Radford Community Hospital. Because of its acquisitions, Columbia/HCA began

thinking of how to grow its own business in the area. Immediately after its takeover of its five hospitals in southwest Virginia, Columbia/HCA applied to the State of Virginia to build a \$36 million cancer treatment center at the Pulaski Community Hospital. Columbia's application beat out Carilion's application to construct a competing Cancer Center in Montgomery County (Calnan, 3/21/99a).

According to Cromer, aware of a heightened show of competition in the area, Carilion and the Radford Community Hospital readied funds in preparation to begin building a Radford replacement hospital. Their efforts were a little too late. Columbia/HCA proposed building a hospital for the New River Valley, too. Robertson, commenting on Columbia/HCA's counter proposal, said it's "a real hardball strategy," and one he intended to fight (cited in Kelly, 9/10/95, p. 6A). Robertson further stated, "But it's going to be messy, given Columbia/HCA's competitiveness" (cited in Kelly, 9/10/95, p. 6A).

Columbia/HCA was already a big system. The hospital corporation started in 1987 by Dallas lawyer Richard Scott had grown, by 1995, into a mega-giant hospital system with 320 hospitals and 115 outpatient surgery centers in 36 states and some foreign countries. In 1996 Columbia/HCA saw additional opportunities for growth in its Virginia holdings (Cromer, 2000). Virginia represented one of Columbia/HCA's largest markets. According to Wickliffe Lyne, chief executive officer of the Virginia Division for Columbia/HCA, Virginia was a significant player in Columbia's earnings (Kelly, 9/10/95), and it was important to increase or at least maintain Columbia/HCA's interest in the New River Valley. Lyne argued, "Carilion decided it was going to eat more and

more off the Pulaski and Montgomery table and we've said no, that's enough" (cited in Kelly, 9/10/95, p. 6A).

According to Robertson, the competition between CHS and Columbia/HCA was easy to explain. Southwest Virginia, like most areas in the country, was looking at more hospital beds than necessary with insurance companies insisting on shorter patient stays and more outpatient services. Carilion and Columbia/HCA were "running fast and hard" said Robertson, to attract the limited number of patients (Robertson, 2000). Robertson noted:

When a hospital system's power was measured by the number of beds it controlled, Carilion was on top. But with more than half of the beds empty in southwest Virginia – and across the nation – bed count doesn't matter any more. Now, the ability to deliver a network of in-patient and outpatient services over a broad geographic area, competitively priced, decides who comes out ahead (cited in Kelly, 9/10/95, p. 7A).

By 1995, the influence of competition among hospitals, coupled with the concern that Medicare reimbursements were going to be cut by as much as \$280 billion in the next few years, pushed hospital companies like Columbia/HCA and health care systems such as Carilion into building larger systems to cushion financial woes and to provide security from competitor encroachment. Both Carilion and Columbia worked diligently to put together systems and alliances that would have more clout in negotiating with provider contracts. Sandra Kelly, a Roanoke Times writer, noted that Carilion and Columbia were gobbling up medical facilities like Pac Men and forming alliances with groups they could not purchase (Kelly, 9/10/95). After Columbia's merger in 1995 with Hospital Corporation of America (HCA), Columbia/HCA controlled six southwest

Virginia and West Virginia hospitals and wanted to expand its market share in southwest Virginia even further. The six hospitals included:

- 1) Humana, St. Luke's, Bluefield, West Virginia
- 2) Lewis-Gale Hospital, Salem, Virginia
- 3) Montgomery Regional Hospital, Blacksburg, Virginia
- 4) Pulaski Community Hospital, Pulaski, Virginia
- 5) Clinch Valley Medical Center, Clinch Valley, Virginia
- 6) Greenbrier Valley Hospital, Fairlea, West Virginia

Soon after the Columbia/HCA merger, Columbia/HCA bought the not-for-profit Allegheny Regional Hospital in Clifton Forge, Virginia, and turned it into a for-profit hospital to link its facilities in West Virginia to the New River Valley hospitals in Virginia and the Lewis-Gale Hospital in Salem, Virginia. Columbia/HCA also formed the Southwest Virginia Health Alliance, consisting mostly of Columbia hospitals. The alliance consisted of the Lewis-Gale Hospital, Pulaski County Hospital, the Montgomery Regional Hospital, Clinch Valley Medical Center and St. Luke's Hospital in Bluefield, West Virginia, but also included the Lewis-Gale Clinic in Salem, the Life Center of Galax, and independent Memorial Hospital of Martinsville, Virginia (Kelly, 9/30/94). Columbia/HCA formed the Southwest Virginia Health Alliance to negotiate HMO contracts as a group (Cromer, 2000). Carilion, in the meantime, was also forming alliances with other health care systems. Sentara Health System, the dominant hospital system in Tidewater, and Carilion allied together in 1995 to negotiate for insurance contracts and group purchasing.

Cromer explained how building a new hospital in the Radford area became a competitive medical pawn between Carilion and Columbia/HCA. The question became, who had the most money and best plan to build the new hospital: Carilion or Columbia? The Radford Community Hospital board had been preparing funds for the financial needs

and plans of a new hospital that could maintain the cost-efficiencies of quality care for some time. Since the 1980s, the hospital had been saving toward a replacement facility. The Radford Community Hospital had accumulated \$40 million to put toward construction and estimated they would need an additional \$20 million to build a modern state-of-the-art facility to deliver appropriate care (Cromer, 2000). In February 1995, CHS began seeking a \$110 million revenue bond through the Roanoke Industrial Development Authority to pay for the Radford Hospital's construction, other hospitals' renovations, and to refinance existing corporate debt (Kelly, 2/25/95 and Kegley, 4/24/93).

Cromer recalls that after securing a means to provide funding for the new Radford Community Hospital, Carilion initiated efforts to meet the Certificate of Public Need process to receive state approval for the new hospital. Hoping to procure state approval prior to Columbia/HCA's approval, Carilion discovered the first step toward the Certificate of Public Need process was to hold a public hearing to inform the citizens about the needed hospital. For at least a decade the Radford Community Hospital board members had been discussing amongst themselves the possible need for a replacement hospital, but had not brought the issue before the New River Valley community residents at large. Now when Columbia/HCA might build a new hospital itself and jeopardize the Radford community's hospital, the local Radford Community Hospital board had to hurriedly assemble its building plans and replacement hospital objectives and present them to the New River Valley residents to win community support (Cromer, 2000). According to Lester Lamb, with less than six months before the hearing scheduled for September 11, 1995, the Radford Community Hospital board began a flurry of activity to

inform residents about the need for a new hospital (Lamb, 2000). The Radford Hospital published Gateway Vision, a newsletter that informed residents of the New River Valley about its plans for a replacement hospital. Gateway Vision was an important choice of name for the newsletter because an economic development consultant had claimed the new hospital would provide future growth for related businesses and would come to be known as the “gateway” corridor of the New River Valley (Lamb, 2000). The push for the new hospital was summed up in the Gateway Vision advertisement, “Some of the small reasons for our big decision” (Gateway Vision, 1995, p. 3).

Cromer explained that at the public hearing held in September 1995, New River Valley residents voiced their opinions concerning the replacement hospital. In an overwhelming show of support (700 letters of support and 80 petitions with 1300 signatures), Montgomery County residents approved building a replacement facility (Cromer, 2000). With the public’s endorsement in October 1995, the Radford Community Hospital’s board voted to approve construction of a replacement facility. In January 1996, at another public hearing with the Montgomery County Planning Commission, the Radford Hospital board sought and received an approval for re-zoning of the projected Interstate-81 site for the replacement hospital. At about the same time, the State Health Department “recommended approval of the hospital’s Certificate of Public Need” (cited in CHS, 1999, p. 106).

Next, Carilion filed an application with the state Health Commissioner, on behalf of its affiliated Radford Community Hospital to build a modern 97-bed hospital to replace the existing 75-bed Radford facility. Meanwhile, Columbia/HCA filed its own application to build a 50-bed facility in the city of Radford (Calnan, 3/21/99a). In March

1996, as competition heated up between Columbia and Carilion to build a replacement hospital in the New River Valley, Carilion staff traveled to Richmond to confer with the State Health Commission about its proposed hospital project for the New River Valley (Cromer, 2000). The meeting resulted in an extensive report that had to be examined by a State Health hearing officer for review (CHS, 1999).

Cromer claims that eventually Carilion's \$60 million application to the State of Virginia for a new hospital in the New River Valley, based on a 97-bed hospital plan, won over Columbia's proposal for a 50-bed \$20 million generic hospital model which Columbia had used in several locations. Carilion succeeded in its bid for two reasons: First, the Virginia State health care regulating agencies believed Carilion would be more responsible for indigent care in the area. The for-profit Columbia/HCA facilities, generally did not take as many non-paying customers as Carilion. Secondly, Carilion's hospital plan seemed more feasible, given the developments occurring in the managed care industry such as an increase in outpatient services, like rehabilitative ones (Cromer, 2000).

Houston Bell, the senior vice president for Carilion's Western Division, says the struggle to build the new hospital and Carilion's fight with Columbia/HCA for domination of the New River Valley market taught Carilion a valuable lesson. Carilion knew it could never relax. It must always be ever watchful of competitor encroachment, must remain financially strong to enlarge its services and facilities in the communities it served, and had to distinguish itself as something unique, born out of communities' traditions and histories and intent upon the best interests of the communities it served. Carilion had to build a state-of-the-art hospital in the New River Valley so no patient,

which both Carilion and Columbia/HCA called a customer, ever had to look to a competing system for medical services (Bell, 2000).

The new hospital, for so long dreamed of by former hospital president Lester Lamb, who was intensely concerned with patient care and quality, and by Archie Cromer, chairman of the Radford Community Hospital's board, was to become a reality, not because of their dreams and visions alone, but because of the marketing strategies Carilion exercised against Columbia/HCA. Lamb said the hospital reflected his program of patient-first care and his desire to provide more space for outpatient services (Lamb, 2000). Cromer acknowledged that the new facility satisfied his need to maintain the hospital as a community asset, since the hospital was still close to the city of Radford. Most importantly, the new hospital represented a symbol of who was winning the health care competition in the New River and Roanoke Valley between Columbia/HCA and the CHS.

The location of the new hospital seemed to be a testament to the competition between the two health care systems. The new Carilion hospital was to be "situated in a highly visible spot along the interstate in a strategic location between the home markets of Columbia's hospitals in Blacksburg and Pulaski" (cited in Calnan, 3/21/99a, p. 4A). Besides being a symbol of the competition between Carilion and Columbia/HCA, the hospital in its new location became a symbol of economic prosperity for the city of Radford and all the New River Valley communities. Today, the hospital serves as a landmark to millions of travelers along Interstate-81 of Carilion's high tech medical services.

Cromer recounted that on January 22, 1997, as ground was broken for the hospital at the Interstate-81 site, the new Carilion Radford Community Hospital became a reality. As construction progressed, the hospital board began wrestling with a very serious question: Was the facility still going to be called the Carilion Radford Community Hospital when it wasn't even in the city of Radford? The 110-acre site off Interstate-81 had been chosen over another property Radford Community Hospital had originally purchased for a possible new facility because the Radford City property was landlocked with nowhere for the hospital to grow in the future (Cromer, 2000).

The Interstate-81 property, on the other hand, was a large 110-acre tract. Lamb recalls, "We wanted over 100 acres because we did not want 25 years from now, a hospital to be in the same position that the old hospital was – being completely landlocked as far as expansion was concerned" (Lamb, 2000). The replacement hospital, however, to be situated on the 110-acre site off Interstate-81, had been advertised not only to conveniently serve Radford patients, but also to serve Montgomery County, the Pulaski area, as well as the Floyd, Giles, Carroll, Wythe and Bland counties in Virginia (Wishneff, 1995). Lester Lamb stated, "The replacement hospital will meet the needs of thousands in the New River Valley area and southwest Virginia for services right here at home. We believe it also will be a source of great community pride" (cited in Gateway Vision, 1995, p. 4).

The under-construction hospital was viewed by some, like Brian Wishneff, an economic development consultant and author of "An Economic Impact Study of the Gateway Area," to be more than just a Radford "community" hospital: the new hospital was viewed as the catalyst for regional community development in the Gateway Corridor

(Wishneff, 1995). If the new hospital was to serve a greater region than just the city of Radford, some Radford Community Hospital board members, like Cromer, argued that it needed a name to acknowledge that regional service. The Radford Community Hospital board contended the hospital, long a Radford community asset, deserved a new name that would identify it with its fresh role as a regional community asset (Cromer, 2000).

Both the Radford Community Hospital and CHS were playing major roles in the development of the Gateway Corridor regional community by deciding to construct its new hospital on I-81, but also by funding the utility extensions to the Interstate-81 interchange Gateway area that would supply electricity to generate, not only energy for the hospital, but for even more business growth in the area (Gateway Vision, 1995). CHS paid \$2.8 million for utility hookups that extended from the city of Radford to the new hospital site (a little over two miles) and paid for the water and sewer extensions, as well. Carilion signed agreements with the city of Radford and Montgomery County for these extensions. In return Carilion received the right to collect up to \$962,000 in fees over a ten-year period from businesses and/or residences that hooked up to Carilion's paid utility extension lines in the Gateway Corridor (Cagle, 3/25/99). It seemed clear that Carilion was going to be financially well served by the Gateway Corridor in terms of its new hospital and its right to collect utility fees from other forthcoming business concerns. Carilion was not looking very far for other business tenants however. CHS had its own ideas for the remaining Gateway Corridor land tracts.

Carilion had plans for developing more medically-related service businesses on the site of its replacement hospital. Lamb referred to those plans as Carilion's "continuum of care" services. The Carilion "continuum of care" plan emphasized situating many

more medical buildings and easily accessible medical type services alongside the Radford Community Hospital replacement facility (Freis, 9/19/97). According to the plan, building a traditional hospital to replace the Radford Community Hospital was not going to occur. Instead of another Radford Community Hospital, Carilion planned to build a “Radford Medical Campus” (cited in Freis, 9/19/97, p. 1A). Over the next 15 years, the plan called for an augmentation of its replacement hospital with a restaurant, 72-unit apartment, 22 single-family houses, office buildings, nursing home, and a 35,000 square foot wellness center (Freis, 11/11/97). The Carilion “medical campus” plan broke down into the following categories: 51% for commercial users, 30% for open space, and 18% for residential development (cited in Freis, 9/19/97, p. 1A).

Carilion’s plan to situate a medical campus in the New River Valley stemmed from four reasons: First, the site was large enough to handle the many varied services that would need to be offered to become a medical campus. Next, the utilities had been established. Thirdly, the location was easily accessible for all New River Valley residents. Lastly, Carilion feared Columbia/HCA doing a similar project. In 1997, Paul Parker, director of the Virginia Certificate of Need Program, remarked: “Lots of hospitals have master plans of that type that may or may not come to fruition” (cited in Freis, 9/19/97, p. 2A).

Carilion’s plan for its medical campus did not initially meet with success. At a public hearing in Montgomery County in November 1997, the community aired its opposition to the proposed medical campus. The medical complex, they argued, would jeopardize a utility arrangement between Radford and Montgomery County for the Virginia Interstate-77 corridor to bring in industries and jobs. In 1993 the city of Radford

and Montgomery County contracted to share water and waste treatment expenses along Interstate-81 to encourage commercial development of manufacturing industries (Freis, 11/11/97).

The large medical complex Carilion wanted to build threatened to limit the growth by other commercial industries that Radford and Montgomery County hoped to attract to the area to bring more blue-collar jobs. Montgomery County residents believed Carilion's plan would drain the long-range utility capacity for the New River Valley, thus discouraging potential manufacturing concerns from locating there (Freis, 11/11/97). Just two months after discussing its master plan, Carilion dropped the request it put before the Montgomery County Planning Commission to rezone the Gateway Corridor for its residential and commercial development. Cromer said that Carilion decided not to pursue the plan right away because it felt the New River Valley community had raised concerns over utility services and future development along the gateway corridor that needed to be researched and addressed in more detail before such a plan would be feasible (Cromer, 2000). In 1997 although Carilion in 1997 did not pursue its plan to transform a 110-acre pasture into western Virginia's largest planned medical community, the idea had been planted in the minds of the New River Valley community. Many area residents were awakening to the fact that the economic health of rural, southwest Virginia might be tied to the growth of the hospital they were watching being constructed along Interstate-81 (Cagle, 3/25/99).

Although Carilion's medical campus plan did not come to immediate fruition, it became even more imperative to both CHS and the Radford Community Hospital boards that they incorporate into the hospital's name the impact the facility would have on

regional development, economic growth and community identity. In August 1998, the Radford Community Hospital board announced a new name for the Radford Community Hospital: Carilion New River Valley Medical Center. The old saying “It’s all in a name,” speaks volumes about what the new name Carilion New River Valley Medical Center signified to all of the players involved in its decision. Archie Cromer, speaking at the ceremony to unveil the name, commented:

The name Radford has served us well since the hospital first opened its doors to serve the people of the New River Valley and surrounding areas back in 1941. The hospital “grew up,” so to speak, there. In fact, from our present site at 8th and Randolph Streets, the hospital became the health care leader of the New River Valley...It makes sense to us to choose a name that best represents and symbolizes what our hospital is—a name that distinguishes it from others while at the same time reflects both our past as well as our future – our 57 years of service to the region and our commitment to provide the most progressive quality health care to the people we serve (cited in Longwood, 1999, p. 63).

The name tied the history of the old Radford Community Hospital and its business of serving the entire New River Valley together. The name signified the creation of a regional identity for the hospital, which was important to unite New River communities and spur economic growth in the future for the New River Valley Gateway Corridor and possibly CHS.

According to Lamb, the name Carilion New River Valley Medical Center (CNRVMC) is important, however not only for providing a regional identity to New River Valley communities, but also for its identification as a “medical center,” not just a hospital. By the 1990s, the word “hospital,” according to many health care analysts, had negative connotations within the industry to providers as well as patients. Lamb said many health care administrators believed the term “hospital” seemed antiquated and full of dreary images of sickness, pain and death. Medical centers, on the other hand,

conjured up images of health, medical awareness, and preventive care. Medical centers, medical complexes, and medical campuses were foci devoted to managing multiple types of health delivery services. Even though Carilion had failed to realize its plan for a “medical campus,” CHS would have a medical center devoted to state-of-the-art health care delivery. Lamb recalled how the combination of trying to assume a regional name along with the idea of a medical center was realized in the Carilion New River Valley Medical Center (Lamb, 2000). He stated:

In our case, we were trying to convey that our patient load came from a wide area. And this goes back for many, many years, long before Carilion was even associated with the institution. When I came in 1970, we served a wide area. Primarily our patients came from the city of Radford, Montgomery County, and Pulaski County, but we also had a lot of patients from Carroll County, Grayson County, Floyd County, Giles County, and so we were always more than just a limited hospital serving a 10-mile radius or something like that. And the reason for that quite frankly was that the hospital had been very fortunate over the years in attracting a pretty good variety of physicians and quality also so that we had services there and things available that a lot of other places didn't have that were smaller, so people came in from other areas. And we felt that when we opened up the new facility, that it was important to try to differentiate and to make people understand a little bit better that we did have a wide variety of services, very well qualified medical staff, and a larger number of physicians than any other hospital in southwest Virginia, other than Roanoke Memorial and Community in Roanoke. So part of the rationale in determining that name was to establish in the people's minds that we were first of all, serving the entire New River Valley, and that we were differentiated because of our services that we offered and the physicians that we had available, as a medical center, as opposed to a typical Community Hospital (Lamb, 2000).

When the CNRVMC opened its doors on March 20, 1999, a new era of health care was ushered into southwest Virginia (Calnan, 3/21/99). The new facility symbolized how health care systems like Carilion envisioned care of the future. The CNRVMC exemplified what the future of medical centers would cost, their form and functions as

opposed to traditional hospitals. The dedication ceremony held on March 24, 1999 emphasized Carilion's mission for its NRVMC: to improve the health of the New River Valley communities.

Larry Sartoris, president of the Virginia Hospital Association, described the medical center as a monument to the New River Valley community symbolizing both its past and future commitment to health care, to health care providers and to the leadership of the Radford hospital board to maintain state of the art health care. Dr. Bernie Siegel, patient improvement advocate and author of How to Live Between Office Visits, spoke also about the facility represented the love of the New River Valley community and its health care providers' interest to provide a "bridge over troubled waters." According to Siegel, the hospital would help the communities deal with the difficulties of life's problems. Siegel said, "When you run into trouble, you'll have help crossing those troubled waters. This is a place that will help you turn [trouble] into a growth experience" (cited in Calnan, 3/25/99, p. 1B). Siegel argued that the CNRVMC was a place to help New River Valley communities manage one of life's biggest concerns – health (cited in Siegel, CNRVMC grand opening speech, 3/24/99). What Siegel did not tell onlookers the day of the dedication is how expensive the right to manage health is in the new world of managed care.

According to Cromer, the CNRVMC cost \$56.6 million to construct, and that \$56.6 million did not include the almost \$3 million Carilion spent on utility extensions for the area. The center ended up with 239,000 square feet, almost 100,000 square feet more than the old Radford Community Hospital with 147,000 square feet. More importantly, to maintain Carilion's competitive edge against Columbia/HCA, the new

medical center was larger than either the Montgomery Regional or the Pulaski Hospitals. The CNRVMC stood not just as a testament to what the New River Valley community could do medically, but as a facility which stood above the Columbia/HCA facilities in terms of size, services and sales (patient volume). For Carilion, competition with the Columbia/HCA health care system seemed to have been the determining factor in building a state-of-the-art facility (Cromer, 2000).

Lamb noted that to compete successfully with Columbia/HCA's hospitals, the CNRVMC board knew it had to rely upon three community traditions of care established at Radford Community Hospital: 1) provide medical services the community wants, 2) develop patient-focused care, and 3) build on the community-wide educational and outreach programs that the Radford Community Hospital had initiated and the community had embraced. With these three traditions of care in mind, Carilion felt its medical center would succeed (Lamb, 2000).

The new medical center was set up to offer a state of the art facility emphasizing services related to tertiary and acute care services, including cardiac and rehabilitation services for higher risk patients, outpatient services (50 to 60% of services) and preventive services, according to Virginia Ousley, CNRVMC director (Ousley, 2000). With most of these services requiring little or no in-patient stays, the CNRVMC was arranged with only 97 in-patient beds. The center was designed to be a patient-focused health care facility with easy access to services and equipment (Moody, 1999). Virginia Ousley stated: "We didn't want to have patients going all over the place. We wanted things adjacent to complement each other" (cited in Cox, 3/28/99, p. 2). In commenting about the patient access areas, Cromer said:

We did not want the stereotyped image; we wanted more of an openness to the hospital, and especially coming into the building, and the layouts. We wanted the units as connected as possible so that people don't have to travel long distances, like if you're getting an x-ray you don't have to go from one end of the building to the other (Cromer, 2000).

Lamb explained that as the hospital and administrative staff started preparing years ago to meet the changing needs of patients (more outpatient services) the hospital board had learned that services needed to go to the patient not the other way (Lamb, 2000). The patient rooms in the new center, therefore, were all furnished with movable, flexible furnishings and medical equipment "that can float to the patient" (cited in Cox, 3/28/99, p. 4). Following this patient-care philosophy of bringing care to the patient, the medical center was designed so that form fit function. Ousley explains that the building accommodated the way the medical staff wanted services laid out. Rehabilitation services were positioned next to the skilled care and extended care units, because those areas utilize rehab services at a much higher volume than any other patient population (Ousley, 2000). Most of the hospital's services are on one level, and support services such as extra supply and equipment storage are located on the lower level, noted Becky Richardson, a CNRVMC nurse (Richardson, 2000).

The patient-centered focus of the CNRVMC is readily apparent in the hospital's design. Besides making services convenient for patient access, the patient-centered focus situates community concerns directly into the architectural designed layout of patient areas. According to Ousley, when preparing for the new facility, Radford Hospital formed five teams: physicians, staff, administration, former patients and community members and asked them what they wanted to see in the new facility. All the teams came back with similar responses. They wanted to see air, water, and light. Each of these was

deemed by the various groups to be therapeutic to a patient's healing process. They insisted that the hospital should utilize the beautiful views of the countryside nearby to supply "soothing swirls and colors and to provide relaxed seating areas for family members" (Ousley, 2000).

The teams succeeded in convincing the hospital board members to incorporate their ideas into the new medical center's design. Today, a person entering the medical center's lobby doors may think she has entered a grand resort or spa instead of a hospital. The main lobby has beautiful tiled floors, lush greenery, a player piano, a glass atrium, a huge window with views of the hills, a waterfall, and reading lamps. The extended care area has a terrace. Each patient room is decorated in soothing colors. All patient wings are angled, allowing every patient room to have a panoramic view. No patient room looks directly towards another patient room (Blue Ridge Business Journal, April 1999).

Ousley claims that the hospital's overall design was to provide for the wellness and the recovery of the patient (Ousley, 2000). One visitor to the CNRVMC noted, "The soft new sights and sounds are part of an appeal to the body's other healing agents: the mind and the spirit" (Donohue, 8/11/00). The idea that light, air, water and sound are therapeutic agents has deep roots in Western medicine, dating from the medicine of the Hippocratic physicians in ancient Greece (Lloyd, 1978). In the 20th century, as medical care became more and more scientific, these healing agents lost pride of place to more "scientific" therapies. Ironically, today in America as the costs of scientific and technology-oriented medicine continue to increase, people have reached out again to a more holistic approach to healing.

The CNRVMC's attention to light, air and water in the hospital's design serves as a powerful example of how much communities of hospital managers, patients and doctors believe that healing is more than just needles and pills (Donohue, 8/11/00). As Ousley said, "We believe that healing deals with lights, plants, music and water" (Ousley, 2000). In his dedication speech, Siegel echoed Ousley's words, claiming, "Healing can be related to aromas and sounds. We know from studies that you will recover faster if you have a room that has a view of the outside. The people who built this place have a sense of health care" (cited in Calnan, 3/25/99, p. 1B). Cromer notes that CNRVMC services cater to other holistic, therapeutic treatments, as well. The facility provides traditional medical services, but also employs new types of care strategies such as: massage therapy, pet therapy, stress reduction therapies, and guided imagery (Cromer, 2000).

Another important part of the CNRVMC's patient-oriented philosophy is its stress on patient education, explains Ousley. The new center furnishes an on-site library available to patients, their family members and the community. The library consists of medical journals and books to help families research diseases and treatments. The hospital has a full time chaplain to aid families in decision-making about medical issues. These educational sources allow patients to take more control of their own medical problems (Ousley, 2000). Patient access to information is also easier for nursing staff and patients. Nurses are found in alcoves, not stations, at CNRVMC and these alcoves are more in the public's eye, noted Connie Sherman, a CNRVMC nurse. The nurses are able to see patients more easily, to talk with patient's families and to educate patients to help themselves (Sherman, 2000).

The combination of CNRVMC's less traditional approaches to healing, patient education, and the conventional medical services it provides, places the facility at a crossroads in medical care. The facility opened in 1999 ready, not only to fill the existing needs of the New River Valley communities, but to play other roles by supplying many new and non-traditional services for community preventive health care and education. In general, the hospital appeared to be the right hospital, with the right services, at the right time. According to Lester Lamb:

Even though the board began discussing and planning for a new hospital in the '80s, had we built a hospital in the early '90s, we would have built the wrong type of hospital (Lamb, 2000).

Lamb further acknowledged:

Quite frankly, we took longer in recognizing or in coming to fruition on the new building than I anticipated and probably, some employees wondered if we were ever going to get that new building, but we did. Because, in reality, we could have gone ahead in the early '90s, but if we had built a new hospital in the early '90s, we would have built the wrong hospital, because all we would have done is build a modern version of what had been built for the last 30 or 40 years and that's not what is needed in today's world. The whole emphasis on outpatient services has come forth very strongly in the 1990s, would not have been properly addressed, and we wouldn't have made those outpatient services as big and as significant as we did in that new building. So we really would have built the wrong building if we had done it in '91 or '92 (Lamb, 2000).

At the dedication ceremony, Lamb stated:

We have built a building design that should prove to be very user-friendly, one that is well positioned to enter the twenty-first century (cited in Lockwood, 1999, p. 64).

Lamb was wrong, however. The new medical center did not even make it through its first year without experiencing problems related to its size, services and sales – the three areas Carilion had argued it needed to control to compete successfully with

Columbia/HCA. Although the hospital board, administration, medical staff and consultants planned for over a decade to build the right hospital, one based on managed care trends, in 2000, Carilion acknowledged that its NRVMC may still have been the wrong one. According to projections and planning for managed care, which were supposed to reduce patient hospital stays, the CNRVMC was built to have only 97 beds compared to the older Radford Community Hospital with 175 beds. By June 2000, the 97-bed facility was operating with 70 to 90 beds occupied continuously (Donohue, 6/30/00). Ousley stated that the hospital was operating near its limit due to incorrect projections about hospital care in Virginia (Ousley, 2000).

Cromer recalled that during its planning phase, consultants projected what was called the “California model of health care” to come to Virginia within the next few years. The California model projected that fewer and less likely in-patient hospital stays, less reliance on specialists, and more preventive care would come to the New River Valley area (Cromer, 2000). The consultants estimated that necessary hospital beds would drop to one-fifth of past Radford Community Hospital needs. CNRVMC personnel acknowledge three reasons why these projections appeared so inadequate for the New River Valley. First, the new medical center’s location, just off the interstate, proved more accessible than the old Radford Hospital, and was drawing more patients from areas like Bland and other New River Valley counties than projectors had originally planned to accommodate (Ousley, 2000). Dr. William King, an urologist at the hospital said: “I don’t believe they anticipated the response from the community” (cited in Donohue, 6/30/00, p. 2A). Besides over-crowdedness, the unexpected influx of new patients into the facility

created a shortage of hospital staff. The medical center hired 21 new doctors just within the hospital's first year (Donohue, 6/30/00).

Second, since the new medical center offered many more services than other area hospitals, patients flocked to its doors. For example, the CNRVMC opened both a rehabilitation center with pools and a pediatric emergency area that Columbia's hospitals did not have, two facilities which brought many patients into the center. It is not uncommon, according to Russell Coile, a strategy adviser at Southfield, Michigan-based Superior Consultant Company, Inc., for a new medical center like Carilion's New River one to "out-compete" existing, older facilities in certain service categories. The new facility, along with its new services and treatments, draws on Carilion's community patient population that may have been utilizing medical services in more metropolitan areas like Roanoke and Richmond (Donohue, 6/30/00).

The third and most important reason the hospital faced over-crowding after just one year of operations was due to southwest Virginia's continued relatively low medical costs. Managed care as projected did not come to the New River Valley. Ousley stated: "The hospital was designed to satisfy managed-care requirements and managed care just has not come to the New River Valley like it has in other areas of the country" (Ousley, 2000). Many feared in the mid-1990s that HMOs would keep patients out of the hospital or shorten stays. Instead, HMOs have not denied patient treatments in Virginia because of the state's relatively low medical costs. Therefore, Carilion filled up its NRVMC's beds (Ousley, 2000).

Because HMOs did not restrict hospital services in Virginia as anticipated in the late 1990s, the CNRVMC saw huge increases in surgeries and emergencies that the

hospital performed in its first year of operations. Lamb recounted that the total number of outpatient services for the year 1999 was 4,500. All surgeries, including inpatient and outpatient for 1999 were around 6,100 (Lamb, 2000). By 2000, total surgeries including inpatient and outpatient increased by 13%. Also, the center's emergency room services saw a 5% increase over 1999s numbers (Donohue, 6/30/00).

The higher numbers were also seen elsewhere in the New River Valley and in the nearby Roanoke area, a situation that clearly served to show that managed care had not become the threat many health care providers feared. In Roanoke, both Carilion's Roanoke Memorial and Community Hospital reported increases in surgeries (6%) and emergency room visits (8%) for its 1999 operations (Donohue, 6/30/00). Colombia/HCA-owned hospitals of the New River Valley reported increased surgical and emergency activity, as well. In Pulaski Community Hospital, surgeries increased by 30% from 1999 to 2000. Columbia/HCA reported hospital admissions increases, too, in the New River Valley area from 1999 to 2000. Pulaski Community Hospital averaged 61 occupied beds a day in 2000. The 1999 average was 52. At Montgomery Regional Hospital in Blacksburg, Colombia/HCA reported increases in patient loads and surgeries performed for 2000, but did not provide actual numbers (Donohue, 6/30/00).

Since managed care has not come to Virginia as expected, the CNRVMC is currently evaluating to make sure the 239,000 square foot building is being used appropriately to service the center's high number of surgical and outpatient service patients (Bell, 2000). Ousley claims no immediate expansion is expected, but hospital departments are completing a space survey to see exactly how the space is being used and might be used more advantageously (Ousley, 2000). According to Richardson, some

single patient rooms are being converted to doubles. A few areas in the hospital have experienced so much overcrowding that patients have been moved to other areas of the hospital. Recall, that the hospital attempted to organize all necessary services for particular conditions like cardiac in one area; currently, however, patients and medical personnel for those services are located in various unconnected areas of the hospital (Richardson, 2000).

Sherman explains that staff also has experienced space problems for supplies, offices, and meeting areas. In one area a closet for a unit's supplies now functions as a briefing room for the nursing staff's shift change (Sherman, 2000). CNRVMC staff hopes internal shifting of space allocations will take care of the problem without costly expansion to the center itself. As Ousley states, "It's like building a new house. We are still trying to get ourselves settled in" (Ousley, 2000).

The challenges CNRVMC faces to "get settled in," however, reflect the complexities that hospitals within health care systems find themselves in in an evolving managed care environment. The CNRVMC serves as a unique example of a state-of-the-art facility based on managed care goals and projections. Yet the center finds itself struggling to meet needs as health care's complex marketplace of HMOs, hospitals, managed care and communities continue to attempt to define acceptable definitions of care. For the CHS, how its NRVMC comes to be defined depends in large measure on how the center is used to build the CHS and to promote Carilion's mission of serving the New River Valley communities' needs.

The CNRVMC is first and foremost a linkage facility to build the Carilion system. The CNRVMC serves as a new "hub" hospital for what Carilion defines as its Western

Division. The Carilion Western Division includes the Smyth County Community Hospital, (Marion), the Wythe County Community Hospital, (Wytheville), the Tazewell Community Hospital, the Giles Memorial Hospital, the Carilion New River Valley Medical Center (Christiansburg), and the Carilion physician practices sprawling through these communities, according to Houston Bell, president of Carilion's Western Division (Bell, 2000). The center provides all levels of medical care to the New River Valley and in turn, links the New River communities to the advanced levels of cardiac surgery, neurosurgery, neonatal care and nuclear medicine available at the two other Carilion hospital hubs: Roanoke Memorial and Community Hospital. The CNRVMC serves as a Carilion system integrator. It both serves patients and feeds patients into the Carilion Health System to expand the system of Carilion care (Bell, 2000). Just how successful Carilion and its NRVMC are, may be gauged by the level of competition for consumers between Carilion and Columbia/HCA in the New River Valley. Currently, both systems are fighting hard to manage the valley's care. Each saturates the market with advertisements about its services and adds more and more community outreach and educational programs to its hospital services.

When asked if the NRVMC would have been built without the affiliation of Radford Community Hospital with CHS, Ousley, Cromer, and Lamb all respond yes, but at an unbelievable cost to the community in terms of increased medical costs and fewer services. The affiliation with CHS allowed Radford Community Hospital to better serve the needs of the New River Valley, but in turn, for the New River Valley to have its care needs met by a full-continuum health system. System building and service to community needs are not necessarily conflicting agendas for Carilion, claims Dr. Edward Murphy,

CEO of Carilion (Murphy, 2000). Often, the two feed upon one another and forge strong networks, which work well for both the communities involved and the health care system. The affiliation with Carilion allowed the Radford Community Hospital to realize its potential as a regional care facility. The CNRVMC has not only regionalized care, but brought together various New River Valley communities to work together within the medical industry, within New River Valley community partnerships for health-related projects and formed programs bringing communities together to learn about health. The hospital has merged the interests of these communities for certain services like cardiac rehabilitation, for outreach programs like breast cancer awareness and for alternative approaches to medicine inside a new facility. The CNRVMC is on the one hand about system building, expanding the Carilion system and its market penetration to compete against Columbia/HCA. On the other hand however, the CNRVMC is about providing the care New River Valley communities demand. Managing care as the CNRVMC's history illustrates is not all one-sided. Individual stories, in terms of consumers, employers, health-related groups, government, corporations, and health care systems, all come together to make up the litany of managing care. It is only when one understands the history of each group that the complexity of the health care saga begins to make sense.

Carilion's Marketing Blitz

Besides building state-of-the-art facilities like the CNRVMC to compete against Colombia/HCA, Carilion employed another strategy to insure its vitality and success from further competition. Beginning in 1995, Carilion undertook an intense program of community grants, education, and marketing to promote consumer awareness of the

name, business and commitment of Carilion to health care. The first step Carilion initiated to promote consumer awareness and identity of the system was to add the name Carilion to the titles of its owned hospitals. While the addition of Carilion to the names of its affiliated hospitals was touted as part of Carilion's advertising to foster consumer awareness, the actual act of erecting the signs at the hospitals and changing the name on all hospital paperwork seemed to be a "keep up with the Columbia/HCAs" maneuver (Cromer, 2000). Columbia/HCA began a similar name identification campaign in 1996 (Kelly, 4/2/96). The addition of the name Carilion to each of the system's hospitals turned out to be a brilliant marketing strategy, because it brought Carilion's "hub-and-spokes" system to the attention of consumers. The addition of the name Carilion identified small, rural hospitals as part of the larger health care system, which provided additional services beyond those of the community hospitals. Each hospital retained its full name, only adding Carilion to the front of their name. Franklin Memorial Hospital became Carilion Franklin Memorial Hospital. On May 1, 1996, Community Hospital of Roanoke Valley and Roanoke Memorial Hospital, which had been merged together since 1991 but had retained separate names, put Carilion in front of their names and became the Carilion Roanoke Memorial and Carilion Community Hospital. Commenting about the name changes, Robertson said, "...creating Carilion Roanoke Memorial and Carilion Community Hospital gives the system more identity...[the] Carilion name is well known, but people don't always know which hospitals are part of it" (cited in Kelly, 4/2/96, p. 8B).

The promotion of loyalty and recognition of Carilion as a system were fostered in other ways besides the addition of Carilion to facility names. The most significant way

Carilion promoted its customer loyalty was by establishing a physicians' network, which stretched from Abingdon to Strasburg. By 1996, Carilion's physicians' network represented the largest group of networked physicians in Virginia (Thornhill, 2000). The network signified the commitment Carilion had to dominate health care in the area it serviced and promoted fierce loyalty among customers because they could travel almost anywhere in southwest Virginia and have Carilion physicians available. The network of Carilion Health Care Corporation physicians satisfied another requirement for Carilion's system growth also. The network provided a large enough group of primary health care providers to market the Carilion Health Plans. By 1998, CHP realized it did not merely have to lease its physician network or negotiate with other HMOs for health services, it had a sizable network of hospitals and physicians, which allowed it to market Carilion's own HMO (Chrisman, 2000).

The hospital name changes, the expansion of the physician network and the growth of Carilion Health Plans, brought together the central components of the Carilion Health System in a unique fashion. By 1998, the name Carilion was a household word to most southwest Virginia families. Carilion blue and white signs designating hospitals and doctors' offices were found throughout communities. Billboards advertising Carilion services, physicians' offices and facilities had been visible from Roanoke to Wytheville since 1998.

Regardless of Carilion's advertising campaigns, competition remained keen between Carilion and Columbia/HCA. Carilion's Roanoke Memorial Hospital, and Columbia's Lewis-Gale facility both received accreditation with commendation from the Joint Commission on Accreditation of Healthcare Organizations in June 1997. The

commission's findings typically influence insurance companies' decisions to support hospitals for their networks and employers looking for health care benefits for employees (Kelly, 9/13/97). With both hospitals receiving accreditation with commendation, competition for government health care dollars and HMO and insurance business heightened.

In a letter to Carilion doctors dated January 19, 1998, Robertson described the fiscal year 1997 as one of the "most successful years in Carilion Health System's nearly 100-year history" (cited by Robertson, 1998, p. 1). He noted that the reengineering program, by that point, was proving successful. Carilion had initiated offerings to its physicians for 50% ownership into Carilion Health Plans. Six of Carilion's hospitals had received accreditation with commendation and the new Radford Hospital was under construction. Robertson warned Carilion physicians, however, that competition for managed care contracts would continue to toughen in southwest Virginia. Ironically, Robertson's letter to Carilion physicians arrived at the same time the U.S. Government announced it was investigating Lewis-Gale Hospital's parent company, Columbia/HCA for fraud in its home-health billing department (Kelly, 9/13/97). Columbia/HCA's legal entanglements with the federal government's Medicare program did little to stifle Robertson's push to challenge Columbia/HCA. If anything, the Columbia/HCA fraud investigation spurred Robertson to incorporate new efforts into his competitive campaign against Columbia.

Campaign to Establish Community Programs

To further promote consumer awareness and to foster the Carilion mission of improving community health, Carilion began a campaign to fund community educational

services and outreach programs. In November 1997, Carilion established the Carilion Community Health Fund. The fund was set up to provide grants to innovative Virginia programs that target under-served groups, improve access to health care, and to reduce health risks in the communities served by a Carilion affiliate. To be eligible, programs had to be run by tax-exempt public or private agencies. Programs also had to receive 25% of their total funds from the communities in which they were located, have a plan for longevity and a method of assessing effectiveness (Holton, 11/16/99). According to Robertson, The Community Health Fund was a way for Carilion to show its consumers, "...we are owned by the community, and we need to invest these proceeds back" (cited in Kelly, 1/29/98, p. 2A). Cromer said:

It was also a way to show communities Carilion served that they were not engaged in fraudulent activities, like those for which Columbia/HCA was being investigated. Instead, Carilion was helping communities, because all the money the system made was going back to the communities and their health care programs (Cromer, 2000).

Robertson acknowledged that Carilion, Roanoke's largest employer, received requests for money weekly, but not all were health-related requests. CHS wanted to formalize its giving, which had been done case by case, so that it could be accountable to the community on how the money was being spent and so Carilion could give priority to community health programs (Robertson, 2000). Robertson desired to see Carilion, a not-for-profit and tax-exempt corporation, spending its money (money that had to go back into its not-for-profit organizations) on programs fostering health care initiatives. Through its Community Health Fund, Carilion erected a structure for evaluating requests and encouraged applications from groups who might not have asked for donations before because they did not know money was available (Robertson, 2000).

Carilion determined half of its community health funds would be distributed through grants allocated to each Carilion hospital for the hospital boards to distribute in their respective communities. The other half of the funds would go to regional projects chosen by the CHS board of directors (Robertson, 2000). Agencies had to apply to the hospital boards or the CHS board to receive the funds. Many groups already receiving Carilion grants had to reapply and compete with new applicants for Carilion support. CHIP (Child Health Investment Partnership), Habitat for Humanity, the Adolescent Health Partnership and the Radford Emergency Medical System, together received 400,000 from Carilion in 1997 but had to reapply for new funds in later years (Kelly, 1/29/98 and Holton, 11/16/99). The Carilion Community Health Fund was also structured to hold monthly forums to help groups apply for the grants (Holton, 7/20/00).

The 1998 Carilion Community Health Fund promised to distribute \$3 million, \$2 million greater than Carilion had ever given to community projects in past years. The fund represented 10% of CHS's 1997 \$30 million revenue excess from its not-for-profit facilities that had to be redistributed to Carilion's hospitals and community programs. (Kelly, 1/29/98). The Community Health Fund, to which Carilion agreed to contribute to annually starting in 1998, represented a close tie to the system's mission to improve the health of the communities it served (Kelly, 8/8/98). Robertson said, "We have all the mechanisms in place to take care of people when they are sick, but we don't have a lot of experience keeping the people healthy" (cited in Kelly, 1/29/98, p. 2A). Robertson said he believed the fund would allow Carilion a means to help people before they got sick.

While some area residents questioned why Carilion would create such a large fund instead of lowering rates for hospital services, a Carilion spokesperson responded

that this was the more responsible and beneficial thing to do for Carilion communities (Stewart, 3/16/00). Robertson said, “Improving community health in a way is counter productive for hospitals, which don’t get paid unless people get sick. But healthy communities make good business sense in the long run” (cited in Kelly, 1/29/98, p. 2A). In 1999, Carilion’s Community Health Fund awarded \$2.4 million to 65 recipients (Holton, 11/16/99).

The funds made a dramatic impact on the region’s various health programs. For one recipient group, the Bethany Hall Community Program whose services received \$16,679 from Carilion’s Community Health Fund in 1999, the fund created a health care manager position. The Bethany program insures health care services for women in long-term drug treatment. Nurse Norma Daugherty, the health care manager for the Bethany Hall Community Program, described how many of the residents at Bethany had abused drugs and alcohol for so long that taking care of their health was not a top priority (Holton, 11/16/99). Jennifer Bulaski, a Bethany Hall resident, claimed that Bethany Hall was the best thing that she had experienced in her life. Bulaski was over two months pregnant when she came to the program. She had been an abuser of drugs, but Bethany Hall helped her to find a different way to live and provided her and her unborn child with proper health care. Carilion’s Community Health Fund helps community members like Bulaski who find themselves in need of care, but outside of traditional forms of care like hospitals. Carilion recognized programs like the Bethany Hall community program for women with drug problems were not feasible inside their hospital continuum of services, but were services needed within Carilion’s communities (Holton, 11/16/99). According to Cromer, Carilion extended its reach outside traditional hospital walls to provide these

necessary community services. At the same time, Carilion reaped benefits from its funding of such programs. Carilion has received much recognition as a community provider of funding and services to southwestern Virginia localities (Cromer, 2000).

In its attempt to further recognition of its name and to expand its services outside traditional hospital walls, Carilion even opened a mall location in 1998. The Carilion Center for Health Education opened at Tanglewood Mall in Roanoke, in 1998. Currently, the center allows consumers to shop for health information, resources and programs just like another store in the mall might allow them to shop for shoes. The center also provides health screenings such as blood sugar screenings and holds exercise classes (To Health, CHS Fall/Winter 1998 “Your Health Care Connection”). Continuing to be competitive, Columbia/HCA opened a similar location at the New River Valley Mall in Christiansburg in 1998.

Matthew Perry, administrator for Carilion Franklin Memorial Hospital, explained that one of the most startling ways Carilion set out to improve community education and awareness of health issues was its partnership with area churches. Described as a faith-health alliance, Carilion established the Carilion Health System’s Congregational Nursing Program in 1996 (Perry, 2000). In 2001, the partnership represents a unique, even holistic approach in preventive medicine that involves local places of worship alongside hospitals in the care of individuals. According to Gene Marrano, writer for the Blue Ridge Business Journal, “Carilion’s basic approach is this: hospitals and doctors aren’t enough to keep people healthy, and preventive medicine especially in the age of penny-pinching HMOs is critical. One of the best venues for reaching out to the community is the churches” (cited in Marrano, 1999, p. 14). Marrano cites studies that indicate churchgoers

with positive outlooks and religious commitments are usually in better health or are more receptive to wellness issues than other people (Marrano, 1999).

Carilion's Congregational Nursing Program places paid registered nurses in a number of churches in Carilion communities, where they act as a referral service when treatment is needed, provide education about health care issues and provide health screenings for specific health related illnesses to parishioners. According to Susan Gring, the director of Carilion's Congregational/Community Partnerships, the program represents "a health access point at the church. People are well when they go to church; they are not when they come see us [Carilion Health System hospitals]" (cited in Marrano, 1999, p. 14). People are more comfortable receiving health care services in a church setting than in a hospital or clinic and, as a result, may be more open to changing personal lifestyles to more healthy ones (Marrano, 1999).

Gring says the important questions for CHS to ask of this partnership are, "Are we building a health covenant in the community that supports enhanced health and well being? Are we using resources in the best way we can?" (Cited in Marrano, 1999, p. 14) Carilion contends the partnership can provide an improvement to the overall health of communities, may decrease health care costs, and help develop a new mindset about preventive medicine: a mindset that acknowledges that lifestyle attitudes, faith and physical well-being are closely linked and important for an individual to remain disease-free. The changed attitude also recognizes that each person is responsible for managing her own wellness (Marrano, 1999).

Although the faith-health partnership brought some resistance from the medical community, because Carilion was encouraging people to get well before seeing a doctor

in its hospitals' emergency rooms. The savings on Carilion's operating costs have made the program worthwhile. Carilion's not-for-profit hospitals have always provided medical care free to those people who cannot afford health care in its communities.¹ Gring defines this type of treatment "uncompensated healthcare." But Gring acknowledges it will be cheaper for Carilion if they improve the health of the community proactively, before citizens (patients) get to Carilion's doorstep (Marrano, 1999).

Lewis-Gale Hospital (Columbia/HCA) began offering a similar program at about the same time. Their program relies on volunteer nurses, a program coordinator and hospital chaplain to partner with five area churches in Salem. Lewis-Gale's Congregational Health Ministry was largely a result of surveys distributed by Lewis-Gale to area churches where people responded to what programs they would be interested in developing for their parishioners. Lewis-Gale's program offers health screenings and seminars on end-of-life decision-making (Marrano, 1999).

Besides its Congregational Nursing Program, Carilion initiated many other outreach programs to educate the community about specific health issues and to provide health screenings. The Carilion Health Quest program (1998-present) provides funds to promote health awareness fair-like events annually. Carilion made available a number of other health care programs from 1997-2000. If interested, one could find classes on joint replacement, smoking, ethics, exercise, cancer, mother-to-be health care education, support networks and personal improvement. Carilion course offerings changed monthly. A calendar of events and advertisements in local community papers was available starting in 1997. Carilion even installed a toll-free health information number for consumers to inquire about particular topics. Registration to attend classes was required (CHS, 1999).

In the late summer of 1999, CHS initiated another step in its outreach, educational programs for the community. Carilion sponsored “To Your Health” on Roanoke.com, an Internet site (Roanoke Times advertisement, 9/14/99, p. 6E). The Internet address gave Carilion another place to provide health care information, its calendared events, list offered services, to provide medical reference guides and drug information.

By 1998, newspaper advertisements for additional Carilion seminars were an almost daily find. Advertisements for a quit smoking seminar, a seminar on the healing power of laughter for cancer patients, and a childhood emergencies seminar were all found in one local paper during the same month. Most Carilion seminars are not free. For example, the seminar for “childhood emergencies” cost \$20 per person.

Competition between Columbia/HCA’s Lewis-Gale Hospital and CHS became intense in 1998-2000 with their community outreach programs. Carilion published a monthly newsletter called To Health that listed community outreach programs. Columbia/HCA’s Lewis-Gale distributed Insight, its hospital newsletter that listed monthly health education programs, screenings, and community service initiatives provided by Lewis-Gale.² Like Carilion, the Lewis-Gale Hospital advertised seminars frequently, as well.

One program CHS initiated began as early as 1995 and continues today. In 1995, CHS partnered with Elizabeth Arden, a cosmetic manufacturing concern, to promote breast cancer awareness and to champion the need for mammograms. Since 1995, Elizabeth Arden and Carilion have teamed up together in the month of October – designated nationally as breast cancer awareness month – to offer a special gift to all women having a mammogram at a Carilion hospital or clinic during the month.

Columbia/HCA runs a similar program in the month of March. Any woman scheduling her mammogram appointment at one of their facilities receives a free gift. Carilion and Columbia/HCA advertise their free offers in local papers to lure customers to their facilities (Roanoke Times advertisements: 10/1/00, p. 7B and 4/21/99, p. 3E). In 1995, Carilion was recognized for its outreach efforts in breast cancer screening and education by being awarded a \$5,000 grant distributed by the National Breast Cancer Awareness Month Board (Kelly, 10/7/95).

By 1999, both CHS and Columbia/HCA were saturating community billboards, radio, television, and newspaper with advertisements for community programs, health care education, disease prevention and awareness, support groups, personal improvement, fitness and wellness information and programs; the list seemed endless. CHS even offered sunscreens for cars with advertising messages on them like: “We make small impressions on our community everyday” (Carilion Women’s Services advertising products, Carilion Health System, 1999). In 1999 and 2000, the average Roanoke Times daily edition, the largest circulated newspaper for the southwest Virginia region, had at least two to three advertisements per health care system, if not more. The names Carilion and Columbia had both become well known in southwest Virginia homes. The two health care systems had begun to mirror one another in many respects: services offered at hospitals, community programs, and marketing schemes. Competition remained keen between the two systems.

Carilion, in playing yet another competitive game with Columbia/HCA, began working on its Electronic Medical Records System (EMRS), placing the system in all Carilion hospital rooms and physicians’ offices in 1999.³ Columbia/HCA staff had

installed an EMRS at their Lewis-Gale Hospital in 1997-1998 (Lewis-Gale nursing staff, personal communication, 10/3/00). Undaunted by Columbia's electronic competitive success, CHS was about to unveil a new marketing campaign that relied on marketing more than technological prowess. Carilion Health System was going to use its history as a marketing tool to compete against Columbia/HCA.

In 1999, as Roanoke Memorial celebrated its 100th anniversary, CHS took the opportunity to celebrate, not only the anniversary of Roanoke Memorial, but to celebrate "A Century of Caring" within all its facilities. Carilion Health System, officially an entity only since 1986, usurped the history of its oldest institution, Roanoke Memorial, and claimed the hospital's history, longevity and traditions to promote loyalty, awareness and relations for each of its other Carilion facilities. Banners, signs, articles, advertisements and all forms of Carilion communication displayed the slogan "A Century of Caring, 1899-1999" for the entire year 1999 at all Carilion facilities.

The banners and the signs with their words evoking long-standing commitment and community concern for health care were emotionally stirring. Virginians were especially moved by the symbolic references to the dogwood tree with its flowering leaves and deep roots pictured on the banners, since the dogwood tree is the official tree of the State of Virginia. According to Neva Hart, who wrote a history of CHS for its 1999 celebration, deep roots of Virginia health care and community involvement was the image Carilion hoped to invoke in its depiction of the system as a tree (Hart, 2000). Carilion Health System claimed it had been "working for healthier communities for 100 years." In one of its own publications done for the Roanoke Times, a CHS advertisement read: "For the past 100 years, Carilion has touched the lives of people throughout western

Virginia with quality healthcare services. This century of caring has been made possible by community involvement and commitment, our dedicated, caring staff and physicians, specialized services and top-notch hospitals and medical clinics” (cited in “Our Century of Caring: Reflections of Carilion’s First One Hundred Years” Carilion Health System, 5/16/99, p. 16).

CHS sponsored a yearlong daily advertisement on WDBJ Channel 7 – Reflections of Carilion’s First One Hundred Years – during its midday newscast and also hosted a one-hour show on WDBJ-7 called “Carilion Reflections A Century of Care.” To top off its yearlong marketing campaign to promote its “Century of Caring,” Carilion published a short work providing reflections of Carilion hospitals such as the Roanoke Memorial, Franklin Memorial, Radford Community, Giles Memorial and Bedford County hospitals. Hart, the primary author for the book, recalls that the title of Carilion’s publication took the marketing strategy a step further. Instead of calling the work “A Century of Caring,” Carilion decided to call the book: Our Century of Caring: Reflections of Carilion’s First 100 Years. With just a simple choice of words, Carilion had moved from providing care to Virginia communities for the past 100 years, to being the sole provider of care for a century. It was a subtle difference, but an important distinction to make. The difference between “Our Century of Care” and “A Century of Care” served to exclude all others (like Columbia/HCA) from the century-old story of care. Hart says she convinced Tom Robertson to change the title from A Century of Care to Our Century of Care to show Carilion Health System had deeper roots to southwest Virginian communities than other health care systems (Hart, 2000).

Columbia/HCA was not to be outdone by Carilion's "Century of Caring." In November 1999, the Lewis-Gale Hospital celebrated its 90-year anniversary and it, too, had banners, celebrations, a televised show about its history and numerous advertisements. The two systems seemed intent upon following in each other's footsteps, competing against one another using the same marketing techniques. Carilion took the marketing strategy one step further. While Carilion's "Century of Care" was an investment in marketing a past they fabricated from just one of their institutions, in 1999 Carilion announced it was ready to embark into a new century of caring: one devoted to new types of care and new directions in health services. In November 1999 as Columbia/HCA prepared to celebrate the 90th anniversary of the Lewis-Gale Hospital, CHS surprised southwest Virginians with the announcement of its plans to build the Carilion Biomedical Institute in partnership with Virginia Tech and the University of Virginia. The story of how Carilion Health System's Biomedical Institute will transform southwest Virginia's health care business is found in Chapter Six.

Whether or not Columbia/HCA's Lewis-Gale will form a partnership with area universities to compete with Carilion's alliance with the University of Virginia and Virginia Tech remains to be seen. Meanwhile, the competition for physicians, services and programs continues unabated between Carilion and Columbia/HCA. Consumers must question if all the advertising dollars couldn't be better spent for additional health care or lower health care costs. Some consumers are even upset and concerned about how the local media portray the two health care giants. C.O. Burnette, a viewer to WDBJ-7, wrote to the station, and his complaint was aired on July 30, 2000. Burnette complained WDBJ-7 reported negative events concerning the Columbia/HCA Lewis-Gale Hospital and the

(PhyCor) Lewis-Gale Clinic, but did not report positive events for the two institutions like the opening of Lewis-Gale's new emergency room in July 2000. Burnette claimed the television station reported positive news for Carilion and made no mention of Carilion's negative events like the closing of the Jefferson Clinic and the forced retirement of the clinic's doctors. Ironically, the news segment where Burnette's comments were read, "Readers Bag," was brought to the public by advertising paid for by CHS with its ad for "A Century of Caring" (WDBJ-7 broadcast 11pm news, 7/30/00).

According to Robertson, in late 2000, Carilion slowed its marketing campaigns against Columbia/HCA. Carilion trimmed its costs once again to meet its challenging fiscal budget for 2000, due in large part as a response to the United States Government's Balanced Budget Act of 1997. Robertson noted that the Act, which included \$116 billion in Medicare spending reductions from 1998 to 2000, affected most areas of Carilion's services: in-patient hospital care, outpatient care, skilled nursing, home health care and psychiatric services (Robertson, 2000). To tighten its budgetary belt, Carilion decided not to fill about 41 positions it had open and to eliminate ten jobs system-wide. In addition to not filling available employee positions, Carilion reduced its advertising budget, eliminated an employee health magazine, reduced physician payments for night calls, and increased employee contributions toward health insurance and prescriptions (Holton, 10/1/99).

An "Agreed Upon Set of Fables"

History for CHS, like most corporate systems, includes a multiplicity of factors. Carilion's history is not mere chronology, but instead, it is wrapped up in the marketing of Carilion's institutions, facilities, services, and even its future. In 1999, CHS claimed it

had 100 years of history, but, as shown, CHS operated only one facility, Roanoke Memorial Hospital, with over 100 years of operations. Also in 1999-2000, Carilion touted that its new biomedical institute provided research seed money for new biomedical and biotechnical researchers from Virginia Tech and the University of Virginia. The Carilion Biomedical Institute had only announced its formation in November 1999 and as of early 2000, had no business or actual location (Hart, 2000). Also in a 1999 Roanoke Times article referring to a house Carilion owned near its Community Hospital, the writer said, “Carilion built the hospital [Community Hospital] there in the 1960s...” (cited in Cramer, 4/10/99, p. 1B). Carilion did not build the Community Hospital in the 1960s. Community Hospital merged with Carilion in 1990 only after a long drawn-out court case with the United States Federal Court over issues concerning violations to federal anti-trust legislation.

According to Hart, history is a business-marketing tool for CHS. History is a marketing mechanism to build customer relations, consumer goodwill, and community awareness of the healthcare system. History blankets Carilion in corporate strongholds that deeply entrench the system’s various organizations into the communities CHS serves. Carilion uses the history of its various organizations to fortify its cohesiveness as a system based on longevity and traditions (Hart, 2000).

CHS’s use of history is difficult to analyze. It is hard to determine where the data fit. Often, key terms like Roanoke Memorial Hospital, Roanoke Hospital Association, Carilion Health System, Carilion Health Plans, Carilion Health Care Corporation, and Carilion Biomedical Institute become interchangeable or are replaced in later versions of a Carilion account by the newer all encompassing word which simply denotes Carilion.

The end result of this type of corporate rewriting is that the individual historical accounts of institutions, facilities and companies are lost. They are molded into a single corporate history; an “agreed upon set of fables” of CHS, according to Dr. Edward Murphy, CEO of CHS (Murphy, 2000). The individual history may be useful for the organizational history and future of CHS, but the single interpretation of CHS fails to adequately portray and tell the story of all the CHS components. Each has a unique history, and each Carilion business or facility brings a set of community memories, impressions and mindset to its historical interpretation. These are lost forever if CHS submerges all its institutions’ history into one corporate account.

Hart claims that CHS is not alone in its endeavor to force a corporate history that retells its multifaceted facilities, institutions, and companies’ past into a single story. The past for the CHS, needless to say, represents only a stepping-stone to today’s business. It is the future of the organization that is important to Carilion. History is only viewed as necessary to Carilion because it tells of corporate consolidation, corporate involvement, and corporate success (Hart, 2000).

Consolidation of history into one corporate identity is a large problem in the field of corporate history. Perhaps, nowhere else in the writing of history is it so complicated to unravel or unpack history. In most walks of life, it is people, places, and ideas that make up history. History is the interpretation of why an event took place and who was involved in an event. Dr. Murphy reflected that in corporate history these connections are lost, as history becomes a corporate identifier (Murphy, 2000). Robertson contended that too often, corporate history is a business-only strategy and it is assumed that the consumer public does not have the time or the inclination to indulge in history

(Robertson, 2000). Corporate history is considered, therefore, not profitable if written from the standpoint of many historical persons, places and events. Instead, corporate history is a marketing tool to buy consumers, and what a tool history can be in the hands of the right marketing group! For CHS, the waving banners at its community hospitals all over southwest Virginia in 1999-2000, denoting 100 years of caring, signified to the stressed, sick, injured patients entering Carilion hospitals that Carilion knew how to care and treat its sick. They had been doing it for 100 years.

Lorton explained that history creates an image. Corporate history fosters a certain set of beliefs about an organization's abilities to carry out the functions it says it can perform (Lorton, 2000). In 2000, Carilion's Tom Robertson used history as a method to gain support in Carilion's competitive struggle with Roanoke area ophthalmologists who wanted to open a freestanding surgery clinic in Salem. Robertson stated, "Maintaining community trust is an honor that Carilion's employees have worked hard 24 hours a day, 365 days a year for over 100 years to achieve" (cited in Robertson, 1/5/00, p. 13A). History ultimately defines a fiduciary relationship for Carilion with its served communities. However, the history Carilion markets to build that trusting relationship is not necessarily all-encompassing. CHS's corporate history needs to correspond with various community and institutional histories, as well. Even CHS's chief executive officer, Dr. Murphy, admits that Carilion needs to pay more attention to how it uses history as a marketing tool and be more concerned with the interconnectedness of Carilion to its served communities' past (Murphy, 2000).

Conclusion

In 1995, Robertson recognized that hospital reimbursements from HMOs, Medicare and Medicaid were continuing to decrease while the demands for health care services were increasing. Robertson set out to transform Carilion into a system that could successfully compete in a managed care market. Although managed care did not penetrate southwest Virginia, as Robertson expected (fee-for-service remained the most prevalent form of health care service reimbursements), the anticipation of managed care's domination of the health care market (1995-2000) determined Robertson's strategy to redefine the Carilion Health System (Robertson, 2000).

From 1995 to 2000, Carilion underwent a series of three transformations to enable it to compete in a managed care environment. The transformations discussed in this chapter were Carilion's reengineering program (1995), the construction of the managed care medical center in Radford to replace Carilion's aging Radford Community Hospital (1995-1999), and the marketing blitz Carilion initiated to gain market share over Columbia/HCA. These transformations describe how CHS redefined its corporate strategies to organize its holdings, construct new corporate facilities and campaign against competitors like Columbia/HCA. Combined the transformations tell the story of how corporate America builds systems as markets, products and competition evolve in dynamic environments.

In 1995, Robertson set out to reengineer Carilion into a system that could manage escalating health care costs, while still providing a full range of services. Without the reengineering program, Robertson predicted that Carilion would not be able to compete successfully in an increasingly managed care environment (Robertson, 2000). For the

most part, Robertson's efforts paid off. Carilion became a more streamlined and cost conscious system that could compete in a managed care marketplace. Carilion's reengineering program was not without its problems, however. As Sid Mason, a Carilion board member recounted, the program created much discord in the system. Top Carilion executives like Dorman Fawley, who was the heir apparent to the system, resigned, and Carilion's nursing staff at its Roanoke hospitals almost became unionized. Regardless of the troubles Robertson encountered with the reengineering program, Mason recalls that Robertson was determined to continue implementing changes that he thought were necessary to position Carilion to compete successfully with Columbia/HCA (Mason, 2000b).

In 1995, besides reengineering corporate operations to compete in a managed care environment, Carilion also initiated plans to construct a new facility to replace its aging Radford Community Hospital. Cromer commented that one of the most important lessons that Carilion had learned from watching other health care systems attempting to compete in a managed care environment was that new and different types of facilities were necessary in the delivery of managed care services such as outpatient services. Carilion set out to build a modern facility in the New River Valley to show its communities that it knew how to deliver care in a managed care facility. Carilion did not just replace the old Radford Community Hospital with a new hospital; it built a managed care "medical center" (Cromer, 2000).

In 1999 when Carilion's New River Valley Medical Center opened, a new era began in managing care for Carilion, as well. Lamb explains that the CNRVMC represented Carilion's attempt to provide care at a "facility geared toward outpatient

services and community programs, instead of a traditional hospital facility geared toward acute care services” (Lamb, 2000). The CNRVMC represented to southwest Virginia that Carilion was winning in its struggle to compete against Columbia/HCA to build a state-of-the-art facility in the New River Valley, too. Carilion’s placement of its NRVMC along I-81 for all patients to easily reach is a highly visible reminder to all passerbys of Carilion’s health care presence in the area and that is the image Carilion wanted to portray to Virginia’s communities (Robertson, 1998).

In 1998, Carilion undertook another strategy to compete against Columbia/ HCA. Carilion initiated a marketing campaign to draw consumers to the system and away from Columbia/ HCA. Carilion’s advertising program included a wide-range of advertising mediums. Carilion utilized billboards, radio stations, television, and newspapers throughout communities it served. Carilion advertised heavily the community health programs and funds it initiated between 1998-2000 to garner more market from Columbia/HCA. In 1999, Carilion’s marketing blitz coincided with the initiation of its “A Century of Caring” campaign. In 1999, Carilion celebrated the 100-year anniversary of its RMH. Carilion used that occasion to recognize a century of caring at all its hospitals, physician-practice sites, and other facilities. Carilion’s “A Century of Caring” campaign included banners, media advertisements, an hour-long program on a local television station, and the publication of a book titled: Our Century of Caring, Reflections of Carilion’s first 100 Years.

Carilion’s 1998-2000 marketing blitz saturated southwest Virginia communities with information about Carilion. Whether the campaign was effective, I am not sure. Most Carilion employees interviewed contended that Carilion’s marketing blitz involved

too much advertising and was too costly. People like Dr. Amos, a Carilion physician in Rocky Mount, believed the money used for the marketing campaign could have been spent better to lower health care costs. Carilion's marketing blitz was countered by Columbia/HCA's own marketing attempts during the same period (Amos, 2000).

Although the pace of Carilion's marketing campaign lessened in 2000 due to the end of Carilion's year long celebration to mark its century of caring, Carilion continues today to promote its facilities and services heavily in southwest Virginia. Carilion's continued attempt to advertise heavily in the communities it serves seems a "little too much," according to Dr. Jack Bumgardner, a Carilion physician in Rocky Mount, who contends "Carilion's communities are already saturated by Carilion facilities, information and people" (Bumgardner, 2000). Overall, Carilion's marketing blitz succeeded because communities began to associate health care services with Carilion.

Carilion's three transformations: 1) the reengineering program, 2) the construction of a medical center in the New River Valley, and 3) the marketing blitz, redefined Carilion as a system ready to deliver care in a managed care environment. Carilion had redefined itself to represent state-of-the-art management of care. This chapter, along with Chapter Two and Three, has analyzed how Carilion corporately built a system to manage care. I will examine next how Carilion personnel are delivering care within Carilion's managed care facilities. While the main emphasis of this work has been to provide an understanding of how Carilion built a system to manage care, it is essential to understand how employees work within the system that Carilion has built. In the next chapter, I describe how Carilion primary care physicians, board members, hospital administrators and hospital medical staff members view Carilion's system building and their individual

work contributions to Carilion's system building.

Notes

¹ The not-for-profit hospital status is acknowledged for a facility whose primary purpose is to benefit the public good. Not-for-profit hospitals, like Carilion's hospitals, pay no local, state or federal taxes for their organization. For-profit hospitals, like those operated by Columbia/HCA are taxable organizations that generally do not accept charity care (non-paying customers). Carilion's not-for-profit hospitals provide health care to all community residents regardless of their financial resources to pay for hospital services. Patients who purchase care in not-for-profit hospitals contribute to the charity care patients unable to pay receive. Yet, patient charges in not-for-profit hospitals tend to be lower than for-profit institutions because all the hospitals' earnings are invested in their facilities, community services and assistance to the poor. In 1994 alone, Carilion Health System had \$44 million in assistance to the poor in terms of charity care. The following chart provides an account of Carilion Health System's hospitals' uncompensated care for 1994:

<u>(In Thousands)</u>	<u>Charity Care</u>	<u>Bad Debt</u>	<u>Total Uncompensated Care</u>
Bedford County Memorial Hospital	\$ 511	\$ 601	\$ 1,112
Community Hospital of Roanoke Valley	3,524	6,619	10,143
Franklin Memorial Hospital	350	1,120	1,470
Giles Memorial Hospital	438	774	1,212
Gill Memorial Hospital	12	74	86
Lonesome Pine Hospital	693	1,018	1,711
Radford Community Hospital	1,389	2,201	3,590
Roanoke Memorial Hospitals	9,421	6,842	16,263
Saint Albans Psychiatric Hospital	29	983	1,012
Southside Community Hospital	1,028	1,879	2,907
Stonewall Jackson Hospital	332	474	806
Tazewell Community Hospital	154	427	581
Wythe County Community Hospital	882	1,075	1,957
<u>Other Affiliates</u>	<u>98</u>	<u>1,052</u>	<u>1,150</u>
Total	\$18,861	\$25,139	\$44,000

See Carilion Health System, 1994. Also see MoneyPenny, 12/13/87 for a good discussion of not-for-profit hospitals.

² Columbia/HCA currently publishes Insight under the name Electa Healthcare. Columbia/HCA began using the title Electa Healthcare in 2000. See Electa Healthcare, October 2000.

³ A full description of Carilion's Electronic Medical Records System (EMRS) is found in Chapter Six which examines new directions Carilion Health Plans is taking to organize its system.

Chapter Five

Narrations of Managed Care

Since the late 1980s, Carilion's transformations to become a fully-integrated managed care organization have been mostly successful and have allowed Carilion to maintain traditions of care that providers and facilities had instituted in communities prior to Carilion. For Carilion employees, carrying out these transformations and maintaining communities' traditions of care have been difficult and have seemed like incompatible agendas. Carilion's physicians, hospital boards, hospital administrators and hospital medical staffs represent some of the groups inside Carilion who have participated in the system's transformations while attempting to continue their communities' traditions of care. This chapter recounts stories by these Carilion employees about how their work experiences have been changed since Carilion began managing care for them.

In section one, I describe how Carilion's primary care physicians' work experiences have changed since Carilion started managing their practices. When interviewing physicians for this project, one of the most striking characteristics found was how many physicians' activities have changed since managed care. For the most part, physicians in southwest Virginia who became employees of Carilion Health Care Corporation (CHC), Carilion's physician management company, share a similar story of how their practices operated before and after Carilion management. The physicians' narratives vividly bring to life the day-to-day office practices involving patients, medical knowledge, managed care, and technology. Their stories provide helpful glimpses into the very heart of what defines physician management companies like CHC.

Section two offers a description of how Carilion groups inside Carilion's hospitals view their work experiences since Carilion started managing their facilities. This section allows Carilion's local hospital board directors, administrators and medical staff to recount how their work has changed since Carilion began managing care at their hospitals. Like the physicians' stories, Carilion hospital board members, administrators and medical staff members' narratives of their work experiences help us understand how Carilion organizes one of its largest concerns – its hospitals. The descriptions of work that these groups share bring to life the day-to-day activities occurring in Carilion's hospitals.

Carilion Physician Voices

All Carilion physicians interviewed claim their practices have been changed by the management of Carilion. Physicians working under managed care have experienced changes ranging from how many patients they see and how they do lab work, to how they themselves are defined as doctors. Many physicians working within managed care have had to increase the hours they work and the number of health screenings they perform, and have had to attempt to standardize some of their treatments to conform to practice guidelines. They have had to learn to work with HMOs, provider networks and healthcare systems linking hospitals and physicians. Through all these changes, Carilion physicians have held firm to their commitment to patients and the practice of medicine. This section examines three of the most significant changes affecting Carilion physicians. First, physicians discuss how their identity has been redefined since managed care. Next, physicians explain what they do in their practices since managed care. Finally, physicians

describe the pros and cons surrounding their involvement in a physician management organization.

One does not have to search long to see how managed care has redefined how physicians practice medicine and how physicians, themselves, are identified. Carilion doctors are defined as primary care physicians. The term “primary care” physician is a managed care term, which designates the first provider of health care services in what can be a long line of providers from whom a consumer purchases care services. Dr. Jack Bumgardner, a Carilion physician in Rocky Mount, identified five types of primary care providers:

- 1) A Primary Care Physician is a physician who delivers frontline health and/or medical services as opposed to secondary or tertiary care. Primary care physicians are entry-level physicians for patients requesting medical care service.
- 2) A Family Practice Physician is a physician who maintains continuity of care for persons of all ages.
- 3) An Urgent Care Physician is a physician who treats acute care/urgent patients, no continuity of care.
- 4) An Internist is a physician who sees only adult patients.
- 5) A Specialist may be considered a primary care provider in some situations. For example, for women’s gynecological services, a gynecologist might be considered a primary care provider (Bumgardner, 2000).

Primary care physicians generally decide if further courses of treatment are necessary (Bumgardner, 2000). The term “primary care” fits a legal managed care definition, which allows a family physician or other generalist to receive payment. According to Dr. J. Francis Amos, a Carilion doctor in Rocky Mount, prior to managed care, most primary care physicians were known as family practitioners (Amos, 2000). Although CHS refers to its providers as “primary care” providers, typically, most Carilion physicians still refer to themselves as family practitioners (Bumgardner, 2000).

Whether they are called primary care givers or another name, these physicians engaged in all sorts of medical services before managed care and continue to do so. Dr. Bumgardner, while describing his partnership practice with Dr. Amos said, “We do general health care preventive, we do general health care maintenance, we do acute care sickness and illnesses, minor surgery in terms of lacerations and we take off simple lesions, and we do some simple orthopedics” (Bumgardner, 2000).

Another Carilion physician, Dr. Brent Lambert in Christiansburg, responded, “We’re family docs, and we do a wide range of care. We do both inpatient and outpatient care; take care of adults and children. We also do obstetrics and both acute and chronic problems” (Brent Lambert, 2000). Dr. William Hendricks, a Carilion physician in Blacksburg, in describing his practice noted, “It is a combination of pediatrics, internal medicine, hospice, OBGYN, geriatrics, dermatology and psychiatry” (Hendricks, 2000).

The wide variety of illnesses Carilion primary care physicians encounter make for a “never boring day” as most of the physicians described their days (Bumgardner, 2000). Physicians move from one patient examination room to the next, not sure what they will find. Dr. Jack Bumgardner decided:

It’s just like the old game show Let’s Make a Deal, you open the door and walk in and you find out what’s there. And if you feel like you can’t handle it, then part of what our training is supposed to be is to help us realize then, what can we do to get the patient where it can be handled. But I think that even though we don’t handle it, to make an appropriate referral is part of the process of taking care of the problem even if we can’t do it ourselves (Bumgardner, 2000).

While physicians do not enjoy seeing patients suffer, the variety of diseases, illnesses, and problems which doctors encounter allows them to do the three things they entered the

medical business for in the first place: 1) work with people, 2) help people, and 3) problem-solve. Dr. Hendricks remarked:

I enjoy the variety of problems that present [themselves] in family practice, and I enjoy the challenge of being the first person to see the patient with a symptom and trying to figure it out. It's probably a little bit like a graduate student attending class during the day, getting an exam, and taking an exam every 15 minutes on what they know (Hendricks, 2000).

Interestingly, when asked if managed care (which has preventive care as its mantra) has changed the type of services Carilion doctors deliver from more medically-related care to preventive care, the answer is no. Most physicians still see patients with medically-related problems rather than for preventive care services. Of the doctors interviewed, all said they average 75-90% acute medical-type problems and the remaining 10-25% are preventive care cases. The fact that Carilion doctors still treat more medically-related problems versus preventive care cases is an uneasy one for Carilion Health Plans (CHP), Carilion's managed care HMO distributor. Chrisman explained that CHP, like most managed care organizations, is attempting to use Carilion Health Care Corporation primary care physicians as its defense line against acute illness services. Carilion's primary care physicians are supposed to provide treatments before acute care medical intervention of services (hospital services) is necessary, but this is not happening (Chrisman, 2000). Since Carilion physicians continue to have more medical-related patient visits than preventive-related visits, one has further proof that managed care has not penetrated southwest Virginia to the extent it has in some other areas, noted Dr. Elizabeth Carmichael, a Carilion physician in Blue Ridge (Carmichael, 2000).

Primary care physicians acknowledge two reasons why preventive care has not become a larger portion of their business: 1) human nature, and 2) lack of Medicare, insurance and

HMO reimbursement for preventive screenings, tests, and procedures (Carmichael, 2000).

Most Carilion physicians recognize that people do not typically visit their physician unless they have a medical problem. Even if a patient comes in for preventive care, they will use the visit to discuss medical concerns, as well. Dr. William Hendricks, remarking about the preventive care cases he does see, said:

I see more medical-related problems. The patients who do come for preventive-type services almost always have medical problems. So, when a person comes for a complete physical, I rarely do not discuss a problem. So, it's mixed. They may have a rash and headache or some back pain or something that they wouldn't come in for usually, but when they are there for the physical, they want to talk about it (Hendricks, 2000).

Physicians recognize that the most important reason why they have not seen a significant growth in their preventive care business is the lack of reimbursement by third-party payers. Dr. J. Francis Amos, in talking about his preventive visits, responded:

I see more medical related problems, by far. Society in our area has not become very preventive medicine oriented and neither has Medicare and things like that. The insurance companies don't really support that, you know, just prostate screening for cancer, this type of thing. You have to jump through hoops to get other preventive screenings. It's not easy to do screenings on all patients. Patients come in and there's a strong family history of diabetes and so they want to be checked for it. Well, the insurance company won't pay for me just to screen because of that family history, but once you got it [diabetes] they'll pay for it from then on to follow it up. But it seems to me that some screening lab work ought to be in order. What really irks me about a lot of this system that I see, we did a blood-screening test here for years in this office and we charged \$42 for it. It's about 50 different blood tests and was a big panel that could be done. We charged \$42 for it. It's now \$52, and we can rarely use it. Medicare came along and the insurance came along afterwards. Medicare was first and then the insurance always follows suit, and they said no we will not buy lab services from you; we will buy it directly from the lab where you buy it. That's going to be cheaper; they're going to make more money from it. So they said we will pay you a drawing fee, and I don't know what that was, six

dollars or something like that, you draw the blood and you send it to us. Well, what they did then, they also put criteria here, we will only do the lab work that is indicated. In other words, if I needed to get some blood work, I could get the whole panel cheaper than I could get one test. If I got a thyroid test when I was getting this, which is included, just the one TSH, it would cost me seventy-some dollars. I was charging, well right now, \$52 for the whole test. For the fifty-some studies which included this. But Medicare and the insurance company say you have to run it through them. What they do then, if you order all the tests you have to do, they will charge about \$250 for the same studies, they send it to the same lab and get the same thing done, but they charge \$250 plus, then they will not pay for most of it because you have to have specific indications for every one of these individual tests there. So they say no you don't need that, so therefore we won't pay for that. So in order to get this similar type study, the patient will end up paying \$175 just to get the study that I still charge \$52 for. And the insurance company and Medicare says no you cannot let patients just pay for that out of their pocketbook and do it, and that's what patients want to do, if you're with it you've got to get it through us. So I wrote to the head of Blue Cross Blue Shield and said this doesn't make a bit of sense why you would do this, the patient pays more and gets less. We turned up a lot of things that were unexpected, but that's preventive care. You know, we found out about them before they became manifest as a disease, you turned up sugar, all kinds of thyroid problems that would take several years to show up. You never let those develop; you just treat it to start with. So we've got to get our heads screwed on right, if we're talking about preventive care then you've got to get insurance companies and Medicare who is basically controlling it, to stop giving lip service to it and put their money where their mouth is, and that's what we've got to do right now. They talk about this and they urge people to get this done, but what they're really saying is you get it done at your expense and maybe we can save ourselves some money, but it would be so much cheaper if they'd let people come in and get the screening tests done and check these things out. And preventive medicine, we're treating diseases, but as part of treatment of diseases like diabetes, we're also doing preventive medicine to try to prevent the complications of that by screening their urine for protein and doing all kinds of eye exams and things like that (Amos, 2000).

Preventive care is viewed by managed care plans to be too costly in terms of laboratory tests. In some cases, these tests could be grouped together and provide screenings for a number of diseases, as Dr. Amos described. Most insurance companies separate the screenings apart from one another to simplify billing and coding of diseases

and authorize only tests necessary for a particular illness. Each additional disease must be tested separately, which accrues staggering costs to the HMO or insurance plan and ultimately to the patient. Dr. Amos insists these costs could be curtailed if managed care companies utilized tests that screen for more than one illness at a time. To Dr. Amos and some other Carilion physicians, the reason why managed care has not come to identify more closely with preventive care is that managed care plans account basically for costs associated with medical services and tests. Most Carilion physicians agree with Dr. Amos' assessment of managed care plans. Other physicians, such as Dr. Bumgardner, say, "managed care is not concerned enough about preventive care nor are managed care plans concerned about quality of life issues." Dr. Jack Bumgardner further stated:

I think we still see more sick people. Certainly the hope in the future of Medicine would be that we could do more preventive work, but that's also expensive, and it's hard to show patients and third-party payers that prevention pays off, because we've all been shortsighted. So if you can come in and get a patch on whatever is bothering you for ten dollars, or if you could come in and get that \$4,000 shot every month for prevention down the road, which one is going to be better down the road? And most people look at the ten dollars you pay today and say, hmmm, I'll pay the ten dollars today and see how long the patch lasts. And that's true of so many diseases today, or even not diseases, but states that affect your health, cholesterol being one of them. Cholesterol medications, even the least expensive, will run you \$50 a month, and you have to take them the rest of your life because once you stop, your cholesterol goes back up if you don't really change your diet and exercise, and people aren't going to do that, so you look at \$50 a month for the rest of your life, that's a lot of money. So the insurance companies sometimes will pay it, and sometimes won't, because they go back to their actuaries and look at life expectancies, and risk factors of who's going to have heart attacks and strokes and they say okay, if you have a stroke when you're 55 or 60 and you live for ten years in a nursing home, and it costs us \$75,000 a year in a nursing home for ten years, that's \$750,000. \$50 a month, how long would it take... but the problem is, everybody is not going to have a stroke. And it gets back to mammography. Mammography can find a lot of breast cancers, but we try to get all the women in the age group for whom its appropriate to have a mammogram, but mammograms aren't cheap, but if you have a

person with breast cancer, not only maybe can you cure her, but if you find it early maybe you can cure her, but you can also treat it. On the downside of that, the treatment is expensive, so how many people did you have to check with mammograms to save one life or to save any money, because are you spending your money on mammograms or are you going to spend it over here on treatment of the one who gets breast cancer. It's not that you're truly going to save money; it's where you're going to spend your money. And so the way I look at preventive care and the reason I feel it is important is I think it adds to quality of life. I think it's better to give someone the best quality of life he can have for as long as he lives, as opposed to trying to make him live all lot longer, even if his quality is miserable. That's how I look at preventive. I think that's the difference (Bumgardner, 2000).

Whether Carilion physicians are seeing patients with preventive or medically-related concerns, for most physicians the day begins early. Both before and after managed care, most of the physicians' average day involves at least nine to ten hours at the office, and on some days the hours are longer. Physicians begin working around 7:30 or 8:00 a.m. and end at 5:30 or 6:00 p.m. Since the coming of managed care, Carilion physicians may work the same number of hours, but they squeeze more work (patients) into those hours. Prior to managed care, Carilion physicians interviewed typically saw about 20 to 25 patients per day, and they spent an average of 20 minutes with each patient. Currently, Carilion physicians see about 30 to 35 patients per day in their offices in a combination of scheduled appointments and walk-ins. The physicians spend about 15 minutes with each patient.

In discussing their time with patients and the number of hours they work, Carilion physicians shed much light on a physician's typical day. Dr. Jack Bumgardner said:

Everything is relative, and I say that smilingly, because I try to spend an appropriate amount of time with each patient, but that's from my standpoint and if you ask my patients, some of them would say I don't spend enough time with them. And that's a common complaint people have about their doctors, is well, he just doesn't spend enough time. I try to make my time quality time and listen to what they have to tell me

and yet keep it as efficient as I can, because I know the waiting room is full. My day starts about 8:00 a.m. each day. I see patients until about 1:00 and I stop until 2:00 p.m. and have lunch, if I'm lucky. Then I work from 2:00 until about 5:30 p.m. seeing patients, and then I sometimes take a break and eat supper and come back at work until 9 or 10:00 p.m. And that's usually five days a week, and then I work part of Saturdays and Sundays in the office. Every other Saturday I see patients here in the office. I work almost every Saturday and Sunday, if I'm not seeing patients, I'll come in and do the rest of my work that has to be done. I see about 40 patients a day, Monday through Friday. So the time varies again, depending on the needs of the patient. If a generally healthy person comes in with a little bit of fever and a sore throat, then that's a quick exam, you can be out in about four or five minutes probably. But if someone comes in with some emotional problems, you can spend a half-hour there, and it can really change your day, because everyone else is wondering where you are. Or if you have some minor trauma that comes in, we do a lot of industrial work so we've had patients come in with lacerations and injuries that we'll do here in the office, which can set your schedule back some, and we work by appointment, but we also try not to turn anyone down who is sick, so I have about 20 appointments scheduled today, and the rest of today's patients are people who just wake-up sick today and decide they need to be seen today, so we try not to turn anybody away who wants to be seen. And that's where those 40 people come from (Bumgardner, 2000).

Dr. Francis Amos noted:

We start at 8:30 a.m. and a lot of times I pretty much go on through lunch, maybe take five minutes to eat. My wife brings something up and puts it in my office and I run in between patients and eat that and keep going, and we'll get the last patients out between 5:30 and 6:00 p.m. and then I will be here until at least 8:30 every night before I go home for supper. And lots of days it will be 10:30 p.m. before I get home (Amos, 2000).

Besides moving quickly from one examination room to another to see patients, Carilion physicians have numerous other activities to complete. Physicians spend part of their work day managing an office staff, compiling patient records, meeting with pharmaceutical sales representatives, re-educating themselves for board licenses and certifications, taking care of their hospitalized patients if they run a hospital business,

sitting on various boards of community organizations and other activities. For most physicians re-education and training is the most time consuming of all their practice-related activities.

The American Academy of Family practice and its local state chapters require a highly concentrated curriculum for primary care physicians to take yearly to meet re-certification requirements. Dr. Elizabeth Carmichael said physicians must be completely re-certified every seven years by the state board of physicians (Carmichael, 2000). Each year, all physicians must have 50 hours of study toward re-certification areas. These hours of study may come in the form of conferences, tapes on various topics, or study guides with tests. For most physicians, it is difficult to find time to keep up with changing medical literature and services. They listen to tapes as they drive to and from work, attend conferences for a vacation getaway from the office and take examinations, often late at night, to test their knowledge in certain areas. Dr. Bumgardner speaking of his re-education said:

I'm only six months, well maybe a year behind in my home study programs through the Academy. Last week I spent my vacation week at Myrtle Beach at a family practice meeting. Pharmaceutical companies will have seminars on various things that they are trying to promote to us, new drugs and treatments for diseases, we go to those, and we go to other kinds of lectures and events, we get a lot of stuff in the mail that is educational about new drugs and nutrients, and we get things that we called throwaway magazines that have good stuff in them, but there are so many of them you can't read them all. I get four or five of those a day and I sort of look at what's on the front of it and read an article here or there. And you get education from working with your consultants, if you have a problem and not sure what it is and I send it to the consultant and he sends me back a letter and tells me what he found and what he did, and if I see that problem again the next time then I might do that instead of sending it to him (Bumgardner, 2000).

Dr. Francis Amos said:

Well, the week of July 4th I used to go to Myrtle Beach for a week, that's my vacation, but it's a week the North Carolina Academy of Family Practice puts on a refresher course, I was in meetings every morning from 7:30 to 11:30, July 4th included. I went down on Sunday and as soon as I got through the course on Friday, I took out back home, but that's my vacation. But I go to a medical meeting like that, I will go to the American Academy of Family Practice meeting, which is an educational meeting in Dallas this fall, and that will be three or four days, and then I do a core content review, which is 45 hours a year of studying materials every month. They send you a book and you do questions and then the answers and so forth. The American Academy of Family Practice and the local state chapters, they support this, it's a highly respected educational review, it kind of keeps you up-to-date on what's going on. The American Academy of Family Practice was the first to require that their physicians take this and to be re-certified in boards, so in order to keep the quality up, they require that you take re-certification boards. So every seven years, we have to be re-certified. Not all of the specialists have to do that. So each year, you need to get 50 hours in. So we used that, and we go to conferences, some of them give you credit and some of them don't, but it's a constant effort. You read magazines and so forth. I went over to Roanoke this morning and stuck a tape in and listened to it on the way there and on the way back, you know, every minute that you have you're just cramming because there's just so much material out there, there's so many changes, and it's changing so fast you can never learn enough (Amos, 2000).

For most physicians the average weekly activities break down into the following categories: patients, administrative/managed care paper work, management of office staff and other. On average, physicians interviewed spend 75% of their time with patients, 15-20% of their time with administrative personnel, 5% with managing the business and staff and 5% with other concerns.

Most physicians note the breakdown of activities holds for both pre and post managed care. If little has changed in their daily routines, except to increase patient visits and to decrease time spent with patients, why did these physicians join Carilion? Dr. Hendricks answered that for the physicians interviewed, the decision to join Carilion stemmed from a combination of the following reasons: 1) financial pressure on solo

practice offices, 2) the need of financial capital investments for practices, 3) opportunity to improve patient care, 4) opportunity to increase access to larger care facilities, 5) provider of economic security for the physician in the managed care environment, 6) negotiations power with HMOs, and 7) to decrease paperwork (Hendricks, 1999).

In the 1990s, most physician-practices were showing flat revenue or revenue losses mainly due to increased expenses in technology purchases that would eventually mean closing office doors if profits could not be made. Secondly, independent practitioners knew they could no longer keep up with the latest medical technology without a heavy influx of capital for expensive, new medical equipment, facilities and office technology systems for patient record keeping. Thirdly, the doctors began seeing mergers with large health care systems as a way to possibly improve their patients' care. By becoming part of Carilion Health System, physicians believed they could get necessary funds to purchase the office systems and medical technologies to provide state of the art care for their patients. Fourthly, a merger would improve access to care for their patients, not only in their own facility by providing modern equipment, but would link their offices to many other practice offices and hospitals to provide access to care wherever their patients were.

Next, the physicians felt the mergers of their practices with Carilion would provide some measure of economic security in "these times of uncertain managed care" (Hendricks, 1999). The physicians argued that the burden of regulation had gotten to be too much and they believed a merger with CHC would decrease the time it took them to do required paperwork for HMOs, federal and state government programs, and other insurance carriers. Lastly, the physicians believed a merger would provide them with

bargaining power as a collective large group to negotiate with HMOs for better contracts.

In recalling his agreement to sell his practice, Dr. Amos noted the importance of negotiating with HMOs. He said:

Number one is the fear of being out on a limb and cut off, and this was a real fear at one time, that if you didn't become a member of a group that was kowtowing to HMOs and was able to negotiate and work with HMOs, that you were not able to get the information back for the system, for example, with computerized medicine that Carilion is doing to get that information back if some insurance company is even considering negotiating with you, you can pull up the data that you want for any big region here and say to them, well here's what we can do and here's what we do, and here's what we've done in the past. So there was this feeling that in order to stay in the running game, we need to be positioned so that we're part of a larger group, cause number one, you had these HMOs that were coming in and you'd have this contract, that contract and the other, and of course, it was divide and conquer. And they would offer you so little, you couldn't make a living seeing their patients and you'd say no, but if you say no to so many of them, you don't have any patients left if you have a high penetration of HMOs in an area. So if you have several different major industries that have HMO contracts and you can't deal with them, then you're out of business, and that's what's happened a lot in California where you have such a high penetration out there. So it was that fear that that type of penetration was coming into our area and you'd better get your ducks in a row and get lined up. And I think there was a little bit of a frenzy of trying to get in, and so a lot of people sold out. There was also the feeling that, hey, we don't want to deal with this stuff every day, we can't deal with that, we don't have the expertise. So if I've got to go out and hire an expert to give me their opinion, I'm not going to have much left over because the HMOs not going to pay me very much anyway. You know, you take the reduced fee on it anyway, and then you've got to hire somebody with every contract, I can't afford to do that. You can do it just as easily with a big corporation like Carilion. They can review the whole contract; they've got more clout because they've got more doctors. Their penetration is such that they can deal with these companies, and that's the way we were doing it in Blue Ridge Primary Care, so hey, no we're not going to take this, and we've got enough doctors in this area here, you're going to be hurting if you don't use us. So, that's basically where most people got into it, they wanted expertise and they wanted to be part of a larger program, and I've heard physicians in other areas, these were in several large cities, that got left behind and have really regretted it and they have said I'm probably going to pick up and leave because I don't have anything left but the

pieces now. Most of my patients have had to go to the HMOs, and so I have a few private patients but they're not enough to keep me busy, and what contracts I have are so cheap that I can't make any money on doing that, so I'm just a bind. One of the real problems with HMOs is they don't seem to realize, they keep screwing the thing down, you know, less and less money for this, when everything else is going up, but they don't seem to realize that there is a bottom line that you can't afford to see people, but not in their eyes, they're going to continue to do it. And that's what they do; they force a lot of people out. If they take over a large percent of the market in certain cities, if they have enough of the market, then you become prey to them and they will just keep screwing those numbers down, each year they're going to pay you less and less and less until you reach a point that you've got to pick up and leave. You can't stay in practice, you've got to see patients to make a living, but if you can't make enough on each patient to make a living, you have no choice, and that's the way they do it (Amos, 2000).

Dr. Reed Lambert, a Carilion physician in Christiansburg, said:

For me, the decision was that the complexity of medicine was changing and dealing with insurance companies, third-party payers, was getting more difficult. We felt like the HMO thing was on the horizon, which it turned out probably wasn't on the horizon as much as we thought. I think, we really felt inadequate in making those business dealings and we had an office manager who was very good, but she was a glorified bookkeeper, I mean, she really was not in any position at all to negotiate or understand contracts and that sort of thing. And so we felt like we either had to spend the money to hire a much more sophisticated office manager to do those kinds of things for us, or we had to align ourselves with somebody who could provide some of those resources that we didn't have. Or the third option was for one of us ourselves to start doing that, and then we figured if one of us did that that would take this eventually completely out of the practice of medicine. I think the end we decided that the best thing to do was align ourselves with somebody. We had been practicing at Radford Hospital for years and we were very comfortable with them, they approached us, and it seemed like a good deal (Reed Lambert, 2000).

Dr. Brent Lambert, another Christiansburg, Carilion physician, said:

The whole reason we went with Radford hospital rather than aligning ourselves with Blue Ridge [the Blue Ridge Primary Care Group] is because at the time we sold this practice, we actually sold it, as far as we were concerned we were selling it to Radford Hospital, we weren't selling to Carilion Health Care Corporation, necessarily. All the negotiations that went on, went on between us and administrators at the

Radford Hospital, and we had a real comfort level with these folks. We've been working with them for years and we completely trusted them and they were very trustworthy (Brent Lambert, 2000).

When asked what benefits they received from their sellout to CHC, physicians stated for the most part essential office technology systems, increased capital flow into the facility for medical equipment, staff to handle some of the administrative paperwork for the handling of HMO and government programs and, most importantly, negotiating power with HMOs.

In discussing how his practice benefited from merging with Carilion, Dr. Reed Lambert said:

We got computers. Of course, even in this office there's a fair amount of discrepancy, I mean, everyone in this office would probably answer that question differently. At least in my mind, I think we got what we wanted. We got knowledgeable people to administrate between us and third-party payers to come up with the best deal; we lost some of the main administrative hassles running the office, but not a lot. We ended up being just about as involved, maybe in some ways even more involved in the administration of the office, just because the complexity of medicine has changed. But I think we are still in the same boat. If we went back to private practice tomorrow, we still would not have anybody with the skills to go negotiate contracts. We needed Carilion Health Care Corporation (Reed Lambert, 2000).

Dr. Brent Lambert remarked that for him the main benefit he got from his practice's merger with Carilion was negotiating power. He said:

The thing is, you have no clout. When a third-party payer comes to town that is putting together a network, they want doctors to participate in the network. But if they've got one or two or three here that decide to stay out, it doesn't matter to them. But if you are a third-party payer and you want to come into this market, being the New River Valley and the Roanoke Valley, and so on, it's difficult to ignore the Carilion Health Care Corporation and that works very, very much to our advantage. We've been very successful recently in negotiating with third-party payers and have negotiated much better terms than what they laid on the table. And if you were a one or two man, or even a four or five man show, they're going to come in, lay it on the table, and

you're going to take it or leave it. And that's not what happens now. They lay it on the table and we say well we're not doing that, would you like to negotiate? And if the answer is no, then fine, but no one yet in this market has said no. That's what you're looking for (Brent Lambert, 2000).

Even though by merging with CHC, physicians garnered some benefits, for the most part, physicians argued what they received from Carilion were "false hopes" (Hendricks, 1999). Dr. Hendricks estimates that he spends more time with administrative paperwork now than he did prior to his association with Carilion (Hendricks, 2000). Another physician recognizes there is a high price to pay for being part of a physician network; that price is his professionalism. Dr. Bumgardner said:

My biggest regret is that it's my professionalism that they've taken away, because now they don't treat me as a professional they treat me as an employee, and they don't even treat me as a professional employee. Some of these practice managers really don't know anything about running an office, they know about numbers and they know about red ink and black ink and stuff like that, but they know nothing about taking care of patients, but these are the people now that are telling me what I can and what I can't do. So it just destroys you in that, I see some erosion in the profession of medicine because of this, because they really don't treat us as professionals, they say they do, but they don't. We're just employees like the man who mows the yard, and I'm no better than he is, I don't mean to say that I am better than he is, but at one time we were professionals, we had opinions that meant something and today they don't mean a whole lot. We're managed by the managers just like the dietary departments, or the insurance department, or the office clerk staff, or whatever. We're just another employee in the system. That's really sad, I think, for the consumer, for the patient (Bumgardner, 2000).

Dr. Amos echoed Dr. Bumgardner's sentiments, noting:

I think physicians are not held as professionals as they once were. Twenty years ago it was a whole different perception of physicians. Nowadays, we're just a skilled labor or whatever, doing our job, and I think there's more and more of a perception of that. It's like you're just doing your job that you're trained to do, and that's it. And a lot of that has had to do with the role of the HMOs; they have usurped so much of our prerogative. It used to be I could prescribe what medicine I wanted

for people and we could do whatever. There are too many rules out there now, you know, the insurance company tells me what kind of medicine I can use, and somebody's always there telling you what to do, so you find yourself almost doing unintelligible stuff that I wouldn't have thought of 20 years ago and I think we had a lot more freedom to practice medicine the way we wanted to. Nowadays there are so many constraints for one reason or the other. I think that's one of the reasons I kind of like getting out of the hospital, I think they have even more than the office has, but I enjoy having the liberty to practice medicine the way that I want and see patients and work with them on an individual basis. More and more we're just getting into a mold that, you've got a protocol for doing this that and the other, and we may as well have a monkey practicing (Amos, 2000).

Besides eroding professionalism, the association of physicians with Carilion has in many cases financially crippled some successful practices. Dr. Bumgardner stated:

In the way we practice day-by-day I've lost very little of my autonomy. Part of that's because Dr. Amos and I work very hard, so we still have an ongoing practice that is... we're in the black, financially. Because of the mergers and a lot of expenses involved in mergers, when you go into something like this you end up with a tremendous amount of overhead, much more than you've ever had before. Because in primary care and family practice, you worked hard, you did whatever, paid your bills, whatever was left over, that was your salary. Well, as you go into an organization like this, particularly one with the bureaucracy of a Carilion, everything is more structured so they say, well, we'll pay you this based on such and such. What they didn't realize is that, in primary care family practice, whatever, there really isn't anything left over for profit once you pay salaries that people expect to make, and you pay your staff, and you pay your bills. They dumped a lot of overhead on us, and before we went with Carilion we had, I want to say, ten employees in the building and two doctors. Now that we are with Carilion we have ten or twelve employees because we had to get a couple others to do a few other things they required of us, but we have to generate money to pay all these other Carilion people who now work for a division of Carilion called CHC, Carilion Health Care Corporation. Well, we have an executive director, you probably met Hugh, somebody has to pay his salary, so it comes out of profits generated by each of our practices. And then he's got an entourage of assistants and secretaries, ten, twelve, fifteen people, and then we're paying accountants and lawyers because they're all in the Carilion System, and every time we need something that's done by them, we get billed for it as a cost center. And then we have a regional office manager in addition to just an office manager here, we have a regional

office manager and she has a secretary, and I'm sure her secretary has a secretary. You know, they've got more vice presidents than the United States has had in the history of this country because we only have a vice president every four years, and they've got a vice president in charge of vice presidents. So that load of overhead, and then they come in and want to computerize everything, and that overhead comes back to the practices. They say it doesn't, but it really does. It's got to be paid somewhere, so they sneak back in some other way, and it comes back. So a lot of the practices that were very profitable practices when they were by themselves, are now in the red according to the bookkeeping system of Carilion. Again, Carilion keeps its books like any other business. Doctors are not very good business people, so Carilion cost accounts things. I'm sure you hear things of "I was of the hospital and they gave me a Tylenol tablet the cost me ten dollars" and somebody says "well, I could have bought a thousand of them for ten dollars." Well that ten dollars is five cents for the Tylenol tablet, but it's a dollar for the guy who is mowing the yard, its 50 cents for the light bill, its five dollars for the pharmacist who got it out, its five dollars for the nurse who gave it to you, and consumers don't realize that in medicine. They realize that if they go somewhere else there is overhead, but in medicine they don't really realize that. Well lot of practices didn't realize that until now we're in the Carilion group and that's how they account things, so they don't give a services, if we need something, well even if we don't need, we have to pay that practice manager's salary, so if that regional manager's doing five practices, those five practices sort of have to come up with some way of paying part of her salary. We don't pay it all I'm sure, but we're expected, whatever we generate, something has to come off the top to pay all these other expenses that we used to not have. But that's bureaucracy (Bumgardner, 2000).

For most of the physicians interviewed, their sellout to the Carilion Health Care Corporation was both a good and a bad deal for their practice. They each admit it was the best option at the time to secure bargaining power against third-party payers and to procure capital investments for their practices, but their sellout has come with a high cost.

Physicians, battered by the loss of professional autonomy and the intrusion of administrative directives into the doctor-patient relationship, now find themselves reduced to generic "providers" and disfranchised "gatekeepers," according to Dr. Ranee Chakravorty, a Virginia Veteran's Hospital surgeon (Chakravorty, 2000). The physicians

are reduced to “encounters” with patients lasting on average 15 minutes. In those 15 minutes, a doctor finds herself...

Listening to patients stories of suffering, fielding streams of good questions that often have no good answers, offering hopeful but sometimes uncertain advice, yielding decisions and performing procedures under the duress of time and sharing in patients’ most frightful and despairing moments (cited in Neuwirth, 1999, p. 79).

The importance of the doctor-patient relationship, acknowledged as crucial by all physicians interviewed and, according to many physicians across America (Mahoney, 2000), appears to be the aspect of medicine that is suffering the most due to managed care. Recent research indicates that patient health outcomes are related to the quality of the doctor-patient relationship. In 1998, a study conducted by the New England Medical Center’s Health Outcomes Institute found that patients adhere to doctors’ treatments and improve most often if the patients trust their physicians, and if physicians have knowledge of their patients’ home life, health beliefs, and values (Holton, 9/19/99). In the study, researchers reviewed the results of more than 6,000 patients to establish their satisfaction, adherence to medical treatments and improvements to their health. In another 1998 study conducted by researchers at the University of California, Davis School of Medicine, similar correlations were found (Holton. 9/19/99).

Health care systems, such as Carilion, have done little to act on these findings, and patients and physicians both as a result suffer. One patient of a Carilion physician reported to Noel Holton, a Roanoke Times writer:

How can Carilion call itself a caring, non-profit organization when they seem to put the almighty dollar in front of the needs of the patient? The trend today is to push doctors to produce, produce, produce more revenue through more tests, more prescriptions, with the least possible amount of interaction between the physician and patient (cited in Holton, 9/19/99, p. 1A).

Physicians like Craig Mitchell, who left the Carilion physician network said, “There used to be a down-home, family feel to it, but not anymore. The relationship between doctor and patient is heavily overshadowed by business concerns. It is purely business” (cited in Holton, 9/19/99, p. 4A).

Currently, almost 80% of southwest Virginia family/primary care physicians belong either to the Lewis-Gale multispecialty clinic (100 or more), the Carilion Health Care Corporation (150 or more), or Physicians Care of Virginia (50 to 75). Speaking about how so many southwest Virginia physicians work within physician organizations, Dr. Jack Bumgardner said, “The environment has dictated that we have to. It’s like everything else, there are good things and there are bad things. At this point in time, it’s just the way it is” (Bumgardner, 2000).

Not only is it the way it is, but the management of physicians has become a big business. Physician recruitment into practice management companies like Carilion Health Care Corporation has become a full-time effort. As America’s medical school admissions have continued to decline in the past few years (in 1999 alone, the United States medical school admissions declined by 6%), physician recruiters have become essential to health care organizations like Carilion. Carilion, the Lewis-Gale Clinic and Columbia/HCA’s Lewis-Gale Medical Center, all have in-house physician recruiters. These recruiters help to bring physicians to the health care systems. According to Don Lorton, Carilion executive vice president of Strategic Services, Carilion recruiters work closely with the management staff of the health system and are included in staff strategic planning and development meetings (Lorton, 2000). Hugh Thornhill, CEO of Carilion Health Care Corporation, explains that recruiters spend a great deal of money to have potential doctor-

employees visit their health care system physician practices. The recruiters go to great lengths to inform possible employees about the area so a doctor can make a better-informed decision about her employment in a given locality. Recruiters want physicians who will stay in specific areas, not ones who move around often. Physician recruitment is a big business with high stakes for health care systems. Carilion Health System does not want physicians who start practicing and then suddenly stop after a patient base has been established (Thornhill, 2000).

Recruiters work hard to identify physicians who have appropriate skills needed for a particular practice. Those appropriate skills range from medical expertise to language translation abilities. For example, in 2000, at one Carilion practice in Galax, Carilion advertised it employed a physician who could speak Spanish (Carroll News, 8/16/00, p. 7A). Carilion recognized the Galax community had a growing number of Spanish-speaking immigrant farm workers who needed a medical provider who understood Spanish.

Finding the right match between a physician and communities' medical needs is an important commitment Carilion attempts to maintain. Physician recruitment is one way Carilion links its physicians' group culture, corporate services and communities together. Successful physician recruitment enables both physicians and health care systems to profit financially in the long run, says Don Lorton, Carilion executive vice president of Strategic Services (Lorton, 2000). Physicians are made more aware of the potential benefits and problems associated with a practice earlier and, therefore, can make better-informed decisions as to whether or not to assume a position based on income

projections and incentives (Lorton, 2000). Hugh Thornhill, CEO of CHC, argues that income decisions are important to a physician. Thornhill noted:

One never wants to come between a doctor and a dollar. For most physicians, the view of their practice is the length of their career; it is not the length that they are trying to build a group practice that will become a Mayo Clinic. They are trying to get to 65 in a way that they can retire comfortably and to have enjoyed a good career where they think they have done the right thing for their patients. There is a lot of money tied up in those goals. Physicians are very threatened by economics, by managed care, and by people telling them how to practice medicine. Meanwhile Carilion Health Care Corporation is threatening to them by its sheer size and where it wants physicians to go into the future. It is threatening to some of its members, but members realize they cannot go out and practice in the old fashioned way any longer. The days of the independent, solo practitioner are gone and at least by being part of Carilion Health Care Corporation, the physicians can make sure, the medical community that they helped to establish in southwestern Virginia will not be bulldozed over. Instead, Carilion Health Care Corporation is an organization deeply rooted in the physicians' group culture and that group culture with history, common visions and traditions will serve Carilion Health Care Corporation to move forward in ways appropriate for southwestern Virginia physicians to manage care (Thornhill, 2000).

Carilion physician Dr. Robert Strong of Rocky Mount says, for physicians, the stakes have been high, whether to join or continue involvement in physician-managed organizations like Carilion Health Care Corporation. To actively have a say in how care is managed, most physicians contend employment with physician management companies is the best possible affiliation to guarantee that their voice is heard (Strong, 2000). Carilion physicians, like Dr. Elizabeth Carmichael, agree, for all the difficulties surrounding the transformations of their solo practices into corporate managed practice sites, their patients have benefited from additional access to services and medical technologies (Carmichael, 2000). The demands placed on Carilion physicians by managed care plans, the Carilion Health Care Corporation management strategies and the

increased productivity operations at their individual sites, seems a small price to pay for the increased quality of patient care noted Dr. Wayne Grayson, a Carilion physician in Roanoke (Grayson, 2000).

In general, Carilion physicians recognize physician management organizations like Carilion Health Care Corporation challenge physicians to organize and manage their practices to generate more efficiencies and productivity. The increased income from more productive physician work and savings from office efficiencies result in money to fund what the Carilion physicians see as their ultimate goal – better quality care services. The Carilion physicians believe even more increased quality of care will derive from the use of their new Electronic Medical Records System (EMRS). The EMRS, in turn drives, not only the physicians to deliver better patient care, but also the Carilion Health Care Corporation, the Carilion Health Plans and ultimately, Carilion Health System to extend patient quality care further, according to Dr. Edward Murphy, CEO of Carilion Health System (Murphy, 2000).

The EMRS was the most significant reason behind physicians' renegotiated contracts with Carilion in September 2000. In the summer of 2000, Carilion Health Care began re-contracting with its physicians who joined the company in 1996 from the Blue Ridge Primary Care Group. The 1996 agreement stipulated a new contract must be negotiated every four years. The original terms allowed a physician to sell her practice to the CHC for fair market value and to become a stockholder in the CHP. The 1996 contract employed the physician, her office staff and nurses as Carilion employees and the contract stated the physician would receive salary based on productivity and

incentives. The physicians' office staff and nurses were to be paid out of the doctor's salary from CHC (Grayson, 2000).

The Blue Ridge physicians joining CHC in 1996 negotiated for these contract terms for two reasons. First, they feared capitation. Secondly, they felt threatened by managed care plans, which they exercised no control over. At least by signing the CHC contract, the Blue Ridge physicians believed they would be able to help develop and assert some control over a regional managed care plan (the Carilion Health Plans). By the summer of 2000 during the physicians' contract renegotiations, the threat of capitation and the management of health plans were no longer important concerns to Carilion doctors. In just four short years the threat of capitation in Virginia seemed to be waning. In 2000, most Carilion physicians were still receiving fee-for-service type reimbursements. Typically, the fees were discounted by managed care plans, but even discounted fees were considered preferable to capitated fees, noted Dr. Carmichael (Carmichael, 2000).

Dr. Carmichael notes that Carilion physicians' second motive to sign its initial contract with Carilion Health Care Corporation – its stock ownership in Carilion Health Plans – by the summer of 2000 had changed, also. When the physicians negotiated the original physician contracts, they viewed the CHP as the corporate conduit of money for physicians and the possible company where most health care decisions were going to be made in the future (Carmichael, 2000). During the 1996 contract phase, when the system between the physicians, the health plan, the CHC organization and Carilion Health System was being created, there were no working relationships among these various groups. It was all “a very frightening new beginning for the physicians, who really did

not know what to expect,” said Hugh Thornhill, CEO of CHC (Thornhill, 2000). The doctors, therefore, wanted to be at decision-making board level and on equal footing with the hospitals in the Carilion Health Plans, noted Dr. James Nuckolls, Carilion’s medical director and a practicing physician in Galax (Nuckolls, 2000).

According to Dr. Hendricks, the physicians’ involvement in Carilion Health Plans was a way to safeguard their interests and to prepare for their financial future of managed care if CHP took off and went public, like many managed care plans at the time were doing (Hendricks, 2000). Since the 1996 contract, two issues, one ethical and another economical, noted Dr. Grayson, made Carilion physicians’ rethink their CHP stock-option negotiations. First, HMOs in general have not been considered to be appropriate ventures for physicians to be involved in, especially with so many patient denials of care by HMOs. Secondly, the anticipated economic return of the Carilion Health Plans did not materialize for the physicians (Grayson, 2000).

Alongside these reasons, the legal issue concerning asset ownership for CHP in the spring of 2000, made physicians rethink their association as stockholders with CHP. Due to legislative changes in how managed care companies could leverage office assets, CHP had to write off much of its office technology, which undermined its cash flow and necessitated an immediate influx of capital. The 40% of Carilion physicians invested as stockholders in the Carilion Health Plans (the other 60% was owned by Carilion Health System) could not supply the needed funds. They decided to sell their stock for the most part, back to Carilion Health Plans, which in turn sold the shares to Carilion Health System (Chrisman, 2000).

Carilion physicians have not regretted their decision to sell their shares of CHP stock. Most Carilion physicians no longer see their involvement in a managed care plan like CHP to be necessary to safeguard their incomes. Furthermore, most Carilion physicians feel they are well represented on the Carilion Health Care Corporation board and that most of their concerns and experiences as CHC employees have been fair and on a collaborative level. The ownership issue of CHP thus lost its appeal (Grayson, 2000).

In 2000, CHC renegotiated contracts with all 90 Blue Ridge Group physicians who joined in 1996, except for one physician who was offered a position at the University of Virginia medical school and took it (Thornhill, 2000). According to Nuckolls, the physicians renegotiated for a number of reasons: 1) they still see being in a network like CHC as necessary to their practices for contracting purposes with managed care plans, 2) CHC management provides office resources, technology and necessary staff to support busy day-to-day practice operations, and 3) most importantly, CHC is committed to installing and maintaining the EMRS. For many renegotiating physicians, the EMRS represents the new centerpiece of their contracts with CHC. The EMRS defines a new-shared vision of the future of health care that kept Carilion physicians at the negotiation table. Dr. Nuckolls, the former CEO of the Blue Ridge Group, the current medical director of Carilion Health Care Corporation and a practicing physician, discussed how the 1996 contract terms had altered by the September 2000 renegotiations. He said:

We [the Blue Ridge Group] wanted to have a similar view of the future and if we had to have an insurance program, we wanted to be owners of the insurance company because we needed to have all of our incentives aligned. Now we have subsequently changed that vision. That's not what our vision is now because we just don't think that managed care and capitation are going to happen. Since they haven't come, the

question is how do we integrate now since we don't have that way to do it? We integrate now based on information (Nuckolls, 2000).

The EMRS became the new common shared vision for the Carilion Health Care Corporation. That system allowed CHC not only to facilitate day-to-day operations in their practice sites, but also to provide the physician management company a way to change from a managed care strategy of managing illness to one managing wellness. Carilion believes its EMRS will promote a better quality of life for their patients (Strong, 2000).

The renegotiated contracts speak to the commitment on the part of both Carilion to its physician members and to the physicians' relationship to the CHC and the Carilion Health System in general. The physician employee retention rate has been high with Carilion. Of course, as Thornhill said, "Carilion doctors are not sitting in their offices saying this is the best thing that ever happened to me, this is not Christmas" (Thornhill, 2000). Dr. Grayson admits that Carilion physicians are aware, however, that Carilion and its physician-management strategies may be the best alternative they have in the health care managed industry. Carilion physicians recognize that there is no going back to the old world they came from of independent, solo practices (Grayson, 2000).

CHC and its physicians, according to Thornhill, have an important ingredient other physician-management companies lack, group culture or group think. The Blue Ridge Primary Care Group brought its culture to CHC and that has not been destroyed by the "800-pound gorilla known as Carilion Health System" (Thornhill, 2000). Instead, Carilion Health System and its Carilion Health Care Corporation are cognizant of the vitality the Blue Ridge Group infused into Carilion Health Care. Both Carilion and its physicians have continued to nurture and mature that group culture (Amos, 2000).

Thornhill, who is an active member of many trade associations, says most organizations like Carilion Health Care Corporation do not have a group culture. They are where CHC was prior to the 1996 acquisition of the Blue Ridge Group. Most physician-practice management companies lack infrastructure, organizational strategy and most significantly, do not have the desire on the part of their physicians to behave in a group-like manner. Thornhill considers CHC to be very fortunate (Thornhill, 2000).

The industry of physician-practice management commercially is in a “state of shambles,” says Thornhill. He currently is the Chairman-elect of a sub-assembly (executive collaborative) group for a medical group management association called the Management Services Organization (MSO), which is composed of 100 to 150 members of people who manage hospital-sponsored physician groups. Most hospital-physician groups are in tremendous states of duress. Thornhill argues:

They are either in the process of spinning off doctors, shutting down practices, or restructuring. Because as the hospitals and the sponsoring organizations have significant economic pressures on them, their ability to fund start-up organizations are significantly down and they tend to get edicts that mandate they cut operating losses in half or eliminate operating losses altogether. That edict is handed down typically from an organization onto a group of practitioners where there is no group culture and thus the organization and the administration is faced with telling its physicians ‘this is what we have to do this year and if we don’t do it, everyone’s pay gets cut in half and that rips groups apart’ (Thornhill, 2000).

Thornhill believes Carilion Health Care Corporation is not in such a state of trauma because it invested heavily into the group culture of the Blue Ridge Primary Care Group and they have kept their eye on the physicians’ vision. He tempers that with:

You can’t take an organization like Carilion Health Care Corporation and in a period of four years make it a happy humming working machine that generates an after-tax return. It is not going to happen. It’s a long-term thing. It’s a very fragile thing (Thornhill, 2000).

CHC physicians' group culture had aided Carilion in assembling a workable physician-management organization where its physicians appear to be functioning well as a team.

Physicians, trained in their residencies to take charge of the "case" for the patient's benefit, suddenly had to practice medicine by a set of rules managed care organizations and cost management companies stipulated (Carmichael, 2000). These rules set new boundaries on the relationship of a doctor to a patient. No longer were doctors expected to go the extra mile for their patient, for example, a doctor who advocates a low percentage treatment for a disease that might be successful and prevent death, may have no place in certain HMOs (Bossen, 1993).

Managed care and its spawned creations like utilization review management, physician-management organizations and capitation have profoundly affected doctors and the work they do. It is difficult enough for individuals to devote seven or more years to the medical education and training necessary to become a physician. Once having made those sacrifices, a physician who finds the professional world she envisioned or worked in for most of a career to suddenly change, has been even more difficult for physicians to accept (Carmichael, 2000). Physician income is not what managed care projected, the hours are longer than believed necessary and the paperwork to third-party payers has not decreased (Hendricks, 2000). If anything, the paperwork increased since utilization reviews became necessary. Managed care has not held all the answers to care dilemmas for physicians (Chakravorty, 2000).

Many physicians agree the most discouraging fact to face is their loss of community respect and position. Most of the physicians practicing within managed care

currently are subject to non-doctor bosses who insist upon budgets and red tape with no training in medical services (Bumgardner, 2000). A managed care doctor may not be allowed to prescribe the drug she thinks is best for a certain illness, because it does not appear in the formulary of a patient's health plan. Doctors may be unable to refer a patient to a specialist they believe to be useful for a certain medical illness just because the HMO refuses her services. Because of these reasons, doctors have resisted managed care, but where they once (before managed care) fought from a position of power and autonomy, they now fight from the managed care's strongholds – primary care offices.

Some doctors, so disgusted by it all, have left the profession. Other physicians have become politically active, lobbying for legislative restrictions on managed care's power to practice medicine (Amos, 2000). Some physicians have talked about forming unions. Almost all physicians have shared their frustrations with patients, which feeds consumer discontent. Patients suffer from these new arrangements (Bumgardner, 2000). Consumers have been forced to accept a system of care that has been forced upon them with no alternatives, but so too have the physicians.

The sacred relationship between a doctor and his patient has been completely changed forever because of managed care. The loss of physician autonomy and the loss of a patient-first ego, bring patients and doctors together in a new type of political alliance. This alliance brought together by doctors and patients' fears and needs now asserts the values of patient choice and opposes gag clauses imposed upon physicians disallowing them to participate in some managed care networks. It's ironic, but now traditionally conservative physician organizations and traditionally liberal consumer groups are political bedfellows.

Consumers would like to think of doctors as an authoritative group with valuable insight about managed care's effect on quality. Physicians, after all appear to be in the best position to assess the impact of managed care policies and operations. "Who better to expose the differences between slick advertising about a plan's commitment to improving quality and the reality as seen in specific policies that directly affect the quality of care patients are receiving?" (Zelman and Berenson, 1998) Ironically, purchasers of health care are skeptical of managed care organizations that are "doctor friendly." "Doctor friendly" managed care organizations are those where doctors consider the health programs to be friendly to them. Employers are less likely to choose doctor friendly programs because they are afraid the physicians may have too much influence in these programs and the plan, as a result of their influences, will not be able to hold down health care costs (Zelman and Berenson, 1998). Purchasers fear physicians may have a difficult time separating their self-interest from the best interests of their patients. An examination of the autonomy issue will help to clarify this point. Physicians are justified in asserting that most pre-authorization programs are demeaning and poorly conceived. Utilization management does add to the paperwork of physicians and destroys their autonomy, but in some situations, utilization management can be effective in both controlling costs and improving quality of care. "Patients can receive more evidence-based coordinated care, and physicians can learn new ways to improve their ability to care for patients" (Zelman and Berenson, 1998).

One has to ponder if physician attacks on utilization management are efforts to reassert the blank check fee-for-service system instead of legitimate concerns for the techniques employed by utilization management to curtail spending. Physicians' attacks

against “gag clauses” in utilization reviews have been misleading and may have more to do with their own self-aggrandizement than managed care issues. Also physician support of “any willing provider” rules that would give them rights to participate in networks, while also expressed in terms of public needs, clearly seems to be in the physicians own self interest, as well (Zelman and Berenson, 1998).

Overall, many argue physicians today have less influence over managed care than they would like and less than they should have. This may have come about because of physicians’ own doing. As Zelman and Berenson, two health care analysts summarized:

But the situation is, at least in part, their own doing. In the worst case, their situation is akin to the boy who cried wolf once too often and was then swallowed up because others stopped listening (Zelman and Berenson, 1998).

Now, many physicians and physician group practices are focused not on undermining managed care, but on improving its services and delivery of care. Physicians have accepted adding the cost of medical care into the quality of care equation and have recognized the values of improved communication and coordination among physicians and between physicians and other health care professionals. As this section has described, the experiences of these physicians as they became employees of managed care type organizations uniquely exhibits the tribulations and revelations physicians have undertaken since the inception of managed care.

Carilion’s primary care physicians are not the only group found within the Carilion system who have seen their working experiences transformed by the health care system. Inside Carilion’s hospitals, I found that the working experiences of hospital board members, administrators and medical staffs changed too, once Carilion assumed ownership of their facilities. The changes that hospital board directors, administrators and

medical staff describe are mostly ones that have impacted their community hospitals in positive ways, such as providing additional funds to support their services. A few of the changes that the groups mention are troubling because they impinge on the established relationships arising from the three groups' directives to manage the hospital. In all, the combined changes experienced by Carilion's primary care physicians and its hospital board members, administrators and medical staffs define what it means to work in a health care system like Carilion today.

Carilion Hospital Voices

In this section, hospital board members, administrators and medical staffs describe their work experiences in Carilion hospitals. I chose to include these groups for two reasons. First, they represent the three essential governing bodies that managed most American community hospitals throughout the 20th century (Starkweather, 1981). Secondly, the groups and their traditions of managing hospital care were transferred almost intact into Carilion's corporate strategy for managing its hospitals. An examination of the three groups tells us how their work has changed since Carilion assumed ownership. By listening to these groups' depictions of their daily involvement with Carilion hospitals, we can begin to understand how Carilion employees work together to deliver care in Carilion's hospital facilities.

The section begins with the top hospital-governing bodies in Carilion's facilities, the board of directors, defining their work both before and after Carilion's management of their hospital facilities. Then, hospital administrators, who are responsible for Carilion's day-to-day facility operations, describe their work. Most of the participants interviewed contend the day-to-day operations of Carilion's hospitals are still managed

much as they were before Carilion, but with some important exceptions such as the fact that hospital administrators are now employees of Carilion and not employed directly by a hospital. The change in employment status from a hospital-hired administrator to a corporately employed one has significant consequences for the hospitals. The consequences are viewed as good or bad, depending on the participants that I interviewed. Next, Carilion hospital medical staffs describe their work. Lastly, this section provides a case study of the Franklin Memorial Hospital (FMH) depicting the three groups: the hospital board of directors, the corporately employed administrator, and the medical staff to show how sometimes the three groups are unable to resolve problems amongst themselves.

Local Hospital Board of Directors

The top hospital governing body in Carilion's hospitals is known as its board of directors. A Carilion hospital board is responsible for all actions taken by the hospital staff, procedures done at the hospital and hospital growth. According to Archie Cromer, board member of the Carilion New River Valley Medical Center (CNRVMC), these boards of directors are the policy makers and managers of Carilion's hospitals. They epitomize volunteerism, which is an important part of southwest Virginia's culture and tradition of care that Carilion wants to preserve in its owned hospitals. Carilion's hospital board of directors consist of private citizens who volunteer their time to manage Carilion hospitals and to set hospital policy. They assume a fiduciary responsibility to the hospital, their communities, their neighbors and the Carilion Health System.

Sid Mason, FMH's board president, recalls the most significant reason for establishing community-oriented citizens as hospital board of directors was originally to

secure financial support for the hospital. Whether it was by their own direct contribution or their abilities to raise funds, these affluent and influential citizens could guarantee their community hospitals a certain amount of contributors to provide care for the poor and sustain the hospitals' financial operations, but corporate takeovers changed all that. Columbia/HCA did away with its local hospital boards, and placed their hospitals' governance under Columbia's own corporate board. Carilion is unique because its corporate board decided not to usurp local hospital boards' authority. Carilion believed that by maintaining the relationships the local boards had built in their communities, the hospitals would benefit in the long run (Mason, 2000a).

When asked what a hospital board member does, Cromer identified four fiduciary functions that a Carilion hospital board director must perform: 1) the formal and legal responsibility for controlling the hospital and assuring the community that the hospital works properly, 2) the responsibility to see that the hospital gains support from its community, 3) the responsibility of ensuring that the board of directors is accountable to the citizens and to the community it serves, and 4) representing Carilion to the community. Cromer recalls that board members carried out each of these functions prior to their hospital joining Carilion. The fourth function is the only new duty since Cromer's Radford Community Hospital merged into Carilion (Cromer, 2000).

In describing the work he does as a FMH board member, Abe Essig emphasized the relationships that board members have with the community. He stated:

As a board member, I interact with other community businesses and groups and influence community opinion and dedication to the hospital's needs. Even more importantly than the planned efforts by committees to ally with community groups and business for the accomplishment of hospital policies, is the informal influence we directors have on our community's view of the hospital. Through our

day-to-day involvement in the community and our positions on other community corporate boards, we learn what community members think of the hospital and attempt to sway opinions (Essig, 2000).

Commenting on his hospital's community involvement, Lester Lamb, a CNRVMC board member, said:

The success of our board in our community relations has a direct bearing on all the social relations within the hospital itself. Hospital employees from physicians, nurses, and administration to the janitorial employees are aware of the local reputation of the hospital. Their work performance is significantly influenced by what the community thinks about our hospital work place. The impact of the views held by hospital workers, the community regulatory agencies, the board members and the system combine with each other to make up our hospital's reputation and financial stability. Our board of directors must always be mindful of how our relationships and those of others affect the hospital. A board of directors must act as a bridge for each of these groups to cross over in their disparate goals (Lamb, 2000).

In describing how his job as a board member changed when Carilion assumed ownership of the Radford Community Hospital, Cromer claims that for the most part the board continued its business as usual. In the hospitals that Carilion owns, the local boards remain the responsible guardians of the hospital organization to the community and the hospital policy-makers. As a member of Carilion, there is some degree of dual reporting responsibility by hospital groups to both the local board and the Carilion corporate board, but surprisingly, the local hospital board retains control and management of the hospital's day-to-day operations and future. Cromer explains how the dual reporting responsibility works in two directions.

Some issues such as budgets go first to the local board of trustees, then to the corporate (Carilion Health System) board. Other issues such as community initiatives may first go to the corporate board. For example, how much in system funds will be allocated to a specific local facility must first be approved by Carilion's corporate board,

and then the local hospital board will decide how to spend the funds in its community. Cromer acknowledges that the Carilion corporate board leaves the local hospital boards alone to make decisions because “we [the local hospital board] know best how to manage our community’s resources. It is easy to work with the corporate Carilion board for matters such as budgets and allocation of funds when you know that that the corporate board respects you” (Cromer, 2000).

According to Brent Lambert a CNRVMC board member, the local governing boards within Carilion still retain the primary responsibility for directing the key hospital relationships. Lambert echoes Cromer’s views of how the Carilion corporate board respects its local hospital boards by saying:

Although some multi-hospital systems like Columbia/HCA usurp the power of the local hospital boards, Carilion utilizes the autonomous local hospital boards to carry out their traditional functions. Carilion’s board just attempts to govern the organizational structure of all the local boards as they feed into the formal Carilion system (Brent Lambert, 2000).

Lester Lamb, who is both a CNRVMC board member and a Carilion corporate director, commented on the relationship between the two boards. He said:

I know health care systems, for example, that have multi-hospitals within the system but have done away with local hospital boards. They say, well, that is sort of window dressing and it’s not something that’s efficient as it should be, so they actually have one board for the system and they make all the decisions, or make the decisions if necessary at the policy level and management carries them out. But, our attitude has been that we feel that the local boards have a significant responsibility, in that, the boards know the credentialing they need, or they are more aware of what the needs are in their community as far as health care needs. We want their input as to what is done, we have a commitment to local hospital boards because we think that they served a great purpose in providing a tremendous amount of input, as far as what the community needs and what their attitude is towards the hospital, and that’s both positive and negative. If a board member is carrying out his normal duties in the community, whatever he is a lawyer, housewife,

what have you; he hears a lot of negative [talk]. They should bring that to the attention of the CEO of the hospital and really insist that something be done about it. Conversely, if they hear a lot of positive feedback, we like to hear that too. But if you don't have those local board representatives, local people in the community providing that, I think there's a danger that you can go on indefinitely and not even be aware of some of those things. So I think it really is appropriate and behooves us, to have local hospital boards. We've made a commitment whereas other systems have said no; it is just another layer of bureaucracy and it's not worthwhile (Lamb, 2000).

Basically, Cromer reflects that Carilion's local hospital boards' jobs have changed very little because of Carilion. He claims "if anything our job has gotten a little easier since we know that the corporate board is watching over us to make sure we do everything right" (Cromer, 2000). Abe Essig, vice president of the FMH board, agrees with Cromer that his work as a hospital board member has been simplified since Carilion assumed ownership of his hospital. Essig says:

We don't have to worry so much now about such things as finance. We had a finance committee. I think we basically stopped doing it because they had their budgeting procedure, their budgeting process, and as long as they were doing a good job of managing it, there's nothing to interfere with. Also we didn't have to worry so much about who we chose to be on our board once we joined Carilion. In the past we chose people who could bring certain skills to the board like lawyers, accountants and businessmen because we needed their abilities to run the hospital. Now Carilion provides us with all the expertise we need so our board members can be people who are really most concerned about the quality of care we give in our hospital (Essig, 2000).

Hospital Administrators

Sid Mason, the FMH board president, said the biggest problem affecting his community hospital since Carilion assumed ownership is the appointment of the hospital administrator. Hospital administrators assist the Carilion boards in managing the hospital. The administrators manage the day-to-day operations of Carilion's hospitals. Until the

corporate take-over of Carilion hospitals, the local boards always hired their own administrators and could terminate them at their discretion. Currently, the Carilion Health System employs an administrator for each of its owned hospitals and the administrators are evaluated and promoted at the pleasure of the Carilion corporate board of directors. The fact that Carilion's corporate board grants the hospital administrator her authority is an important distinction from the past relationship where the hospital board hired the administrator. Currently, Matthew Perry, Franklin Memorial Hospital administrator, explains that administrators report to the local hospital board, but are simultaneously reporting to the corporate board (Perry, 2000b).

According to Mason, the problem with Carilion's hospital administrators is that they "play many roles with the directorship of the hospital's day-to-day operations being just one role and, perhaps, not even the most important one" (Mason, 2000a). Mason continues by saying, "since the administrator is employed by the Carilion Health System, the potential for a conflict of interest is more apt to take place than if the administrator is appointed by the local hospital board" (Mason, 2000a). Some board members question whose loyalty – the hospital or the system's – the administrator has closest to heart. For instance, Mason describes how besides holding the position as administrator for the Franklin Memorial Hospital, Matthew Perry is also a vice president with Carilion Health System. His vice presidential functions include acting as manager for the environmental services and nutrition services for the entire Carilion Health System. Perry's vice president position and other Carilion Health System responsibilities mean his employment as administrator with Franklin Memorial Hospital is not a full-time job (Mason, 2000a). According to Perry, the FMH administrator, he spends about 15 hours or

one-third of his 40 to 50 hour work week doing the administrative duties for the environmental and nutritional services position and 30 hours or two-thirds of his work week acting as Franklin Memorial Hospital's director (Perry, 2000b).

Not all Carilion hospital board members agree with Mason. Lamb, former director of Radford Community Hospital, claims Carilion hospital administrators are fully qualified, professional managers who not only direct a hospital's daily operations, but who provide supporting roles for a corporate structure (Lamb, 2000). Some board members, like Cromer, consider the system-employed administrator as an important liaison between the system and the local hospital to represent the system to the hospital and the hospital to the board (Cromer, 2000). All interviewed participants agreed that today's Carilion hospital administrators connote power, prestige, and authority for both the hospitals themselves and the Carilion Health System as a whole.

Perry says, "My day-to-day job is to coordinate the employees, departments, and services of the hospital to achieve the institution's mission – health care" (Perry, 2000b). Virginia Ousley, the CNRVMC administrator, claims her job to coordinate employees, departments and services is no easy task. She says, "Within the group of employees working within the hospital lays a variety of complex factors such as: diverse personalities, varied educational backgrounds, and expertise. To coordinate this heterogeneous work force into a homogeneous work force is difficult and challenging for all hospital administrators" (Ousley, 2000).

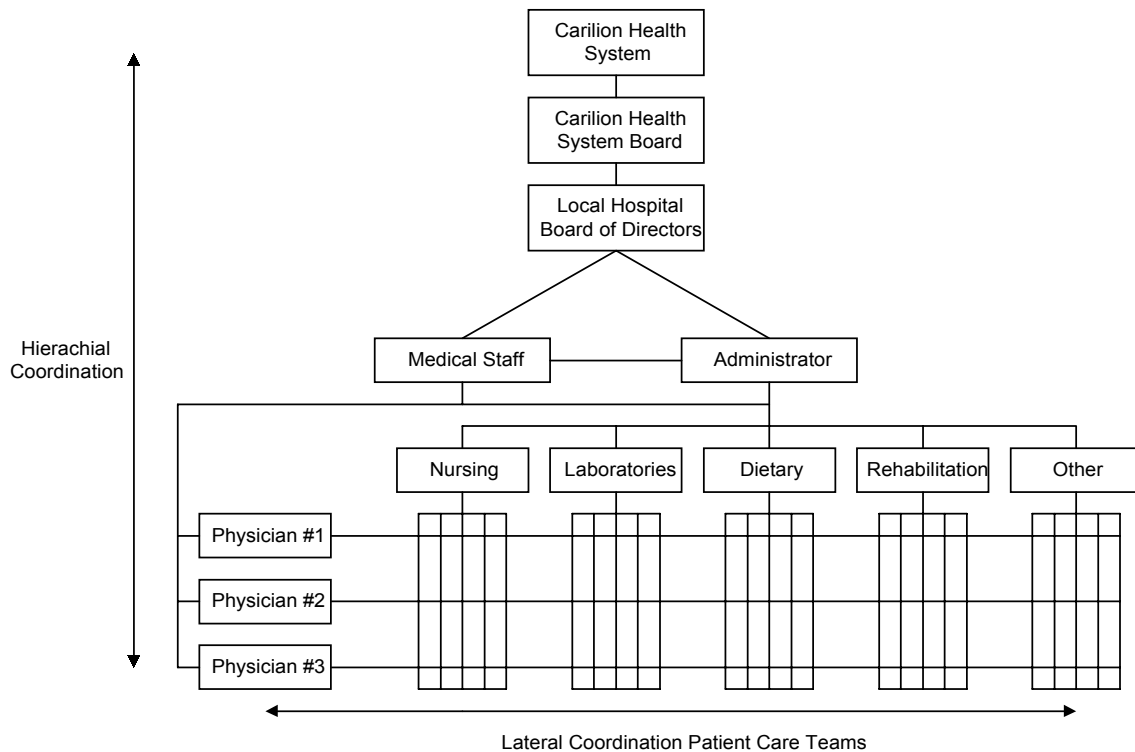
Ousley explains that the job of hospital administrators is difficult because they must combine two seemingly different tasks. Ousley states:

First, I create an environment within which people attempt to achieve their own personal objectives. Secondly, through the efforts of the

medical staff, I attempt to meet the economic objectives of the hospital. To accomplish the economic goals of the hospital, I must predetermine what the medical staff will do, and have them perform as efficiently as possible. To achieve the medical staff's personal objectives, I must allow them enough freedom in working toward their part of the economic objectives of the institution so that they can find personal satisfaction in their work (Ousley, 2000).

Ousley claims Carilion's use of management planning systems, such as matrix organizations found in most corporate American industries, permits hospital administrators like her to accomplish these two tasks (Ousley, 2000). Matrix-type organizations, such as Carilion's hospitals, have both hierarchical and lateral coordination among various groups to manage hospital services. Figure 8 exhibits Carilion's hospital matrix organization.¹

Figure 8: Carilion Hospital Matrix Organization (2001)



* -Indicates both a member of a department and a patient care team

Perry believes a matrix organization provides a good way for Carilion's administrators to manage the Carilion hospital organization, which has hierarchical departmentalization, and also lateral patient care teams. Perry says, "a matrix-type of hospital organization ensures that rational and appropriate integration of hospital services will take place" (Perry, 2000b). Perry admits that Carilion's matrix-organized hospitals do create problems, however. The first problem concerns cost-reporting systems for the hospitals. Traditionally, a hospital's functional departments act as its cost centers, but matrix-type patient teams also have costs centers. Cromer acknowledges that problems arise as to how hospital services like housekeeping, nursing, and x-ray costs should be allocated to patient care cost centers (Cromer, 2000).

Matrix-type organizations also lead to hospital employees often having more than one boss. Becky Richardson, a CNRVMC nurse, describes how a nurse reports hierarchically to her superior, but laterally follows a medical staff boss in charge of her patient care team (Richardson, 2000). Perry admits that Carilion hospital administrators are constantly readdressing these concerns (Perry, 2000b). Ousley explains that currently, Carilion hospitals organize cost centers around their systems' hospital service lines. So, all nursing services, for example are costed through the Carilion Health System nursing services (Ousley, 2000).

Both Perry and Ousley admit, however that their work in directing hospitals as matrix organizations is difficult. Perry said:

My job is not easy due to the complexity of the medical departments, technology, community visions and corporate bottom lines. To succeed, I must have skills in both participatory and hierarchical forms of management and work diligently to maintain department costs and lines

while coordinating patient care teams and costs that cross departmental lines (Perry, 2000b).

Ousley states:

My task to accomplish these goals seems insurmountable, but is compounded by the introduction of new technology that constantly shifts patient team directions, goals, and memberships. Due to the matrix complexities of hospital organization and the ever changing technologies and services of medical care, I stress the need to achieve goal congruence among each department, lateral patient care teams, hospital hierarchical networks, the Carilion Health System overall and within communities. Maintaining goal congruence is a day-to-day commitment by me to act as a liaison between the disparate groups (Ousley, 2000).

Perry believes the matrix-type organization of management, which has come to typify Carilion hospitals, is a perfect example of the corporate hold the American business sector has over the health care industry. He said:

Hierarchical authority networks define the Carilion hospital's formal lines of influence and control for its service lines or departments while lateral, patient care service line teams assume authoritarian roles to integrate the various departments. These hospital hierarchical authority networks and lateral service line teams are found in almost all corporate businesses today. In corporate hospitals, these power relationships and networks are constantly changing due to the constitution of individual patient care teams, advances in technology, licensing and accreditation requirements, and third-party payer systems for hospital procedures. The power in a Carilion hospital organization, thus, is on one hand simple to define in terms of hierarchical arrangements and lateral integrations, but difficult on the other hand, due to the hospital being a social, technical, economic institution with its agents assuming various roles within society (Perry, 2000b).

Lester Lamb describes one of the ways Carilion's administrators work within the matrix organization to receive mutual assistance from the hospital board to implement hospital policy. In terms of Carilion hospitals' responsibility for credentialing physicians, Lamb notes:

A hospital is a unique environment because while you've got physicians who are the ones that admit patients to the hospitals for services and who are really one of the reasons for your existence, because if they weren't participating, you wouldn't have anybody to use all of these services you've got. But most of them aren't on your payroll, very few of them are on your payroll, in fact. So you've got the odd situation of being able to try to, in essence, control or to have some influence with them, but not down to the point where the bottom line is, well I sign your paychecks so you'd better listen to me. So a lot of it is just mutual trust, understanding, cajoling, etc. and it's probably one of the most difficult parts of a hospital official's job because of the fact that they do have to do it on the basis of trust and arm twisting and influence, as opposed to just directly saying, well you have to do this.

The one thing that we try to keep in mind always, is the fact that the local hospital board is the ultimate authority as far as credentialing physicians and the quality of care given in that institution. So, if there is a problem with a physician, there is a laid out policy and procedure that the medical staff itself, which is self governing but still responsible for the hospital board, has to go through. And if their recommendation is, for example, if there is something that is so egregious that a person's privileges should be taken away, and that's not done lightly because it obviously effects the physician's income and livelihood and all that kind of stuff, but if that is the decision, the board is the one that has to do that.

The medical staff can only recommend, they can't say you're out of here tomorrow. So, the board does have that ultimate responsibility and there are times when they may have to exercise that, or if not exercise that completely, they may ask that the physician be put on probation, or make the decision that a physician be put on a monitored status for a period of time, or something of that sort. So, it's not as much a direct line of authority or clear-cut as it may appear. In our case, in the Carilion Health System case, we do have more paid employee positions than the typical independent hospital would have. We also have, one of the executive vice presidents is a physician and the chief operating officer is a physician, so in the particular case of, say a local medical staff has had information supplied to them about the quality of care given by a physician, and if they're doing an investigation of it, at least you've got other people that don't try to dictate what the outcome is going to be, but they are there to serve as counselors or advisers in the process, and that is a real plus to have that expertise available (Lamb, 2000).

Even given the problems of allocating costs and employees, both Ousley and Perry agree that the matrix-type of organization seems to be working fairly well in

Carilion hospitals. They contend that “synergies” are created by the hierarchical lines of hospital authority in which they include the formal triad of power arrangement of board, administrator, medical staff and the lateral patient care teams. Synergies were defined by Perry as integration with the Carilion Health System, the hospital, patients and the communities into a “best of all worlds” health care complex (Ousley, 2000 and Perry, 2000b).

Perry claims the list of possible roles for him as an administrator who creates synergies in the hospital and for the Carilion system overall, is endless (Perry, 2000b). His day-to-day hospital management experiences span from dealing with system meetings, broken-down operating room air conditioning units, leaky roofs, hospital moves to new locations, and promotions of community blood drives (Perry, 2000b). Yet, he also believes that he plays a much broader role. Perry notes, “I aspire to a larger role which attempts to balance accountability to the Carilion Health System, the hospital itself, and the special interests of the community, the board and the medical staff while adhering to my own sense of moral accountability” (Perry, 2000b).

According to Cromer, it is not so much because of Carilion’s takeover of the hospitals which have changed the role of hospital boards, administrators, and medical staff, but instead recent developments in hospital health care have made inoperable the traditional distinctions between administrators, hospital policy-makers, and doctors. He notes, “Increasingly complex reimbursement systems, legal decisions, utilization review regulations, professional standards review organizations and a more informed public concerning health issues have precipitated the integration or, perhaps more accurately, confrontation of the administrative and clinical spheres of hospital influence” (Cromer,

2000). Ousley states, “Hospital administrators’ activities increasingly impinge upon the practice of medicine, and clinical practice in turn, is more and more connected to hospital issues of managerial efficiency and effectiveness” (Ousley, 2000).

Lamb explains that hospital administrators are, more and more, attempting to get their medical staffs to conform to government and other third-party utilization and quality review requirements, without being accused of interfering in the practice of medicine (Lamb, 2000). Ousley mentions, however, since Carilion assumed ownership of the hospitals, administrators are attempting to have their medical staffs consider issues of hospital efficiency and costs in their clinical practices. She states, “Carilion administrators are on a course to have medical staffs become subject to economic accountability for their actions in the hospitals; an accountability that physicians have not had to concern themselves with until the introduction of managed care in American hospitals” (Ousley, 2000).

Hospital Medical Staffs

According to Dr. Edward Murphy, CEO of Carilion, the medical staff is the heart of the Carilion hospital (Murphy, 2000). The staff represents an organized body of mostly physicians, who attend patients and participate in related duties with patient care. The medical staff has the greatest impact on the quality and quantity of care given in the Carilion hospital (Cromer, 2000). Although not ultimately legally and/or morally responsible for the hospital like the board of trustees, the medical staff renders care to the patients. Thus, the board of directors and the hospital administrator depend upon the medical staff to admit patients in need of treatment, to provide quality patient care, and to

accomplish these goals at the lowest costs to the hospital as possible, according to Dr. Heathcliff Quioco, former chief of the FMH medical staff (Quioco, 2000a).

Dr. Reed Lambert, a CNRVMC staff member, explains that the Carilion local board still appoints the medical staff to the hospitals. The members of the medical staff, however, institute their own policies, rules and regulations and offer these to the hospital board of directors for approval. Lambert describes how the medical staff of each Carilion hospital is comprised of professional, disciplined persons, but of individuals with differing views about medicine, treatment, and hospital-staff relations. Thus, the coordination of hospital boards, administrators and medical staffs is challenging to say the least (Reed Lambert, 2000).

According to Sid Mason, managed care has placed new and different demands on medical staff organization, and he contends that Carilion's medical staffs are not as well organized to cope with the financial/economic responsibilities that the new era of managed care with its heavy reliance on quick outpatient services has thrust upon them (Mason, 2000a). Carilion's medical staffs are organized to achieve coordination and high professional standards in what they call patient care teams. Becky Richardson, a CNRVMC nurse, explains that patient care teams arose in the 1980s as hospitals, like Carilion, found themselves doing more and more outpatient services which required intense coordination of hospital personnel and integration of hospital services to achieve the swift patient input-output flow of hospital production (Richardson, 2000). Connie Sherman, a CNRVMC nurse, describes how a physician heads a patient team, but patient teams include nurses, technicians, and other hospital workers. Patient care teams form around a patient as she enters the hospital and dissolve as the patient leaves. Patient

teams, therefore, are constantly forming, dissolving and forming again with membership depending on patient needs (Sherman, 2000).

It is interesting to note that of all the physicians, hospital administrators, and nurses interviewed for this project, doctors, for the most part, speak very little of the “team” concept of the patient care team. Instead, according to Dr. Quioco, physicians emphasize their individual role in patient care (Quioco, 2000a). Hospital administrators and especially nurses, on the other hand, spend a great deal of time discussing the coordination and integration of the patient care team. For the most part, it seems physicians do still provide a somewhat hierarchical approach to the patient care team management. Doctors specify orders to nurses, technicians or other paraprofessional workers, but this is changing. Sherman notes that nurses especially view the medical staff’s hierarchical approach to patient care team management as inappropriate, and they have initiated changes (Sherman, 2000). According to Richardson, nurses admit that physicians originate the orders for hospital medical services and treatments, but insist nurses provide most of that ordered patient care. Richardson said: “For ten minutes in a 24-hour day, a patient sees the doctor. The rest of the time, nurses keep things running” (Richardson, 2000).

Dr. Quioco claims Carilion’s use of patient care teams in the treatment of a patient do not work well and indicate a need for better organization of Carilion’s medical staffs (Quioco, 2000a). Dr. Amos explains that because of Carilion’s team approach to patient care, medical staffs as a whole are being more and more held accountable for the practices of individual members, due to legal precedents and decisions (Amos, 2000). Medical staff doctors are faced with many conflicting demands. Shirley Kennedy, a

Carilion Bedford Hospital nurse, mentions that doctors are becoming busier, taking care of more patients, but are given less time for each one. At the same time, the demands of the medical staff's activities have increased (Kennedy, 2000).

Dr. Jack Bumgardner, a Carilion primary care physician, explains that under managed care systems, like Carilion's, many physicians are unable to maintain the pace of their private practices, their commitment to their hospital medical staff responsibilities, their home lives, and, facing burnout, decide to terminate their hospital practices. They have turned care of their hospitalized patients over to a hospitalist (Bumgardner, 2000). Dr. Robert Strong, a FMH medical staff member, defines a hospitalist as a physician who only practices in the hospital setting (Strong, 2000). According to Mason, unlike most medical staff members who are granted privileges to admit and treat patients, but still maintain their outside practices, Carilion's hospitalists become full time employees of the hospitals (Mason, 2000a).

Mason emphasized that hospital medical staffs truly face difficult decisions each day in the care of their patients. Their decisions for care impact hospital regulations, finances, quality assurances, community image, patient satisfaction and their own code of ethics. Often, in the managed care environment of the health care industry the decisions made by medical staffs impinge on three fronts of health care evaluation: clinical expertise, financial solvency and patient lives. Thus, the medical staff is an important part of Carilion's three-legged management team of its hospitals (Mason, 2000a).

Mason insists that whether or not Carilion's medical staffs, administrators and boards have learned to work well together is another story. He claims that the three groups are often unaware of the accountabilities of the other two, while carrying out their

own agendas. Sometimes, even with safeguards built in to the tripartite power arrangement such as physicians and administrators having positions on the hospital board, the concerns of one group – the board, the administrator, or the medical staff – seem to be pitted against the others (Mason, 2000).

The following case study provides a look at a court case arising from an incident involving the Franklin Memorial Hospital board, its hospital administrator and two medical staff members. The case exemplifies well how difficult it is for Carilion hospital governing boards, physicians and administrators to work together. The account of Franklin Memorial Hospital's board, its hospital administrator and medical staff illustrates the challenges that local hospital boards, administrators and medical staff experience to effectively balance power and manage a hospital's operations without turmoil.

A Case Study of the Carilion Franklin Memorial Hospital

On May 5, 2000, the executive committee of the Carilion Franklin Memorial Hospital's board of Trustees consisting of Sidney Mason (president of the board), Abe Essig (board trustee) and Matthew Perry (hospital administrator, board trustee and executive board committee secretary), met with surgeons Heathcliff Quioco and Christine Barrett, partners in a Rocky Mount medical practice and members of the Carilion Franklin Memorial Hospital medical staff. The executive committee of the board called the meeting to advise the two surgeons that they were being warned of disruptive surgical practices at Franklin Memorial that could lead to their loss of hospital privileges if not heeded.

The surgeons had for months been removing their surgical patients to Carilion Roanoke area hospitals instead of performing operations at Franklin Memorial, due to their perceived lack of surgical personnel's skills for anesthesia procedures (Sturgeon, 6/26/00). Doctors Quioco and Barrett communicated their problems about the surgical staff inefficiencies to the chief of the Franklin Memorial medical staff and to the hospital administrator. According to Drs. Quioco and Barrett, the hospital administrator and medical staff chief took no action to change the operating room procedures, and the surgeons remained dissatisfied. Worried their patients might suffer, Quioco and Barrett decided to use Franklin Memorial Hospital only for their minor patient surgeries and to take all their major surgery cases to Community Hospital in Roanoke (Quioco, 2000b and Barrett, 2000). During the May 5th meeting, Mason as head of the executive committee, informed Quioco and Barrett that their actions had brought "rumor and disrespect" to the hospital (Mason, 2000a). According to Barrett, at the court hearing, Mason said, "we [the surgeons] might as well have set a bomb off in the hospital. It was similar to Waco what we were doing to the hospital" (cited in Barrett court testimony, 5/5/00).

Quioco and Barrett received a letter from the executive committee at the May 5th meeting, which stated the two were being warned under the medical staff's disruptive physician policy and regulation that their actions could result in the termination of their medical staff privileges. The disruptive physician policy is drafted by the medical staff and administered by Franklin Memorial Hospital's board. Ironically, Dr. Quioco recalled that the disruptive physician's policy was developed and incorporated into the Franklin Memorial Hospital medical staff's bylaws in 1993 under Quioco's supervision of that medical staff committee (Quioco, 2000a). The disruptive physician policy covers actions

such as Quioco and Barrett's taking their patients outside the hospital for surgeries, which could disrupt the hospital's business (Mason, 2000b).

Drs. Quioco and Barrett, after reading the letter, attempted to discuss the issues leading to their warnings, but board president, Sid Mason, refused to hear more than a few minutes of discussion and instead, insisted the meeting was not one for discussion, but for notification to Quioco and Barrett that "if they continued their current behavior, further action would be taken by the board" (Mason, 2000b). Quioco, becoming angered by Mason's tone and the letter, got up to leave the meeting (Mason, 2000a).

Mason blocked Dr. Quioco's way to the door, refusing to let the doctor exit until he read the section of the board's by-laws which pertained to the disruptive physician's policy and informed the doctor that the information would become part of his permanent record (Mason, 2000b). Quioco remembered that he interpreted Mason's actions as assault and employed a lawyer to file charges against Mason for assault and battery and obstruction. The employment of an attorney by Dr. Quioco moved the problem of hospital surgical personnel problems, hospital policy and hospital administration to a new level – the community level of justice (Quioco, 2000).

On June 29th at 2:00 p.m. in a small courtroom in the town of Rocky Mount, General District Court Judge Stillwell presided over the case in which the hospital's administration problems became a civil, legal matter. Hospital workers, Carilion executives, concerned community leaders and members watched for 2½ hours as Sid Mason, a community leader and respected Franklin Memorial Hospital board member for 15 years, pleaded his innocence of assault and battery and obstruction against Dr. Quioco, another community leader and respected surgeon of 21 years in Franklin County. The

legal outcome of the court hearing was not so astounding – an acquittal of all charges for Sidney Mason against Dr. Heathcliff Quioco, but with a strong admonishment from Judge Stillwell to Mason about his discourteous professional behavior. Judge Stillwell said he believed Quioco had “been treated poorly” by the FMH board president, but that Quioco was not a victim of a crime (cited in Sturgeon, 6/30/00, p.1B). The social outcome of the court hearing was astounding, however. Dr. Quioco and Dr. Barrett, the only two surgeons in the small town of Rocky Mount in Franklin County had publicly denounced the Franklin Memorial Hospital’s surgical team as inept. They publicly stated that they would not use the hospital to perform surgeries (Barrett, 2000 and Quioco, 2000b).

Even more astounding to one interested in hospital administration was the description of hospital internal administration that hospital director Matthew Perry revealed in his testimony dragged out of him by Quioco’s attorney, Cliff Hapgood. In attempting to establish his argument that the board meeting warning the doctors was unnecessary, Hapgood asked Perry questions pertaining to the local board and hospital administrative policies regarding the medical staff. What came out of Perry’s testimony was an uneasy definition of the balance of power residing between Carilion’s hospital medical staff, consisting of both hired Carilion employees and non-Carilion employees with staff privileges (Perry, 2000a). Perry provided a complicated description of Carilion’s medical staff committee structures, their by-laws, and a description of the board, hospital administration and medical staff, that left the court room spectators glancing at each other and wondering who was really in control of the hospital and what the board, hospital administrator and the medical staff’s roles were vis-à-vis one another.

As prosecutor Cliff Hapgood continued his interrogation of the Franklin Memorial Hospital administrator, one courtroom watcher whispered to me “Is this trial about Dr. Quioco or about the hospital administration?” (Moore, personal communication, 2000) Needless to say, Judge Stillwell stated he had no jurisdiction over the hospital’s administration problems, but the court hearing did bring these problems to the foreground for the Franklin County community and for Carilion’s chief executive officer, Tom Robertson, as he sat in the back of the courtroom (Mason, 2000a).

When the hearing concluded, Perry, the Carilion Franklin Memorial Hospital administrator told a Franklin Times reporter:

This has been an unfortunate incident and we are glad it is behind us now. On behalf of Carilion Franklin Memorial Hospital, we are glad that Sid Mason has been proven innocent of these charges. We [Carilion Health System] have maintained our support for Mr. Mason and recognize the leadership he has provided Carilion Franklin Memorial Hospital in this community (cited in Wagoner, 7/3/00, p. 7).

But how could Franklin Memorial Hospital put the incident “behind them” and get back to normal operations at a hospital where two of its most prominent surgeons would not perform surgeries? A semblance of normalcy was restored by mid-summer of 2000, when the hospital advertised to hire its own surgeons: The hospital board directly employed two surgeons to replace Drs. Barrett and Quioco (Mason, 2000a).

In July 2000, Barrett and Quioco published a notice of their concern about the hospital, and initiated an advertising campaign of their own in the Franklin News-Post, not to have their business ruined by the hospital (“To the Citizens of Rocky Mount, Franklin County and all Surrounding Counties,” 7/24/00). Both Quioco and Barrett retained some hospital privileges, but as of the summer 2000, they were left still questioning why the necessary changes they felt were needed to make the operating room

a safer place with better skilled professionals could not have been met at Carilion's Franklin Memorial Hospital. According to Dr. Quioco, the problem was a financial one for the hospital. Sufficient funds were simply not available for operating room personnel and equipment at the same time the hospital was constructing a new medical building to house hospital administration and family practices (Quioco, 2000a). Dr. Quioco believed the hospital administrator, Matthew Perry, was in a difficult position.

On the one hand, Perry had members of the medical staff refusing to work in the hospital operating room and sending their patients elsewhere and, on the other hand, he had the Carilion Health System insisting that individual Carilion hospitals must increase patient numbers and revenue or else face curtailment of funds and closing down. The Franklin Memorial Hospital could not withstand such pressures, especially while undertaking massive medical building construction (Quioco, 2000a). Dr. Quioco said the hospital administrator's dilemma stemmed from his position as a Carilion system employee. Quioco stated:

He's a systems employee. He may take his work seriously for the hospital, and I'm sure he does, but he's not an employee of the hospital; he's an employee of Carilion (Quioco, 2000a).

Quioco argued that, given his status as a system employee, the hospital administrator's decision not to meet the medical staffs' operating room needs, and instead, his desire to uphold the hospital's need for more output, dollars and patient visits showed the Carilion Health System is more concerned about economics than patients and quality of care (Quioco, 2000a). For the Franklin Memorial Hospital board of directors, the trial produced an onslaught of community backlash. The community demanded explanation of what exactly was going on in the hospital operating room and overall, if

the hospital was concerned about effective quality of patient care (Holland, 2000). These concerns came at a time when some community citizens, like Peggy Palmer, a former patient of FMH, were referring to the hospital as “little more than a glorified Band-Aid station” (Palmer, personal communication, 2000).

Dr. Quioco says of the patients in Franklin County needing surgery, 45% can be properly treated at the FMH; of the other 55%, 50% of them go to Carilion Roanoke hospitals, and only 5% to the Lewis-Gale Medical Center (Columbia/HCA). Therefore, Dr. Quioco says that Carilion should not have been concerned if the surgical procedures were performed at Franklin Memorial Hospital or at another Carilion facility. Carilion Health System gets the business whether the patients are treated at Franklin Memorial or at Carilion Roanoke hospitals. What is important is that Franklin Memorial would lose economically if the surgeons continued to take their patients to Carilion Roanoke hospitals (Quioco, 2000a). Dr. Quioco argued it did not seem logical even from a system standpoint why Carilion Franklin Memorial Hospital’s administrator cared whether the patients stayed at Franklin Memorial or went to other Carilion facilities. What it came down to, says Quioco, was the hired Carilion hospital administrator was placed in a difficult role of trying to do what was best for the system in general and his own hospital in particular (Quioco, 2000a). Mason points out that these roles, as the court case showed, are not necessarily complementary and may create a “conflict of interest” (Mason, 2000a).

Since the trial, Quioco and Barrett have continued in their private practices in Rocky Mount and they perform most of their surgeries at Carilion’s Roanoke area hospitals and the Lewis-Gale Hospital. After hiring two new surgeons to replace Drs.

Barrett and Quioco at FMH, the board has worked to change the community's view of the hospital since the trial (Mason, 2000a). Meanwhile, Perry has worked to promote "business as usual" in the hospital's day-to-day operations (Mason, 2000a). Whether the surgeons of the Carilion Franklin Memorial Hospital medical staff, the board or Perry will prove successful in their individual endeavors toward hospital management, only time will tell. The court hearing and the resulting problems, however, bring to light some of the potential issues which arise from the relationships among Carilion hospital boards, administrators and medical staffs. These relationships are complex and depend on mutual understanding, compromises and accommodations (Cromer, 2000).

The tripartite governance of Carilion hospitals (boards, administrators and medical staffs) represents not only a triad of relations affecting the three hospital authority agents, but also influences the internal social world of the hospital and the hospital's ties to the community. Each group of the hospital tripartite system is accountable to their own members, the other groups and to external community groups. The accountability of the board, administrator, and medical staff of each Carilion hospital is another way of discussing the three groups' end results in working with one another and the community. Overall, Cromer insists the hospital is accountable for quality patient care. How quality patient care is contracted depends on the attention boards, medical staffs and administrators direct to their specific governance functions and their relationships to one another. Without accountability to the patient in the operating room, to the finances of the hospital operations, to the community and to accreditation and regulation agencies, hospitals are viewed as failed institutions in America (Cromer, 2000). Although the role of hospitals changed considerably throughout the 20th century,

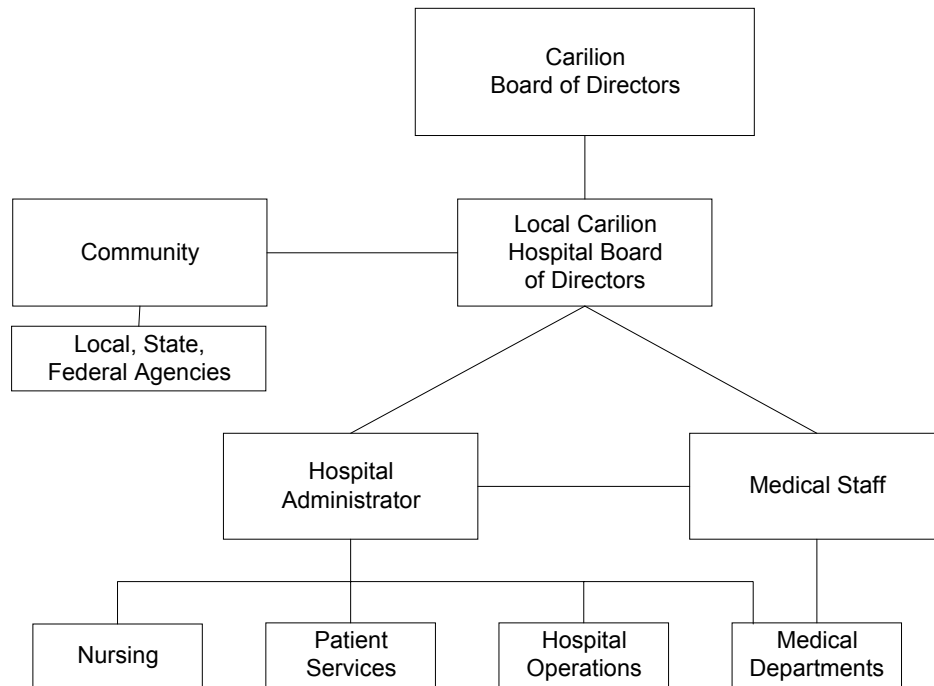
the hospital of 2001 remains an integral part of the health care industry. Even with problems such as the trial of Quioco and Mason demonstrated, the triad of hospital governance and its network of relationships, functions and accountabilities are truly one of the most worthy characteristics of Carilion hospital management; they continue a tradition long-established to arrange power relations within America's hospitals.

Each Carilion board member, administrator and medical staff member admits the roles are changing in part due to Carilion's involvement in their facility, but are mainly because of changes taking place in the health care industry. The power of the Carilion administrator certainly appears to be increasing. According to Mason, since administrators function as Carilion system employees, they attempt not only to manage their respective hospitals, but also to network the hospitals to the entire Carilion Health System, a goal which can lead board and medical staff members to question whether the administrator's allegiance is to the hospital or to the system. The power of the Carilion medical staffs is changing, too. Dr. Elizabeth Carmichael, a CRMH medical staff member, points out that in the past, hospital physicians in most Carilion facilities were part-time guests of the hospitals with admitting privileges. The part-time status eroded some of their power base, but that is changing as more Carilion hospital physicians are hired as full-time employees (Carmichael, 2000). The role of the local hospital boards is changing, as well. The local boards of directors have more local, state, and federally-mandated responsibilities to uphold concerning patient quality assurances than they did just ten years ago, according to Mason (Mason, 2000a). Lastly, of immediate importance to patients, the patient care teams have significant power over the actual course of events in the Carilion hospitals.

Alongside these changing roles of the governing authorities for Carilion hospitals, there are a host of “outside the hospital walls” power forces acting on the operations and organization of Carilion hospitals. Accreditation and regulatory agencies and third-party payers like HMO’s and Medicare control the reputation and revenue of Carilion hospitals in several ways. Lastly, the community of patients whose visions of health dictate hospital programs and services are an important power source for hospital operations.

Cromer, former president of the CHS board, claims that as Carilion’s hospitals mature, it appears that Carilion administrators are responsible for the management of the internal functions of the hospitals or the day-to-day operations of the facilities. The local hospital boards and the CHS corporate board, on the other hand, interact in and evaluate the external environments of the hospitals. The external environment includes community, federal and state governments’ involvement with small community hospitals. Carilion’s local and corporate boards communicate necessary information to the hospital administrators about the external environment which impinge upon the internal management of the hospitals (Cromer, 2000). Figure 9 exhibits the flow of information from the community, Carilion Health System corporate board, a local Carilion hospital board, a hospital administrator and a Carilion hospital medical staff.²

Figure 9: Carilion Hospital Flow of Information Chart (2001)



In all, the hospital boards, administrators and medical staff participants interviewed agree that the existing Carilion hospital organization is an attempt to merge the authority and directives of each of these groups into a workable institution devoted to quality health care. Carilion's overall growth and operational efficiencies speak to the system's success in managing its hospitals and meeting each group's agenda that impinge on its hospital business. The Franklin Memorial Hospital court case involving its board president, hospital administrator, and two of its medical staff members, illustrates that although Carilion has been mostly successful in its experiences to corporately manage hospitals, troubles do arise. The triad power arrangement within Carilion hospitals among its boards, administrators and medical staffs, represents strong power networks with deep traditional roots in American hospital management (Rakich and Dunn, 1978). Carilion has tried to incorporate these traditions within the management of its hospitals but is

discovering corporate board management, along with the local triad of power, is too cumbersome. The Franklin Memorial court case certainly points out that the dual responsibility of the hospital administrator to both her local hospital and the Carilion system boards are often competing roles. As Drs. Quioco and Barrett learned that what is necessarily best for the Franklin Memorial emergency room – a better prepared surgical staff and room – may not be in accord with Carilion’s corporate goals of maximizing profits for its Franklin Memorial Hospital. The administrator’s job is to maximize the benefits of the corporate board, local board, and medical staff and sometimes she gets caught in the middle trying to satisfy each of these groups’ agendas. According to Mason, in the future Carilion may find it needs to reevaluate how well corporate oversight and local hospital triad of power arrangements work together. Mason believes that as long as Carilion continues to listen to what its local hospital board members, administrators, and medical staffs say, problems with the management of its hospitals can be solved (Mason, 2000b).

Conclusion

The voices of primary care physicians, board directors, administrators and hospital medical staff members describe what it means to work in a Carilion facility today. Dr. Amos explains, “Each group continues to carry out business as usual in their jobs for Carilion but some activities will never be the same again” (Amos, 2000). Primary care physicians may never retain their independent solo-practices again. Most likely, they will remain employees of corporate health systems like Carilion. Dr. Nuckolls acknowledges, “The goods news is that Carilion cares about what we [doctors] have to say about managing care and, therefore, we can still make a difference in health care”

(Nuckolls, 2000). Most Carilion physicians believe they do not have to undermine corporate managed care, but can work within Carilion's corporate system to continue to improve the delivery of care to southwest Virginia.

Carilion hospital board directors agree with Carilion's primary care physicians that although some changes have been brought about because of Carilion's corporate ownership of their hospitals, their work is still the same – to deliver the best quality care possible. Carilion's local hospital board members contend because Carilion did not usurp their authority for managing hospital operations, that the boards retain credibility among their communities to promote quality health care. Board members like Cromer insist, "Carilion has left the hospital boards alone to carry out the traditions of care they had established in the communities" (Cromer, 2000). Robertson says that Carilion's faith in its local hospital boards and their traditions of care speaks to the overall respect Carilion has in southwest Virginian communities' devotion to quality care (Robertson, 2000).

Carilion's hospital medical staffs' descriptions of their work experiences inside Carilion's hospitals also attest to Carilion's trust in the traditions of care established in its hospitals. Carilion's hospital medical staffs continue to govern themselves by the committees and regulations they institute for staff management. Lastly, Carilion's hospital administrators continue to carry out the tradition of managing on site the day-to-day operations of Carilion's hospitals.

Carilion has initiated some changes in the organization of its primary care facilities and hospitals which interviewed participants describe as uneasy transitions, but nonetheless necessary ones to manage care in a corporate environment. Dr. Hendricks notes that Carilion physicians complain about the increased amount of paperwork

surrounding the corporate administration of their practices (Hendricks, 2000). Mason describes how Carilion's hospital boards complain about the duplication of some information at both corporate and local Carilion meetings (Mason, 2000). Perry claims that hospital administrators complain that how they have only so many hours to divide between their hospital and system duties (Perry, 2000b). Carilion's hospital medical staff members complain about Carilion's patient care teams. Dr. Quioco admits the teams are difficult to assemble and disassemble quickly, and he notes that assumption of medical responsibility and costs of the patient care teams are hard to assign (Quioco, 2000a). The Carilion Franklin Memorial Hospital court case emphasizes how difficult it can be for these disparate groups to work together.

In general, the interviewed Carilion primary care physicians, hospital board directors, hospital administrators, and hospital medical staff members can't imagine going back to a time before Carilion managed their work experiences. They have accepted the reality of corporations such as Carilion managing care, and they are trying to work with Carilion to ensure that their voices and concerns for the management of care continue to be heard. These groups believe that as long as Carilion continues to pay attention to their views and concerns about health care, Carilion will most likely be able to not only maintain traditions of care, but will continue to expand the system in the communities it serves.

Notes

¹ The Carilion hospital matrix organization chart is my own interpretation of the matrix system based on Carilion interviews.

² The Carilion hospital flow of information chart is my own interpretation of the flow of information based on Carilion interviews.

Chapter Six New Directions

Up to 2000, Carilion Health System (CHS) attempted to play it safe by managing care through its hospitals, physician practices, HMO, and other services such as home health and hospice care. In 2000, Carilion embarked on new directions that entailed managing care in some unexpected ways. This chapter examines three new directions Carilion has undertaken to manage care. The three approaches Carilion is utilizing to manage care derive from Carilion's new paradigm of care based on a preventive care model instead of an acute care model for delivering care services.

According to Hugh Thornhill, CEO of Carilion Health Care Corporation (CHC), "since 1899, when the Roanoke Hospital [Roanoke Memorial] opened its doors, Carilion facilities have been managing care through the practice of medicine" (Thornhill, 2000). Thornhill defines the practice of medicine as providing care and intervention during acute stages of an illness, disease or trauma incident. From this definition of the practice of medicine, arose the acute care model (Thornhill, 2000). According to Dr. Jack Bumgardner, throughout the 20th century, most American hospitals represented the core of the acute care delivery model of medical intervention. Dr. Bumgardner insists that the acute care model is the most important type of medical care practiced according to many health care workers and analysts. The acute care model represents a pattern of care in which a patient is treated for an acute episode of illness, for the sequence of an accident or other trauma, or during recovery from surgery. Acute care differs from chronic care in terms of time. Chronic care demands long-term care, including care specific to the illness or condition and self-care to promote health and prevent loss of function (Bumgardner,

2000). Archie Cromer, a Carilion board director, explains that throughout the 20th century, the practice of medicine, relying on the acute care model, has become both more complex and simple as the sophistication of medical technology and science has expanded the knowledge, use and application of medicine. The practice of medicine became more complex because more and more patients came to believe in medicine's expertise and relied on medicine to help them. The practice of medicine became simpler since new technologies and scientific applications in medicine sped up medical procedures and findings. These two factors combined, however, signified an economic end to the practice of medicine, as most people knew it (Cromer, 2000).

The medical model of acute care intervention proved useful but not cost effective, and in a society based on capitalistic structures, the law of supply and demand took over. Managed care represented one way to profitably connect the cost function arising from the supply and demand within the practice of medicine. Since the 1990s, managed care has attempted to hold down costs by highlighting the importance of preventive care. Managed care restructured health care and positioned primary care physicians on the frontline of health care. The result has been some cost benefit, but overall, managed care organizations are still utilizing medical strategies based generally on acute, not preventive care.

According to Dr. James Nuckolls, CHC's medical director, a managed care organization based on preventive care will provide more screenings, tests and check-ups prior to the onslaught of an illness or disease state (Nuckolls, 2000). Acute care in a true preventive care model would be an auxiliary benefit, not the centerpiece of an HMO policy. Cromer explained that Americans and managed care systems, however, remain

fixed in a mindset of acute care. Americans have not reconceptualized health as a preventive endeavor. Managed care has helped Americans to think differently about acute and preventive models of care. Cromer contends that managed care has proven it can help reduce costs if Americans receive preventive care prior to needing the more costly acute care services, but Americans are not totally convinced that preventive care is necessary (Cromer, 2000). Carilion has decided to venture into three new directions to expand its system and move it into delivering more preventive-oriented services, because it believes that preventive services will be more cost effective for the system as a whole. The three areas Carilion is concentrating its efforts to transform services into a more preventive care system are its hospital system, physician practices and the development of the Carilion Biomedical Institute.

In 2001, within some of its hospitals, Carilion initiated a program called “partial-ownership.” Carilion’s “partial-ownership” program for hospitals means that Carilion can join forces with hospitals it has hitherto been unable to purchase in its territory and/or allow other health care systems to buy into some of Carilion’s owned hospital facilities. The partial-ownership program means Carilion could tighten up its hospitals’ finances or its area of acute care services, which were not realizing financial success for Carilion, while at the same time expanding Carilion’s control of hospital outpatient services into other locales. Partially-owned facilities allow Carilion other locations to market their preventive services. A partial-ownership strategy reduces Carilion’s risk of assuming acute care services, but still guarantees Carilion viability in that service market, if managed care pay-outs should swing back in favor of acute care services.

In Carilion's physician practices, I found the second transformation taking place to position Carilion into offering more preventive-type services. In 2000-2001, each Carilion physician's practice began installing the Carilion Electronic Medical Records System (EMRS). Carilion's EMRS represents Carilion's future vision of managing care based on preventive care and pro-activeness on the part of doctors and patients and information systems. Carilion views its EMRS as the first step necessary to reach their corporate preventive care goals of the future.

Carilion's EMRS is the largest system patient practice database in the country. An EMRS provides managed care organizations, like Carilion, a means to come closer to its goals of providing preventive rather than acute medical care at a faster pace than HMOs or managed care plans have been able to accomplish. Carilion's EMRS utilizes its databases to highlight each individual patient's treatments and history, whereas HMOs and other managed care plans tend to focus on groups of patients and costs. Carilion's EMRS will eventually eliminate the patient chart, and reconfigure doctor-patient examination rooms and relationships forever. As of 2001, there is a doctor, patient and the EMRS in every Carilion examination room.

The third direction Carilion is undertaking to manage care is the development of a biomedical institute. In 1999, Carilion announced it would create the Carilion Biomedical Institute (CBI). The start-up of the CBI is not a conservative move for Carilion as it continues its foray into managed care. The creation of the CBI denotes managing care from an entirely new perspective relying on genetic research. According to Thornhill, biomedicine and biotechnology may offer new and different solutions to the problem of managing care and may represent the bridge to span the acute and preventive care

models. Thornhill says that derived from the products and procedures the biomedicine and biotechnology industry may generate is what can be termed a new model for care – a wellness or preventive model. In the new model, genetic dispositions will foretell information of patients prior to the patient even entering a doctor’s office (Thornhill, 2000). Dr. James Nuckolls, CHC’s medical director says, “The wellness or preventive model will rely on altered realities; realities of disease states that have yet to pass, but which can be treatable with biomedicine and biotechnology” (Nuckolls, 2000). Dr. Nuckolls is not alone in his views concerning altered realities of disease and possible medical treatments based on biomedicine and biotechnology. Since the 1980s, many notable scientists, ethicists, and physicians have addressed the issues surrounding genetic predestination, medicine and science and have found biotechnology and biomedicine may provide solutions for genetic diseases (Zallen and Clements, 1984).

Dr. Nuckolls idea of altered realities of disease and medicine connotes images of genetic predestination and engineering. Dr. Nuckolls defines genetic predestination as the DNA coding for the possible occurrence of specific diseases. He defines genetic engineering as the ability to manipulate and select for or against naturally occurring genes (or groups of genes) or the ability to endow genetic material with new characteristics. Dr. Nuckolls’ visions of genetic predestination and the use of biomedicine to treat genetic diseases destroy current assumptions about what is normal and what is diseased in human conditions (Nuckolls, 2000).¹

All combined, the partial-ownership of hospitals program, the installation of the EMRS, and the creation of the CBI, signify radical changes to Carilion’s delivery of care. Carilion, however, believes the changes are necessary to stay competitive with other

health care systems, to position Carilion to act as a managed care organization on any emerging front, and to design Carilion to better fulfill its mission of securing the health of the communities it serves. For those communities Carilion serves, Carilion's new directions are both exciting and frightening. The strategies, while building the Carilion corporate system, break down and destroy some community-held traditions and views of care. Carilion's new directions, if nothing else, show that Carilion is no longer just organizing around local traditions of care as it did in the 1980s. Instead, Carilion is managing care and organizing its services based on its own long-term visions of how care should be delivered in southwest Virginia.

Carilion Owned and Partially-Owned Hospital Facilities

One of the biggest changes the federal government's Balanced Budget Act (BBA) of 1997 brought to Carilion was a redirection in its status as a consultant or manager to four southwest Virginia hospitals. The BBA of 1997 tightened Medicare and Medicaid reimbursements to hospitals to such an extent that systems like Carilion had to tighten its hospital operations (Integrated Healthcare Report, 1999). Carilion removed itself from the hospital contract management business because it was not "a direction they wanted to go in any longer," according to Robertson (Robertson, 2000). The business was time consuming with no real financial gain for Carilion and they anticipated some of their contract-managed facilities would soon need massive capital investments, which Carilion hospitals could not afford with the BBA (Robertson, 2000). Carilion had continued since the 1970s to provide contract-management services to Wytheville County Community Hospital and Tazewell Community Hospital. Smyth County Community Hospital (Marion) and Allegheny Regional Hospital (Lexington) started purchasing Carilion

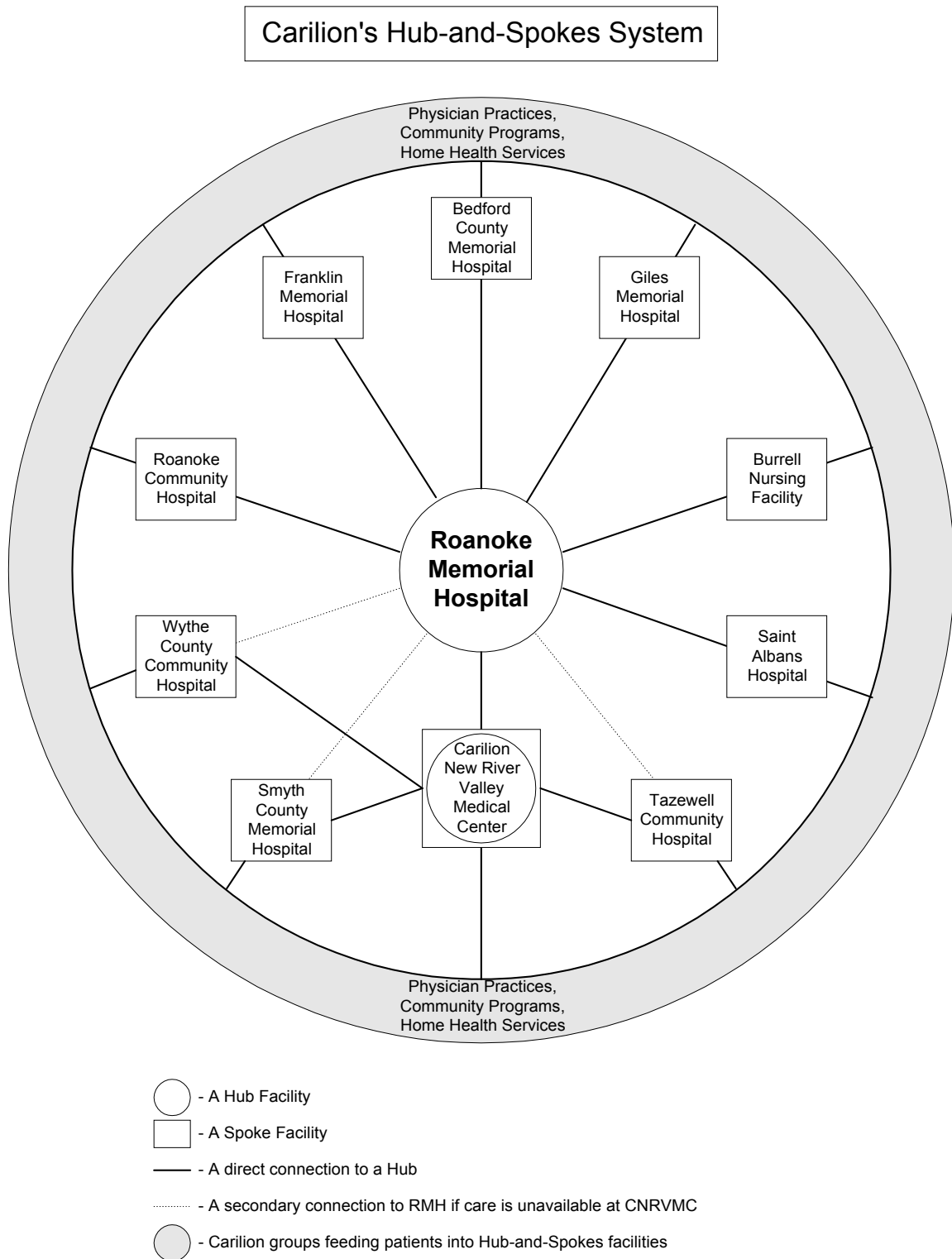
contract-management services in the 1980s. By 1997, three of these community hospitals (Wytheville, Smyth and Tazewell), while still desiring their independence from a large health care system like Carilion, recognized they could no longer stand alone. In 1999, Carilion purchased partial-ownership of all three hospitals. Carilion currently owns 40% of both the Wytheville County Community Hospital and the Smyth County Hospital, and Carilion has 50% ownership of the Tazewell Community Hospital. According to Houston Bell, Carilion Health System senior vice president for its Western Division, partial-ownership of hospitals, instead of full-ownership, may represent the future direction of Carilion's strategy to manage hospitals (Bell, 2000).

Partial-ownership allows Carilion to have an interest in hospitals which otherwise are determined to remain independent and strictly community-owned. Small community hospitals, hoping to remain independent, "represent most of the facilities left in the southwest Virginia region which, says Bell, have not been made part of health care systems" (Bell, 2000). Partial-ownership works well for small community hospitals hoping to remain independent, because the small hospitals retain some of their independence and community asset status, while still receiving much needed capital investments from Carilion or another health care system. Under Carilion's old contract-management system, independently-owned but managed hospitals could only receive management services, not capital investments.

Partial-ownership also benefits Carilion. Achieving partial-ownership of the Wytheville, Smyth and Tazewell hospitals allowed Carilion to accomplish an important goal of geographically defining a western division for its hospital business. Since the opening of its Carilion New River Valley Medical Center (CNRVMC) (1998), Carilion

wanted to make the medical center another “hub” for some of its contract managed hospitals in Wytheville, Smyth, and Tazewell. Carilion hoped to feed patients from its smaller “spoke” hospitals (Wytheville, Smyth and Tazewell), into the new CNRVMC “hub.” With partial-ownership of the small, community hospitals in three locales, Carilion gained more control over the movement of patients from those facilities into its New River Valley Medical Center. Partial-ownership of the hospitals also gave Carilion more reason to enlarge its physician network in the areas serviced by those hospitals. Expanding the Carilion physician network, in turn, helps to grow the “hub-and-spokes” hospital system. The Carilion physicians feed their patients into the Carilion partially-owned hospitals in Wytheville, Smyth and Tazewell and they, in turn, send their patients to the CNRVMC and the Carilion Roanoke Memorial Hospital. Carilion’s new hospital “hub-and-spokes” system with its second hub – CNRVMC to service its Western Division – is found in figure 10.²

Figure 10: Carilion's "Hub-and-Spokes" System



Combined, Carilion's migrations of patients within and from its managed physician practices and partially-owned and fully-owned hospitals, form Carilion's new Western Division. According to Houston Bell, Carilion's new strategy of relying on its fully owned Virginia medical centers, its new partially-owned facilities, its network of physicians, community programs and home health services represent Carilion's strategy to expand its "hub-and-spokes" operations into the 21st century (Bell, 2000). The model of partial-ownership has great potential, says Bell, because it will allow Carilion to expand its geographic region of care services without incurring as much investment capital as full-ownership (Bell, 2000). Next, partial-ownership relieves Carilion of some of the negative publicity it receives by taking over independently owned hospitals, because the communities themselves will still own a considerable portion of the hospitals. Lastly, partial-ownership of community hospitals will allow Carilion an "in" to communities that had previously remained closed to Carilion's other system services. Not only will Carilion be able to expand its network of physician practices, but also it will be able to market its Carilion Health Plans and other Carilion businesses such as Home Health Services, Hospice Care, Outreach programs and seminars to other communities. Most importantly, the partial-ownership strategy will provide Carilion with "unbelievable enrolled patient numbers to utilize for its Carilion Biomedical Institute future research and services," says Bell (Bell, 2000).

Carilion's partial-ownership strategy promotes tremendous opportunities for system utilization of services, expansion, and market domination. Partial-ownership appears to be a competitive campaign strategy that may work to increase Carilion's share of the Virginia market against Columbia/HCA where other competitive campaigns such

as advertising campaigns have met with only meager success. Columbia/HCA has not increased its number of facilities in southwest Virginia since 1996.

Partial-ownership does bring some problems to Carilion. Houston Bell, who is in charge of establishing Carilion's new partial-ownership strategy, admits that the task is daunting. Partial-ownership denotes splitting-up hospital boards, facility costs, budgets and future goals. Determining who is responsible for each of these necessary functions and how partially-owned hospital operations will be performed is difficult. According to Bell, Carilion, once again, just like its hospital contract-management business in the 1970s and its full-ownership of hospitals in the 1980s, is entering into an "uncharted unknown" with its partial-ownership-of-hospital strategy (Bell, 2000). Bell insists the key to unraveling the complexities surrounding partial-ownership will be in finding connections the communities, hospitals, and the Carilion system need to make with one another in order for the hospital to survive financially. By working to achieve those connections, Bell believes operational issues for partially-owned facilities and Carilion overall, will be simplified (Bell, 2000).

Bell himself acknowledges that some issues arising from partial-ownership will not be so easily resolved. During the interview with Bell, I asked what were the three partially-owned hospitals going to be called? Would they have "Carilion" in their names? Bell admitted he had no idea even if anyone had thought about what name to put on the signs in front of the hospitals. Bell stopped the interview for a moment and wrote down on a piece of paper that he needed to look into that issue (Bell, 2000).

Should the name "Carilion" be added to the partially-owned facilities? Partial-ownership appeals to the small, community hospitals because they believe they can retain

some of their community identity and independence. A name change to include Carilion may displace that notion and impede the good outcomes the small community hospitals receive from partial-ownership. On the other hand, for Carilion, name recognition is an important component of its marketing operations, since branding facilities and services as Carilion promotes consumer loyalty, notes Bud Thompson, Carilion vice president for Administrative Services (Thompson, 2000). The naming of these partially-owned facilities may seem trivial, but it has the potential either to bring together or to separate potentially important allies to both the communities of these small hospitals and the Carilion Health System. Bell said the inclusion of “Carilion” in the naming of the facilities would probably come, but not right away. He believed both Carilion and the partially-owned hospitals would know when the time was right, based on the relationships developed over the next few months (Bell, 2000). As of August 2001, the name “Carilion” has not been added to the partial-owned facilities’ names.

Not all Carilion contract-managed hospitals see Carilion’s partial-ownership program as the solution to their capital investment needs. Allegheny Regional Hospital in Lexington, utilized Carilion’s hospital contract-management services throughout the 1980s. In 1999, Carilion informed Allegheny Regional that it needed major improvements to the hospital plant itself and needed to introduce several new services into its hospital. Tom Robertson, at the time the CEO of Carilion, recalled that Carilion offered to buy into the hospital to help the community afford the necessary renovations and additions, but Allegheny Regional’s board rejected Carilion’s offer. Carilion, in turn, withdrew its contract-management services from the hospital, because it did not want to

manage any facility it believed provided substandard care. Currently, Allegheny Regional Hospital remains a freestanding community-owned facility (Robertson, 2000).

Carilion's partial-ownership strategy took a new turn in 2001. On January 17, 2001, Carilion announced it would sell 50% of its ownership in its Carilion Bedford County Memorial Hospital to Centra Health System in Lynchburg (Sturgeon, 1/18/01). Centra Health owns and operates two hospitals in Lynchburg, which is thirty minutes from Bedford and one-hour from Roanoke. Robertson explained that Centra Health wanted access to the Bedford Memorial Hospital to better serve its patient population located in the Smith Mountain Lake area, situated between Bedford and Lynchburg. For Carilion, selling part of its ownership in the Bedford Hospital means enlarging Carilion's potential patient population base, physician network, community services, HMO reach and tertiary care into Lynchburg.³ Lynchburg residents may now choose to go to Carilion facilities in Roanoke for tertiary care rather than traveling to the University of Virginia's medical facility in Charlottesville or Virginia Commonwealth University's medical center in Richmond. Carilion's alliance with Centra Health to jointly own the Bedford Hospital may portend other Carilion alliances with other regional health care systems in Virginia as a means to expand the Carilion Health System. Such alliances with other regional health care systems may stave off further intrusion by national health care systems, like Columbia/HCA (Robertson, 2000).

Carilion's announcement to sell 50% of its Bedford facility was timely. Not only does the sale fit with Carilion's current partial-ownership strategy, but it also satisfies the commitment Carilion made to Bedford in 1984, when Carilion became owner of the Bedford Hospital. Carilion, then the Roanoke Hospital Association, promised the

Bedford County Memorial Hospital board of directors that the association would make certain the Bedford Hospital remained open to serve the Bedford community until at least the 21st century. By not selling some of its ownership until January 17, 2001, Carilion fulfilled that promise.

Carilion's agreement to sell some of its ownership of the Bedford County Memorial Hospital suggests that Carilion's partial-ownership program for its hospitals may go in two directions. Carilion may buy into small community-owned hospitals or it may sell some of its own interests to other health care systems. Regardless, partial-ownership poses new ways for Carilion to define and enlarge its geography, services and operations. At the same time, hospital partial-ownership poses a different set of problems for Carilion than those connected with full-ownership of facilities or contract-management of hospitals. Problems such as the naming of partially-owned facilities present challenges to Carilion. According to Bell, name identification is important to Carilion because it brings recognition to the system as a whole (Bell, 2000).

Partial-ownership may eventually provide the means for Carilion to extend its reach into new territory within Virginia, as well as outside the state. Partial-ownership of hospital facilities as shown in Carilion's Western Division can expand the physician network. Before the partial-ownership program, Carilion could no longer incorporate physician practices in many of the communities it serves, because Virginia state laws regulate how many practices a health care system may operate in any given locality, according to Hugh Thornhill, CEO of CHC (Thornhill, 2000). Under partial-ownership of hospitals, Carilion will enter new communities, a situation which may provide additional opportunities to purchase physician practices.

Carilion's partial-ownership will allow also Carilion Health Plans access to new communities and potentially new employers to market its HMO and other health plans. Each community Carilion penetrates through partial-ownership facilities means increased market potential for CHS products and services and security for its future. Bell believes a large part of Carilion's future depends on its capability to align its hospitals, physicians network, health plans and other services to support the Carilion Biomedical Institute. The partial-ownership program enlarges Carilion's patient population base, which, in turn, may make available more consumers who are able to purchase and participate in the CBI's research, services and possible clinical trials (Bell, 2000). Besides assisting the biomedical institute, Carilion's partial-ownership program goes hand in hand with another new direction Carilion has undertaken to manage care. The introduction of Carilion's Electronic Medical Records System provides Carilion with the technology necessary to manage the expanding patient population data the partial-ownership program brings to hospital facilities, physician practices, and other services in a Carilion partially-owned locality.

Computers Managing Physicians

The newest direction for corporate growth strategies utilized by Carilion and its subsidiary corporation Carilion Health Care Corporation (CHC) is an electronic medical records system (EMRS). Carilion's EMRS, currently being installed in each of its primary care providers' offices, redefines practice boundaries for doctor-patient relationships, medical protocols, and patient medical histories. The EMRS allows patient medical history, care management protocols, doctor-patient encounters and physician productivity to be managed by CHS via computer software from one examination room

to another and to every other Carilion division. The introduction of Carilion's EMRS is one more way Carilion is currently attempting to transform its system into a more efficient network of providers and facilities with fast access to patient medical histories and acceptable standards of care.

The EMRS enables Carilion's primary care providers to form a seamless web of care, information and productivity to one another, and the entire Carilion Health System. Taken together, care, information and physician productivity become the three central tenets to managing physicians within physician management organizations like the Carilion's CHC. Physicians dispense care services. Next, they utilize patient information and medical protocols and guidelines to ascertain the type of care necessary. Lastly, physicians are evaluated on how productive they are by the CHC.

Electronic medical records systems allow physician management companies, like CHC, a new and faster way to manage care, information and physician productivity. The Carilion EMRS may be viewed as both a CHC growth strategy itself and as a technological integrator of Carilion Health System's overall growth objectives. While the Carilion EMRS appeals to corporate strategies to create networks that promote greater efficiencies, higher customer satisfaction and increased quality of care, Carilion physicians have had some difficulty embracing the new technology.

To move medical information in the 21st century, according to Dr. Nuckolls, primary care doctors require sophisticated technology information systems which can assist physicians in assimilating and managing the multifaceted aspects of a patient's medical history. The EMRS is Carilion's efficient, speedy solution to controlling patient data. The EMRS represents an enormous investment to move Carilion into a new

paradigm of managing patient care. The Carilion EMRS, known as Logican, purchased from Medicalogic, a medical software company, links all Carilion physicians, nurse practitioners, physician assistants, nursing staffs, and administrative staffs together, regardless of where they are located in the Carilion system. Carilion expects its EMRS to increase financial stability, standardize care, improve the quality of its patient care and enhance Carilion system workers' communication with one another (Lorton, 2000). Carilion's expectations mirror the health care industry's assessment of electronic medical records systems.

Many healthcare analysts, according to Laura Landro, a writer for the Wall Street Journal, estimate that electronic medical records will become a highly profitable industry (estimates are as high as \$20 billion) within the next decade. The information systems integrate patient records with medical literature, protocols and searching programs in one complete software set-up (Landro, 11/13/00). According to Thornhill, analysts contend that electronic medical records systems allow one-stop shopping. However, the initial investment, maintenance and upgrades for these systems are daunting for corporations like Carilion. Carilion's Medicalogic software will ultimately cost \$3 million in installation and training expenditures (Thornhill, 2000). Dr. Nuckolls estimates that the average cost per Carilion group physician practice is \$16,000 (Holton, 12/26/99). As Dr. Nuckolls explains, the real cost to Carilion will be in maintaining the system. Each of the physician practices has to support expensive data lines that connect to central system servers based in Roanoke to transfer information back and forth to the geographically dispersed practice locations. The fee for one T-1 server line (a data line) for a single Carilion group practice in Galax is \$4,800 a month (Nuckolls, 2000). If one multiplies

that figure by CHC's 55 different physician group practices, the expense of running the server lines back and forth becomes staggering.

Besides the high costs of operating the server lines, the software has to use 14 different phone systems throughout the state, adding to the system's cost and necessitating complex wiring. Installation has proven to be a challenge for the CHC staff that has had to assemble a well-informed Software and Information Services division that can work with many varied companies in getting the EMRS installed in the physicians' practices. The system, however, is a necessary investment for CHC. It is a tool to "get physicians who have been for the most part pretty independent thinkers to think the common vision of where the future is going to be for [Carilion] and to try and develop the infrastructure to get us there," says Nuckolls (Nuckolls, 2000). The EMRS becomes a way for Carilion to manage "processes of care," and some physicians such as A.F. Al-Assaf, believe that managing the processes of care, not managing providers, should be the goal of managed care (Al-Assaf, 1998). Management of a process of care means that providers have access to information that will enable them to "reasonably predict the outcome (or output) of the process" (Cited in Al-Assaf, 1998, p. 159). In terms of Carilion managing processes of care, Dr. Nuckolls stated:

You have to have data in order to manage [health care] for an individual and if you [Carilion] take care of a population of patients' care. Unless you have a way of looking at that whole population of patients you really don't know what you're doing because there's no way you can keep up. If the average doctor has 1000 to 2000 patients, she cannot typically cite how many of those patients are diabetics, have high blood pressure or other diseases. The Electronic Medical Records System furnishes the infrastructure to do just that, though (Nuckolls, 2000).

For CHC, the EMRS supplies the infrastructure necessary to examine patient population information for the entire Carilion system of users. For each individual Carilion practitioner, the EMRS provides infrastructure to access specific data for the doctor's patients, such as medications being used, scheduling of office visits, and medical histories.

Dr. Nuckolls notes that although all the kinks have not been worked out of Carilion's EMRS from an operational standpoint, the system, as of July 2001 will be up and running in every Carilion practice (Nuckolls, 2000). Thornhill mentions that among Carilion physicians, the new EMRS finds both champions and dissenters. Although all physicians interviewed agree that the EMRS is essential for managing patient data in today's complicated managed care environment, doctors, for the most part, are slightly afraid of using the system. They are afraid of how the system will affect patient relationships and of how much time it will take to acquaint themselves with the system and be fully trained to use it. It takes about six months for the average physician to become comfortable with the system and for the technology to be integrated into her office information infrastructure (Thornhill, 2000). The Carilion physicians' commitment to the EMRS means a heavy investment of time to learn the system, and extra time is not one of the assets Carilion physicians possess after working an office schedule that averages close to 60 hours a week, noted Dr. Elizabeth Carmichael, a Carilion physician in Blue Ridge (Carmichael, 2000). What few hours the EMRS was saving Carilion physicians for family and leisure have now become work-related and, one should add, mandatory, claimed Dr. J. Francis Amos, a Carilion physician in Rocky Mount (Amos, 2000).

As part of the renegotiations for the Carilion physicians whose contracts were up for renewal in September 2000, the new contracts specified that going online with the EMRS was required by all Carilion group practices by July 2001 (Thornhill, 2000). Dr. Bumgardner, a Carilion physician in Franklin County, reported that even though in principle they agreed that the EMRS was necessary for the organization, many of the Carilion physicians did not think it was appropriate for the board to stipulate in their contracts that they must adhere to the system by July 2001 or else they would be terminated (Bumgardner, 2000). Even Thornhill, CEO of CHC, stated that, especially for physicians just a few years away from retirement, the commitment to utilize the EMRS seemed overbearing (Thornhill, 2000). Besides installing the system, physicians, like Dr. Wayne Grayson, a Carilion Roanoke physician who possessed little computer literacy, had to quickly learn the computer skills necessary to operate the system (Grayson, 2000). An uneasy relationship of Carilion physicians to the EMRS has emerged. Dr. Carmichael, a Carilion physician in Blue Ridge, insists that while physicians readily admit the EMRS will be beneficial to their practice and patients in the long run, they struggle to incorporate the complicated technology into their practices (Carmichael, 2000).

Carilion's electronic records store and retrieve all sorts of information for physicians about patients. Typically, the type of information the EMRS gathers from patients consists of vital statistics, medical histories, prescriptions, and drug interactions. Carilion employees may access the electronic information in a chronological way or by topic. The system graphs patient information, summarizes in written form and even identifies the patient for security purposes, by a digital photograph. The digital photograph is important because, as Dr. Nuckolls pointed out, the Carilion system has a

patient population of 600,000 and some of its patients' names are the same. In the past, most physicians looked at social security numbers and ages, but the digital photograph will just speed things along during the patient encounter. Eventually, the digital enhancement technology will mean physicians can take additional photographs of patients' conditions such as skin rashes or abnormalities of body parts to enter into the medical record. As Dr. Nuckolls noted, that type of software comes with "a pretty high price tag, though, and Carilion does not have the funds at this point to implement that sort of technology" (Nuckolls, 2000).

Most Carilion doctors acknowledged that the EMRS has advantages for quick retrieval of patient information. During an interview, Dr. Nuckolls shared the medical history of one of his patients, showing how the EMRS aided a correct diagnosis. Dr. Nuckolls had a patient who went to see a physician at Bowman Gray Medical Center in Winston Salem, North Carolina. The physician at Bowman Gray placed Dr. Nuckoll's patient on blood pressure and cholesterol-lowering drugs. When the patient returned to Dr. Nuckolls, she questioned why the Bowman Gray physician had prescribed the drugs. She wanted to know if Dr. Nuckolls had overlooked her "new" conditions (Nuckolls, 2000). Dr. Nuckolls, using the EMRS software, printed a graph of the patient's blood pressure and cholesterol levels for the six years he had treated her. He found that both the blood pressure and cholesterol levels were within normal ranges. Dr. Nuckolls then sent a copy of the graph to the chairman at Bowman Gray to ask why his patient had been placed on the new medications. The Bowman Gray physician responded that he found her blood pressure and cholesterol were high on the day of the Bowman Gray office visit and, therefore, had ordered the medications. The EMRS graph clearly showed the patient had

no history of high blood pressure and high cholesterol and did not require the prescriptions. Dr. Nuckolls explained that prescriptions for those conditions are changed based on the patient's average condition over a period of time, not just the conditions found on a given day's office visit. Thus, for the risk factor management of that particular patient case, Dr. Nuckolls had better and faster access to data than the Bowman Gray physician in order to ascertain the patient's continuing medical condition. As Dr. Nuckolls said, "The doctor who had the information was in control. The EMRS allowed for more efficient management of the patient's medical information" (Nuckolls, 2000).

Besides storing patient information, the system organizes and manages the data in new ways which allows physicians to change their historically medically acute care oriented treatments to more pro-active, preventive services (Nuckolls, 2000). For example, recently the pharmaceutical drug Resulin, a drug for diabetics, was recalled. With the aid of Carilion's EMRS, on the day of the recall, Carilion identified 492 patients who were taking the drug and sent out electronic notification to the physicians managing those patients' care. The doctors, in turn, were able to inform their individual patients of the immediate recall. The system also provided the doctors with a list of alternative drugs to replace the Resulin. Such information allowed the physicians to be pro-active and to respond immediately to patient needs rather than being reactive in patient management.⁴ Historically, the response to such a prescription recall would have been one of the following three choices: 1) a patient may or may not have been informed by her physician until months after the recall when all the patient charts had been checked for the drug by office staff, 2) a patient might have read about the recall herself and called the doctor (tying up the office phone lines), or 3) a patient may have suffered with side

effects from the drug's use and thus brought the problem to the doctor's attention. By being pro-active instead of reactive, Dr. Nuckolls and other physicians contend that the EMRS may show added value, in terms of economic goodwill to their patients over time (Nuckolls, 2000, Hendricks, 2000, Bumgardner, 2000).

According to Dr. Nuckolls, besides the EMRS serving as a resource to allow physicians to become more pro-active in patient care, Carilion patients themselves may become more assertive in their care because of the new system. Dr. Nuckolls describes the system as a "patient pro-active mobilizer" (Nuckolls, 2000). Because of the EMRS, Carilion patients will have access to their electronic records via a password over the Internet. This will permit patients to see when they need to schedule routine check-ups, specific treatments, or other services. Patients can also request a summary of their patient record from the EMRS. This grants patients a more pro-active stance, because patients gain independence and freedom from the actual examination room itself. For example, if a patient does not have time to come in for a physical, because she is going to Florida for the winter, a summary page can be furnished with all pertinent medical problems. Then the patient is armed with her medical information in case of an emergency. As Nuckolls exhibited the EMRS to me, I saw how a doctor could pull up a patient's prescriptions from the system files and fax the prescriptions directly to drugstores wherever the patient may be located.

One of the most important ways the EMRS permits Carilion patients to be pro-active is in the examination room itself. With the EMRS in every Carilion examination room, the doctor and patient no longer find themselves alone. Instead, there is also a computer screen. The doctor and patient speak to one another but the EMRS has a say, as

well, in the patient encounter. For Dr. Nuckolls, who has been using an electronic system since 1994 in his Galax practice, the computer in the examination room is a welcomed visitor. Once the computer entered the examination room, Nuckolls argues, patients felt like what they said about their symptoms, condition, and treatments was more important and closely listened to by the physician. With the computer screen in the examination room, patients can see their physician actually use their language as the doctor types information into the EMRS. Describing the EMRS in the examination room, Dr.

Nuckolls commented:

Yes, the computer is right there. The only time I am not at the computer when talking to the patient is when I am examining. I thought at first it would be a real disconnect between me working here and the patient over there, but it's not because, I guess it is the way you use it because I'll say well, let me get this right, and they'll see me use it and they know that exactly what they said is exactly what is going in there. They love it (Nuckolls, 2000).

While some Carilion doctors may see the EMRS as a time-saving device to store and retrieve patient files, and while many patients may view it positively as a method to adequately record their condition, others disagree. A few Carilion physicians described the EMRS as an interloper in the doctor-patient relationship. Dr. Carmichael explained how some patients see the computer terminal as an intrusion into the examination room and contend that the system changes the already declining intimacy of the doctor-patient relationship, due to decrease in average office visit time. Also, physicians and patients are both concerned about the inadequacy of most Carilion examination rooms to situate the computer terminal. Physicians complain that Carilion examination rooms lack appropriate furniture to accommodate the terminals. Doctors find themselves working at tables and chairs either too low or too high to use the computer keypad and view the

screen. Some doctors worry they spend too much time with their backs to the patients typing in information because of inappropriate furniture and examination room configuration (Carmichael, 2000).

Few Carilion physicians dispute that EMRSs will lead to better utilization of medicine and a more rational use of medicine in the physician's office. According to Lorton, the biggest problem most physicians have with the EMRS is how its information may be used outside their offices (Lorton, 2000). Both doctors and patients ask: are electronic medical records a prescription for better health or a potential invasion of privacy? Martha Allen, a retired nurse and a patient of Dr. Nuckolls, says she would prefer doing things the old-fashioned way, using charts and dictation. Ms. Allen stated, "If information is on the computer then it is out there for the world to see" (cited in Holton, 12/26/99, p. 3A). Dr. Nuckolls argues that the electronic medical records are secure and may be even safer than paper patient files. Arthur Levin, director of the Center for Medical Consumers in New York, echoed Dr. Nuckoll's sentiment with these words:

To tell you the truth, I don't know how safe our private paper records are. Anyone working in a hospital or doctor's office can take a look at records. They can pass through any number of hands. How secure is that? Records that are online are protected by computerized codes and passwords that only the patient and the doctor have complete access to (cited in Holton, 12/26/99, p. 1A).

According to Karen Zimmermann, the information systems director of ambulatory services at Carilion and the manager for the EMRS installation for Carilion, confidentiality of patient electronic medical records will be secured by varying degrees of access at Carilion. Physicians, specialists and nursing staff will each have a certain level of access. She noted that passwords are encrypted or scrambled to guarantee no intrusion will occur. A new level of accountability against intrusion is found with electronic

medical records systems that was lacking in paper records, says Zimmerman. The system will be able to tell who, when, and how often a health care provider uses her password to view a patient's records (Holton, 12/26/99). Lorton claims that regardless of such accountability, privacy remains a serious concern for patients (Lorton, 2000).

Mark Rotenberg, director of the Electronic Privacy Information Center in Washington, D.C., insists that patient confidentiality is important because computer systems do make mistakes. People do not want their employers, insurance companies, neighbors or even their family members sometimes to be able to access their medical records. Even with all the problems of patient confidentiality, Rotenberg, like most Carilion staff, agrees that electronic medical records systems will mean improvements in health care for patients. He believes that electronic medical records systems will make it easier for consumers to become informed about their own health care (Holton, 12/26/99). Lorton thinks it is empowering for patients to know how their medical treatment is progressing. By using an electronic medical records system, patients may become more pro-active in their care, but issues of privacy and access need to be constantly reassessed by systems such as Carilion as it uses its EMRS (Lorton, 2000).

Dr. Amos stated that besides patient concerns about confidentiality, doctors have concerns about information that is private to how they practice medicine. Most Carilion doctors acknowledge that the EMRS will help them become better doctors, because the system will grant them access to study larger populations of patients. They agree that the EMRS will help them to utilize more effectively national guidelines and protocols for the treatment and management of specific diseases, but what happens with the information from their practices once it leaves their office? (Amos, 2000) Dr. Nuckolls says the

system allows Carilion physicians to further demonstrate that they offer values that meet national standards and norms in patient care. How acceptable medical standards and judgment decisions are distinguished for CHC physicians is difficult to discern, however. Prior to the EMRS, Carilion used a variety of sources to make those determinations: national guidelines, other systems' protocols throughout the country like the Intermountain Health System in Salt Lake City and the benchmarks Carilion itself has set and is still creating (Nuckolls, 2000). Mainly, Carilion physicians use the protocols established by the United States Preventive Services Task Force (Thornhill, 2000). These guidelines afford recommendations for specific treatment of certain diseases and aid physicians in the decision-making process for courses of treatment in their examination rooms ("Information Overhaul Could Cost Billions," 11/8/00).

Dr. Nuckolls claims that Carilion's new EMRS performs much of the research work for physicians (Nuckolls, 2000). Instead of having to remember tomes of information about protocols or having to look them up time after time, the EMRS simplifies the process and suggests the "appropriate" recommendations for a treatment. Dr. Nuckolls provided this example to illustrate how important this feature of the EMRS can be to Carilion physician practices:

If you are talking to an audience of doctors and you say: Let me ask you a question, how many of you think that a patient that has had a heart attack needs to be taking an aspirin tablet each day? 100% of hands would go up. They all know that. But if you look at their records, less than 50% of their patients are on aspirin (Nuckolls, 2000).

Thornhill furnished another useful example. He noted:

The EMRS allows us to see how physicians are managing their patients on a macro-level. Historically, if you look at any physician in the organization and ask them what are the things I should do in managing a diabetic, what should their hemoglobin A/C be, how often should

they have an eye exam, a foot exam, and they will all recite those things needed to you chapter and verse. They all know that stuff. The real question is what percentage of the time are they able to get their diabetic patients to do that? That is an issue of “I know it,” versus I’m effective in getting my patients to do it. With the EMRS we can move the number of physicians from the “I know that” category to the ones who are actually doing it (Thornhill, 2000).

Thornhill and Nuckolls are quick to point out that the EMRS, with its physician practice review potential, is not meant to be a punitive system for physicians. Instead it is designed to measure “those straightforward treatments that everyone agrees on” and to make sure the Carilion doctors are complying with these accepted standards (Nuckolls, 2000). In other words, the system monitors practice variations and determines if Carilion physicians are using acceptable treatments (Amos, 2000).

Nuckolls claims, “timely appropriate knowledge” was one of the strongest reasons for Carilion to install an EMRS (Nuckolls, 2000). The system reminds physicians when services like PAP smears, mammograms or treatments like aspirin for heart attacks are necessary for patient care management. The system is an “enabler,” says Dr. Nuckolls; “It makes it easier for the doctor to make the right decisions and to document it” (Nuckolls, 2000). Nuckolls goes on to claim, “That is how we want it [the system] to be looked at, that it’s a facilitator that will help physicians do a better job and not be a hindrance, but be an asset” (Nuckolls, 2000). Thornhill echoes Nuckolls’ idea by saying:

Right now the information the EMRS gathers is available but it is buried in patients’ charts and almost completely unavailable to physicians to manage and facilitate care, much less increase their productivity. By avoiding the timely perusal of thousands of patient files, the EMRSs allow for accurate, quick information retrieval and not only tells the physician what she has done correctly, but highlights the patient cases that are being poorly managed or the ones not responding appropriately to the services (Thornhill, 2000).

“Mentally,” says Thornhill, “most physicians probably think they are responding to patient cases in appropriate ways such as providing timely screenings, follow-up visits, prescriptions, tests, etc., but are they really?” (Thornhill, 2000) The EMRS will know if timely, appropriate responses are being made by Carilion physicians.

The introduction of the EMRS into Carilion physician practices provides a means for behavior modification of Carilion physicians. If one accepts, as Thornhill says, that physicians want to do what is right, but sometimes fail to provide the appropriate services, the EMRS will modify their behavior to think first in terms of providing the necessary services based on the patient’s disease category, and then, to consider the individual patient’s needs, concerns, and objectives (Thornhill, 2000). The EMRS supplies a tool to monitor the physicians’ behavior and a way to record their compliance. Dr. Jack Bumgardner described the EMRS as an accounting system to keep track of doctors and dollars (Bumgardner, personal communication, 2000).

With the EMRS providing recommendations for services and protocols for treatment, it becomes something much greater than a technology to record a patient’s medical information. Instead, the EMRS becomes a medical manager, a decision-maker along with the physician in the examination room to manage a patient’s care. Why does a physician agree to this type of system? Carilion physicians offer two reasons for their compliance. First, the EMRS may eliminate malpractice suits. Dr. Grayson explained that traditionally primary care physicians are sued for two medical problems: drug reactions and failure to diagnose cancer. The EMRS attacks both of these failings and provides physicians with malpractice protection. The system checks for drug interactions and reminds physicians of the national criteria for cancer detection (Grayson, 2000).

Secondly, the Carilion EMRS allows a physician who does a good job following protocols and taking care of her patients to increase her performance and income reviews.

According to Dr. Amos, the realization that the EMRS can monitor and assemble doctor productivity data to reward physicians is an important and sensitive issue to Carilion physicians (Amos, 2000). According to Thornhill, doctors historically only had feedback from patients. If physicians' patients said they were doing a good job, the physicians believed they were doing a good job. With the EMRS, the feedback is removed from the doctor-patient level to a competitive level between physicians competing for volume, quality of care and wellness of their patients determined by the EMRS. For CHC, electronic records provide statistics to evaluate the productivity rates (volume of patients), to measure physicians' compliance of accepted protocols and to determine how successful physicians are with their recommended patients' treatments. Thornhill says CHC has to get the practices competing against one another and the EMRS is an effective way to accomplish that goal. Thornhill believes if the practices compete, the quality of care will increase for the Carilion system's patient population as a whole, while costs may decrease due to greater efficiencies. He contends that the EMRS is really a good way to reward physicians (Thornhill, 2000).

For CHC, Thornhill claims the EMRS is not a punitive means to evaluate and terminate unproductive physicians; rather, the system is a tool to reward Carilion's hard-working, successful physicians and to help those providers not quite up to standards. In 1999, prior to the installation of the EMRS, the overall patient satisfaction survey scores for Carilion physicians were high. The average score was 92.5%, so the EMRS is not about dramatically improving physician-patient relationships (Thornhill, 2000). Instead,

the EMRS scores are concerned with changing the very essence of the doctor-patient relationship from one based solely on treating sick people or medical intervention to a relationship based on managing a patient's wellness (Thornhill, 2000). Carilion contends its EMRS will allow physicians and managers to determine why some patients do better than others, given different medical attention, and above all else will give physicians easy-to-use programs to choose quickly among possible treatment courses for specific diseases (Lorton, 2000). Eventually with the EMRS as Dr. Nuckolls points out, "Carilion will be able to tell who are the best doctors without having a personality contest" (Nuckolls, 2000).

In 2000, Dr. Nuckoll's own EMRS in Galax showed 90% of his women patients between 50 and 70 received mammograms, and all their adult patients who had chronic lung disease and emphysema had their pneumonia shots (Nuckolls, 2000). Nuckolls boasts that those kinds of statistics indicate that the EMRS is insuring more timely services to a physician's patients. In general, the EMRS demonstrates value for Carilion patients and for CHC, and value is difficult to determine in the medical business.

Thornhill stated:

It is the kind of business where you need to have a lot of nut and bolt knowledge about what is going on at the patient encounter level to really understand how to run the corporation (Carilion Health Care Corporation) at a corporate level and the Electronic Medical Records System gives us that knowledge (Thornhill, 2000).

Because of the EMRS, physicians and physician managers no longer will just talk about performance and productivity goals; they can actually demonstrate them (Lorton, 2000).

Thornhill points out that besides measuring physician performance and quality of patient care, there is another component of Carilion that gets evaluated by the EMRS; its

customer service. After all, Carilion is in a customer service business, and it is important not only to measure a physician's performance clinically, but also to evaluate the physician's office in terms of customer services rendered. For example, how many times does the phone ring before it is answered at a practice site? Is the staff friendly? Are prescriptions refilled on a timely basis? Can a patient see a doctor when necessary? Is there an appropriate follow-up schedule? Thus, alongside the EMRS measurements for reviewing a doctor's performance, the doctor and her staff are being evaluated by EMRS customer-service-oriented measurements, as well. The feedback from both types of measurements provides financial incentives to Carilion physicians. Prior to the EMRS, customer service measurements were conducted by two methods. First, Carilion ran (and still does run) a 1-800 Carilion customer phone service where customers could telephone in comments and/or complaints about office visits. Secondly, patients were asked to fill out patient surveys, which were factored into physician practice reviews and incentive plans (Thornhill, 2000).

Overall, according to Carilion executives, the bottom-line for advocating the EMRS is its potential to create operating efficiencies and quality of care in Carilion's physician practices (Lorton, 2000). The economic problems of physician practices, especially primary care, are serious. Most of Carilion's doctors with mature practices operate with 90% of full capacity (patient load per day). Carilion has several physicians in its network of physicians who, if they have an unfilled appointment slot, are upset. The physicians argue they know how much capacity it takes to maintain the practice and pay the bills. Like the airline industry which overbooks flights, the physicians are driven to take patients up to 120% capacity without recruiting another physician to help with the

patient load. Then suddenly they break through what Thornhill calls “the 120% threshold capacity and doctors will insist they need help in the office tomorrow!” (Thornhill, 2000) Thornhill says it’s very hard to manage patient capacity and public expectations for office visits at the same time. Patients want to be able to call a doctor and be seen in a timely manner. In today’s world when a patient calls the doctor’s office and says she wants a physical, she wants it within a week, not three months from the call. As Thornhill points out, “We are very much a serve me now society” (Thornhill, 2000). The “serve me now” mentality is a two-sided message. The first message is that a consumer demands immediate service. The other, more important message for Carilion, is the fact that if a person is thinking about her health care and wants a physical, but Carilion cannot schedule the physical for 2 to 3 weeks, the customer’s motivation to move toward a healthier place in her life may be lost and no longer demanded (Thornhill, 2000).

Carilion contends it is not fulfilling its mission of promoting health within its communities if it cannot supply enough physicians to meet consumer demands. Yet, getting the patient into the doctor’s office in a timely manner is not necessarily consistent with a practice that is always running at 90 to 120% patient capacity. Thornhill admits that a struggle exists between doctors concerned with patient needs and consumers demanding service. Thornhill remarked:

So the market reality of economics that I have to run at the practice level – the market reality of really delivering good customer service is hard, because people are not really thinking as patients, they are thinking as customers. They are thinking I want to go and get something; do I go to Wal-Mart or Kmart? That is not how doctors think. The physicians think in terms of patients. But when one thinks about an office visit in terms of a customer service environment of what kind of service people are receiving, we [Carilion] are still not delivering excellent service even with all the physician capacity we have brought in (Thornhill, 2000).

It's an ongoing struggle between the physicians' offices and the CHC to manage capacity, to deliver quality customer service, and to give quality health care. Given the fact that physicians, CHC and patients (customers) have different perceptions of what these contain, it is one of the most difficult management functions CHC has to accommodate. Quality healthcare and customer service are two unique concepts. One has its roots in the history of medicine – quality of health care, and the other – quality customer service, has its roots in the traditions of business and commerce. The managed care industry with its creation of health care systems, physician management companies, hospital organizations and networks of providers has merged quality health care and customer service together into corporate visions in ways that are difficult for health care providers to manage.

The electronic medical records system provides a tool to re-engineer the way physicians work in their offices in order to provide both quality healthcare and customer service. The system changes the way physicians organize work and so far seems to generate some efficiencies for the individual practice sites and for CHC overall. At best, CHC hopes they can hold their customer service level consistent without seeing more rising costs by using their EMRS. The EMRS, while important clinically as discussed, is also central to the financial operation of CHC (Lorton, 2000).

One of the first practices to go online with the electronic medical records system was a Carilion Waynesboro practice. Prior to the installation of the EMRS, the practice was so busy the phone was hardly ever answered and patients had to schedule appointments months in advance. As Thornhill recalled:

If you called the office the lines were always busy. People got so frustrated when they asked for a prescription refill and a nurse would say let me get your name and I will call you back and the patient would say “no, I’ve been trying to call for two weeks and I’m going to stay on this line until you tell me that prescription has been taken care of.”

With the electronic medical records system all of a sudden, we didn’t have to have someone go up front, find the patient’s chart, look at the chart, take it to the doctor (who was probably seeing another patient at the time) and have the doctor sign something. That is all handled electronically now. It is a call switch to the nurse, the nurse has the chart sitting in front of her and she can say, oh, the doctor has already approved the refill or I have the authority to refill (Thornhill, 2000).

Once the EMRS was installed in CHC practices, practice patient satisfaction survey scores increased dramatically because office staffs talking to patients on the phone could access information faster for customers and then clear the line for the next caller.

Another example of how the EMRS may cut operational costs and make doctors more efficient concerns Carilion’s small community hospitals. For example, Carilion Franklin Memorial Hospital has 24 active beds. During any early morning at the hospital, all one finds at the hospital is an Emergency Room doctor, some nursing staff and one doctor on call. If a patient comes into the Franklin Hospital’s Emergency Room, how does Carilion facilitate and provide appropriate care with such a small, typically unspecialized staff? In the past, the hospital staff called Roanoke Memorial and asked for advice from its staff. Currently, the EMRS allows staff at both hospitals to communicate better. As information is entered into the system about the patient at the Franklin Memorial, the specialists at Roanoke Memorial can supply automatic feedback. They can see graphs of the patient’s information on the screen and react in faster, perhaps better life-saving ways (Thornhill, 2000).

Thornhill says Carilion is not too far away from the time when a patient entering one of its smaller facilities, such as Franklin Memorial, may be linked via a satellite to Carilion's hub hospital – Roanoke Memorial – and both teams (the on-site and the satellite-linked) will be the patient's care givers (Thornhill, 2000). The belief that the patient in the small Franklin Memorial can have services coupled with those at Roanoke Memorial encourages Carilion physicians to use the EMRS. It also extends Carilion's vision as a community of practitioners intent upon providing the best care for its communities, according to Dr. Edward Murphy, CEO of CHS (Murphy, 2000). Needless to say, the EMRS is quite new and its initial success may not be a true picture of its long-term use. Thornhill states, "There are no cookbooks out there to go by." Yet it looks as if the EMRS will re-engineer how Carilion doctors practice in the office (Thornhill, 2000). Dr. Murphy is counting on the EMRS to bring operational improvements to the Carilion Health System (Murphy, 2000).

In the future, according to Thornhill, CHC has another alternative to its frustrating problems of managing physician capacities, public expectations for services and the exorbitant amounts of capital necessary to build new practice sites. Carilion's plan is to design a new type of physician practice site utilizing its EMRS called a Well Visit Center. This site would allow CHC to better serve the "well side" of its patient population who just want physicals, but sometimes have to wait weeks to get an appointment with their physicians and as a result, lose interest in starting healthier lifestyles (Thornhill, 2000). The centers would be staffed with nurse practitioners and/or physician assistants.

In 2000, CHC established focus groups to discuss how communities may respond to these centers. Thornhill claims that thus far most health care professionals he has

talked to contend they would rather see their own physician for health screenings.

Thornhill believes, however, that many people, especially the 18 to 40 year old patient population, would probably be content to see a nurse practitioner for a physical if they knew their examination results were going to be reviewed by their physician. Under Carilion's proposed "Well Visit Center" model, a nurse practitioner would forward electronically a patient's medical record to the patient's Carilion physician. The physician would interpret the Well Visit data and, in turn, send the patient a summary of the Well Visit examination. Wellness Centers represent Carilion's initiative to promote wellness.

Thornhill said:

We generally do a lousy job in this country for wellness and that is because typically health care providers and organizations attempt to attach wellness on the back of a system that has been made to deal with chronic or acute problems and they are very different and denote different systems of health care awareness, intervention and services. We get paid very well says Thornhill, to take care of acute problems but we do not get paid very well for wellness (Thornhill, 2000).

Thornhill believes creating a new system to handle wellness is the appropriate direction to expand in today's health care market. He cites that most health care plans currently provide a wellness visit, or physical, and some screenings for illnesses. The Wellness Visit Centers could supply the health care personnel to assume those screenings and serve the population concerned with wellness. The problem as Thornhill posits, "How do we get there culturally and economically, given the existing illness, medically-related paradigms of health care we work under in America?" (Thornhill, 2000)

Thornhill admits that many doctors are threatened by such a system. Dr. Grayson said, physicians feel as if they will lose their "customers" who go to Well Visit Centers, and those customers represent patients whose care the physicians are ultimately

responsible for maintaining (Grayson, 2000). As Thornhill states, “The physicians see sort of a boundary around the patients; they have a vision of their patients’ care. The idea of their patients going to another health care provider is threatening” (Thornhill, 2000). Thornhill sees the wellness sites as a plus for the Carilion communities, though. He envisions setting up such sites in shopping centers that are easily accessible within Virginia communities. Thornhill muses, “People can simply run in, have their physical and be on their way, much like they might pick up a carryout lunch or shop for errands” (Thornhill, 2000). In some ways, this type of center could possibly eliminate the stress many patients undergo while waiting to see a doctor and the visit would not seem so threatening. Carilion’s Well Visit Centers would also be convenient places for patient education literature or perhaps educational meetings open to the public (Thornhill, 2000).

The facilitator to move CHC in the direction of wellness visits is, once again, the EMRS. Electronic medical records can provide the wellness center practitioners the means to pass electronically and instantaneously a patient’s record to her physician. The physician, in turn, views the documentation and sends a report to the patient about the tests and procedures done and/or any further services necessary. The communication process between a wellness visit and a physician thus becomes seamless. In the flow of patient information before the EMRS, many steps had to be completed. Doctors dictated information, then someone transcribed. The doctor signed forms and office staff mailed forms to patients. Patients reviewed forms and called or met with doctor staff to go over forms. The EMRS simplifies these connections. The EMRS shapes future Carilion healthcare business in ways quite different from the past, such as Wellness Visit Centers. For its immediate future, CHC will learn how it can use its EMRS. Thornhill claims:

CHC will be spending the next five to ten years amassing data from its EMRS, organizing it and using it to solidify more of its own strategies such as bridging primary care physician-specialists groups, creating a possibly new system of physician payment based on wellness instead of sickness and maybe developing wellness visit sites (Thornhill, 2000).

Overall, the EMRS changes Carilion's incentive for doing business. By using the EMRS, Carilion physicians migrate from an incentive to keep patients who are ill coming back to keeping patients in their offices who are healthy. The EMRS monitors how productive physicians are in screenings and preventive care, which translates into how healthy a physician's patients are. In talking about physician incentives to practice medicine, Nuckolls asks, "What could be worse than having the incentive of the sicker my patients are, the more money I make. Now that is the wrong incentive, but that's it. If people are saying 'I want to keep the status quo,' then that's what they're saying" (Nuckolls, 2000). According to Thornhill, what Carilion wants to see is the incentive for physician payment to change so that the doctors who do the best medical care are the ones who are paid the most. In other words, Carilion physicians who have more of their hypertension patients under control should get paid more money (Thornhill, 2000). The EMRS allows Carilion's health care providers to stay on top of a patient's history, tendencies, and habits, thus allowing for more preventive rather than acute care. Carilion's EMRS information profiles a patient to set up courses of treatment and services to be performed over the lifetime of the patient to avoid illness. Nuckolls states:

There will be fewer and fewer people in the hospitals. And I think Carilion understands that future. It is one of the reasons they have invested in our particular type of group [CHC] and is saying the EMRS is one of the legs that we need to stand on to get to the future. We need to be paid for managing care rather than just doing services for 15 minutes of O.R. time and so on and so forth (Nuckolls, 2000).

Carilion's EMRS is not without complications and concerns, however. Dr. Grayson mentions that while doctors themselves may believe it helps them to gain control over information for their patient population as a whole for crisis management like drug recalls, they are concerned how information pertaining to their patients may be used by CHC to identify their value [physician productivity] for the Carilion Health System overall. The EMRS will eventually redesign CHC physician peer reviews, incentives, and pay schedules based on information assessments of physician productivity, protocol treatment adherence and the overall wellness or sickness of their patients. Most physicians fear all these factors may lead to major changes in doctor-patient social interactions (Grayson, 2000).

For CHC, the EMRS may lead to an economic solution to curtail high physician office costs and to increase patient volume, while also providing a measuring stick to evaluate practice variability and practice successes and failures. Carilion's EMRS will standardize practices. While that may be for the most part a positive outcome, recall that most physicians have little time to keep up with new medical evidence and research, the system will become much more than a mere compiler of medical information.

The EMRS becomes a second decision maker in the examination room. Thornhill argues that may be a good outcome if all parties involved in the health care experience deem the system capable of making medical determinations (Thornhill, 2000). If one agrees with Thornhill's statement, then it seems logical to ask, do patients need doctors at all? Why can't patients just key in their own data, their symptoms, and have the EMRS outline a treatment schedule? Then, patients could schedule their own appointments with

appropriate physicians, or if prescriptions were necessary, the system could just print out those for patients.

Dr. Amos contends that although extreme, from this example it's easy to see where possible practice standardization could lead and why some physicians are against how the system may ultimately be used. Undoubtedly, the EMRS can benefit physicians, but many question if it can eventually just take their place (Amos, 2000). Dr. Slack, a Harvard medical professor, working with an EMRS in Boston, noted: "The systems aren't a substitute for the doctor's own intuition or experience. Doctors can decide that a test the computer alerts to be necessary, is not, or that a possible drug interaction won't affect the patient enough to override its prescriptive benefits" (cited in Landro, 11/13/00, p. 23R). Slack believes the most pressing problem for doctors will be how to assimilate all the information to best help their patients – without overwhelming them with cognitive overload. Slack says, "If you present too many problems to the doctor who is signing on, you reach a point of diminishing returns" (cited in Landro, 11/13/00, p. 23R). Some Carilion physicians, such as Dr. Amos, argue that the introduction of the EMRS is just another interloper in a long line of both human and nonhuman actors to make their way into the doctor-patient examination room, to obtain a certain amount of control over medical decision-making in the examination room, and to cause diminishing returns in the doctor-patient relationship. The doctor-patient relationship has evolved from a simple one-on-one doctor-patient encounter, to a relationship involving machines (such as MRIs, which identify the patient in new ways for treatment), third-party payers (insurance and HMOs who identify the patient as a number, or case), fourth-party managers (utilization reviewers who do not even think in terms of patients or numbers, but statistical data

surrounding treatment successes) and now electronic medical records systems (which do not think about the doctor or patient, just the computerized information) (Amos, 2000).

According to Lorton, EMRSs face many serious concerns from patient and doctors concerning privacy issues, as well. The legal aspect of patient-doctor confidentiality files is going to be an ongoing battle and an area Carilion watches closely as it continues to build its health system based on its EMRS usage (Lorton, 2000). The future of health care seems to be determined, however, to move in the electronic direction because of the computer software's ability to manipulate data quickly and to statistically arrange information to be useful to system managers. These systems are at their very basic level – electronic systems to organize a business. They offer the managed care industry a way to do just that – manage care, manage information, manage physicians, manage the health care system, manage consumers and manage communities.

Electronic medical record systems are fast-paced, mobile information gathering technologies that change the way doctors and patients not only manage care, but view quality of care. They reorient the mindset of physicians, patients, health care systems, and laboratories to think in terms of preventive and pro-active care, rather than medical, reactive acute care. These systems have emerged as a new type of integrating technology to draw health care providers into organizations and to foster their continued employment with physician-management companies like CHC.

Electronic medical record systems are system building tools to utilize information and to provide momentum to push health care systems, like Carilion, into new areas of system management; i.e. biotechnology, medical laboratories, research campuses like Virginia Tech and the University of Virginia, and clinical research. These systems bridge

historically divided or loosely linked businesses in the medical care industry such as pharmaceuticals, medical laboratories, academic medicine and the new biotechnology together and allow health care systems to integrate all these types of businesses under one health care delivery system. Carilion is at the forefront of this type of movement. There are some health care systems that have some of their medical businesses, especially hospitals, linked electronically, but currently Carilion has the largest system patient practice database in the United States (Nuckolls, 2000). In fact, the future of Medicalogic, the company from whom Carilion purchased the electronic patient records software, hinges on how well the system operates for Carilion. Besides possessing patient information, Carilion has merged with the players in the biotechnology industry (Virginia Tech and the University of Virginia) to utilize its electronic medical record system's information in many new genetic manipulations that may help to push Carilion from an acute care delivery system to a preventive care system.

In 2001, Carilion stands firm in its commitment to its EMRS. The Carilion Health System: its hospitals, physician-practices, health plans, and emerging biomedical institute are all linked via an information-driven, fast moving technology, which reconfigures existing health services and relationships. The EMRS represents an achievement of Carilion's goal to provide greater operational efficiencies to CHC and CHP and as a means to link system components like Carilion's hospitals, physician practices, and biomedical components. The EMRS is a system builder, system integrator, and system facilitator for Carilion. The EMRS stands as a testament to the goals and visions of each of Carilion's organizations and how technology, physicians and systems are transforming to practice medicine across traditional boundaries. Carilion's EMRS represents just one

way, however, that Carilion is attempting to practice medicine outside traditional walls. The next section examines how Carilion extends its management of care into biomedicine and biotechnology and how the EMRS provides Carilion with the technology necessary to build a biomedical institute.

The Carilion Biomedical Institute

In November 1999, when Carilion Health System announced that it would join with Virginia Polytechnic Institute and State University (VA Tech) and the University of Virginia (UVA) to build a biomedical institute, it undertook yet another direction for its delivery of care. Carilion was transforming into a new type of health care system relying on university-fostered research to form commercial health care products and procedures to be used to improve patients' lives and to make money. The partnership of Carilion and the two universities sponsored a novel type of union: cutting-edge research with the health care industry. According to Tom Robertson, former CEO of Carilion, the long-term outcome of this union is to be twofold: improvements in health care for Carilion and regional development and economic growth for southwest Virginia (Robertson, 2000).

The more immediate outcome of Carilion's announced biomedical institute was that Virginians had to accept that Carilion was going to manage the future of health care through new types of services. CHS's future services will rely on biotechnology and biomedicine. Biomedicine is defined as any aspect of medicine that derives from or relates to the sciences such as biology, biochemistry and biophysics. Biomedicine encompasses most modern medical procedures. Biotechnology is considered the application of technology "such as electronics and computers in conjunction with

scientific disciplines such as physics and chemistry to understand and solve biological problems” (cited in Holton, 11/23/99, p. 2A).

The use of biomedicine and biotechnology redefine health care and the organizational strategies of Carilion. The Carilion Biomedical Institute (CBI) symbolizes that transformation. The institute represents Carilion’s connections to its past (the hospitals), to its present (health care providers, facilities and HMOs) and its future (the biomedical industry). The CBI will link Carilion’s past medical ideology and facilities, to its present wellness model of health using its EMRS, and its future relying on new services, such as genetics, biomedicine and biotechnology. The CBI reconfigures Carilion Health System’s network of care.

Not only will the CBI transform Carilion and how it will manage care in the future, the institute redefines other important social, political, and economic relationships and networks of how Carilion manages consumers and communities. Carilion’s use of biomedicine and biotechnology will transform the entire medical, economic, political, and social aspects of Virginia localities. The CBI’s collaboration with VA Tech and UVA will change the way university researchers, health systems, and American federal, state and local governments traditionally transact business and relate to one another. The CBI also will impact in significant ways how local Virginia communities will economically develop over the next two decades. As Jay Warren of WSL-10 News in Roanoke stated:

The Roanoke economy is shifting from an old economy based on the railroad industry to a higher one. The biomedical institute is the foundation for that transformation (cited in Warren WSL-10 newscast, 11/21/00).

In 2000, as Carilion’s plans for its biomedical institute unfolded, the transformation of Carilion’s network of managing care, consumers and communities

became increasingly evident. The institute will serve as a unique example of how Carilion continues to transform itself and of its connections to southwest Virginia. An examination of the CBI is a fitting end to this work, because Carilion is still an ongoing evolving corporate system. The CBI exemplifies Carilion's corporate evolution.

This section depicts the origins and evolving corporate organization of the CBI. In this section, I provide an account of how Carilion's partnership with the UVA and VA Tech represents a new marriage of sorts among corporate health care systems and academia. The section details how the CBI will reconceptualize communities in terms of health, economics and politics. Lastly, a description of how the CBI will transform Carilion's medical system into a new biomedical or health-wellness system is offered. Combined, this section tells a tale of how groups, technologies, and systems forge alliances. Bruno Latour's idea of "enrollment of allies" comes to life in Carilion's current history of its biomedical institute. Throughout this work, "enrollment of allies" among various groups has been a strong working assumption, but in the particular example of the CBI, Latour's methodology appears quite applicable. Within just a few short months, Carilion Health System, various government agencies, community groups, technologies and sciences came together in surprising and quickly assembled and disassembled alliances to foster the creation of the CBI.

A Marriage of Corporate America to Academia

The plans to establish the CBI in partnership with VA Tech and the UVA came after 18 months of courtship between Carilion and the two public universities. The deal represented an unprecedented alliance between such groups. UVA President John Casteen said, "I know of nothing else in the nation quite like it" (cited in Sluss, Holton,

and Schnabel, 11/19/99, p. 1A). It was not unprecedented that research universities partnered with one another for biomedical research. For example, in the mid-1980s, Georgia Tech and Emory University came together to collaborate on biomedical research projects, but the Georgia state government played a significant role in funding a joint institution for the two universities where start-up biotechnology companies and university researchers' plans could be marketed. According to Gene Block, University of Virginia's vice president for Research and Public Service, the CBI represents a new type of partnership because no state or federal government representatives were involved in the decision to establish the institute. Block said, "The non-government involvement is unique." "Usually government is the catalyst for this type of partnership" (cited in Sluss, Holton and Schnabel, 11/19/99, p. 2A).

Brian Wishneff, a project consultant for the CBI, said all the planning for the institute was made outside of any governmental umbrella or governmental control because the founders (Carilion and the universities) did not want to get the state government involved beyond its oversight with the two universities' current research (Sluss, Holton, and Schnabel, 11/19/99). The CBI's founders believed government involvement would slow down the timetable the three groups wanted to set up for the facility's development. Wishneff claimed, "We just couldn't do it that quickly if it was a government entity" (cited in Sluss, Holton, and Schnabel, 11/19/99, p. 2A).

Carilion and the two public universities were able to eliminate state and federal government funds from their initial development plans because Carilion provided the necessary start-up cash (\$20 million), for the institute. Carilion furnished seed money to fund the facility from the money it still had left over from the sale of its Sterile Concepts

company in 1995. Walt Plosila, vice president at the Battelle Memorial Institute, an Ohio-based non-profit research and consulting firm, who worked with Carilion to establish the institute, said Carilion's \$20 million contribution to start-up the institute will allow the institute to steer its own course for its early years and achieve a level of self-sufficiency most facilities lack. Since most biomedical institutes must rely on government or industry contributions for initial funding, their interests seem to determine institutes' initial projects (Sturgeon, 8/13/00a). The CBI, on the other hand, having a generous \$20 million start-up reserve, can spend its first few years building momentum for the institute. The seed money for the institute was part of Carilion's strategy to give the institute seven years to "go out and find resources...to find partners...to build relationships," says Plosila (cited in Sturgeon, 8/13/00a, p. 2B).

Eventually, the CBI will culminate in a more collaborative effort involving government groups ranging from local to federal agencies, as well as the private sector in southwest Virginia, than Carilion has hitherto experienced. The federal government will become an integral player in the institute's future once the institute's board of directors seeks grants from the National Institutes for Health and the National Science Foundation. The CBI estimates it will need \$40 million in federal grants by 2006 before it can become self-sufficient (Holton, 11/18/99). Cromer explained how state government agencies may become involved in funding some of the institute's biomedical programs that it sees as beneficial to Virginia. Already, the State of Virginia has shown interest in the institute's optics program, which will attempt to design optic lasers for less invasive surgical procedures. State funding for the optics program could come to the institute itself, the

universities, or be part of a funding strategy to bring optics industries to southwest Virginia (Cromer, 2000).

Carilion has already found itself involved with local Roanoke-area government agencies, as it searches for sites for the location of the biomedical center. The Roanoke City government is intent upon finding suitable land for the institute and in providing infrastructure for the facility, since it may bring economic growth to the Roanoke downtown region, noted Brad Allen, a Roanoke businessman whose store and warehouse will have to be relocated because of the institute (Allen, 2000).

Southwest Virginia's private sector will also be influential in generating necessary funds for the institute. The institute has built into its funding plan at least \$10 million in contributions from the private sector. Former Virginia Tech President Paul Torgersen said, "In this increasingly complex world, public-private partnerships, such as the Carilion Biomedical Institute, are necessary to tackle the problems of science and human health" (cited in Sluss, Holton, and Schnabel, 11/19/99, p. 2A). Total projected funding for the CBI until it reaches self-sufficiency by 2006 is \$76 million (Holton, 11/18/99).

Carilion's biomedical institute board chairman and former CEO and president of Carilion, Tom Robertson, sees the biomedical institute as a fortuitous investment for southwest Virginia (Sturgeon, 10/24/00). He believes that within 20 years, biotechnology and biomedicine will be dominant industries and that to thrive in the 21st century, western Virginia must partake in these industries (Robertson, 12/31/00). Both biotechnology and biomedicine are currently exploding and expanding much like the computer industry did in the 1970s, according to The Biotechnology Industry Organization, a Washington, D.C., trade group, representing over 900 member companies, academic institutions and

biotech centers in the world. Jerry Coughter, the biotech director of the Virginia Center for Innovative Technology, believes Virginia will see many biomedical or biotechnical businesses arise in Roanoke and the New River Valley because of VA Tech's commitment to bioinformatics (Sturgeon, 8/22/00). Bioinformatics is the management and analysis of data using advanced computing techniques. The field of bioinformatics originated from the Human Genome Project, which has generated large amounts of genetic data to be managed. Bioinformatics is important to biotechnology and biomedicine because of their increasing reliance on computers to manage data, as well (Sluss, 6/4/00).

According to Dar Eramian, the Virginia Biotechnology Association's Communications vice president, "In order to form a biotech community, you need access to university research, medical research centers or agricultural research, and you need very, very bright people...Most biomedical communities begin or are started in areas where there are universities with strong research capabilities or other medical facilities" (cited in Sturgeon, 8/13/00a, p. 2B). Robertson recognized that Carilion was positioned well between two universities with dedicated research labs, but which needed a better means to commercialize lab products. More importantly, UVA and VA Tech needed to find better ways to receive federal grant money. Although the federal government is VA Tech's largest contributor to research, the university was concerned that it may not be receiving its fair share of government research funds. According to Tracy Wilkins, director of the VA Tech Biotechnology Center and a VA Tech professor, "We're in competition with every other state for money that is going to be spent by the federal

government and industry for research. We can watch it fly over to California or we can get some of it for ourselves” (cited in Sluss, 6/4/00, p. 4A).

In 1999, VA Tech received \$57.7 million in federal research funds, but only \$4 million of that came from NIH grants (Sluss, 6/4/00). The CBI partnership will help secure more federal research grant money for VA Tech, according to CBI Chairman Robertson. VA Tech President Charles Steger noted the university is taking a “calculated risk” by investing large sums of money in bioinformatics and biomedicine, but the university feels the risk is necessary to secure the big government funds for research. The funds, in turn, insure that the university will remain competitive with other academic centers to receive the best students and provide “cutting edge” research disciplines (cited in Sluss, 6/4/00, p. 4A). The institute also provides VA Tech access to an important piece of biomedicine the university lacked – a medical school, which the alliance with the CBI and UVA brings.

For UVA, the CBI aids researchers to make larger profits on marketable products than they anticipated. David Kalergis, director for Virginia Gateway, UVA’s outreach program to high-tech industry, argues that UVA has come a long way over the past few years in commercializing its technology but the CBI partnership will speed up the process for bringing in government funding and commercializing products (Sturgeon, 8/13/00a). Kalergis believes university researchers will realize much larger commercial gains through their association with the CBI than on their own (Sturgeon, 8/13/00a).

The CBI forges new relations between Carilion and the two public universities. Kalergis says the partnership creates a formal alliance between UVA and VA Tech to market products and builds a relationship with Carilion to ensure better quality of health

services to patients. For VA Tech and UVA, the partnership with CBI will be beneficial in speeding up the commercialization of products. As of September 2000, the institute had helped the universities' researchers and Virginia doctors with ideas to write grants that netted \$1 million in research funds for seven product ideas from the Department of Health and Human Services and the National Science Foundation (Sturgeon, 8/13/00a). The following account provides a look at how the CBI organized to manage southwest Virginia's biomedicine and biotechnology.

Managing Biomedicine and Biotechnology

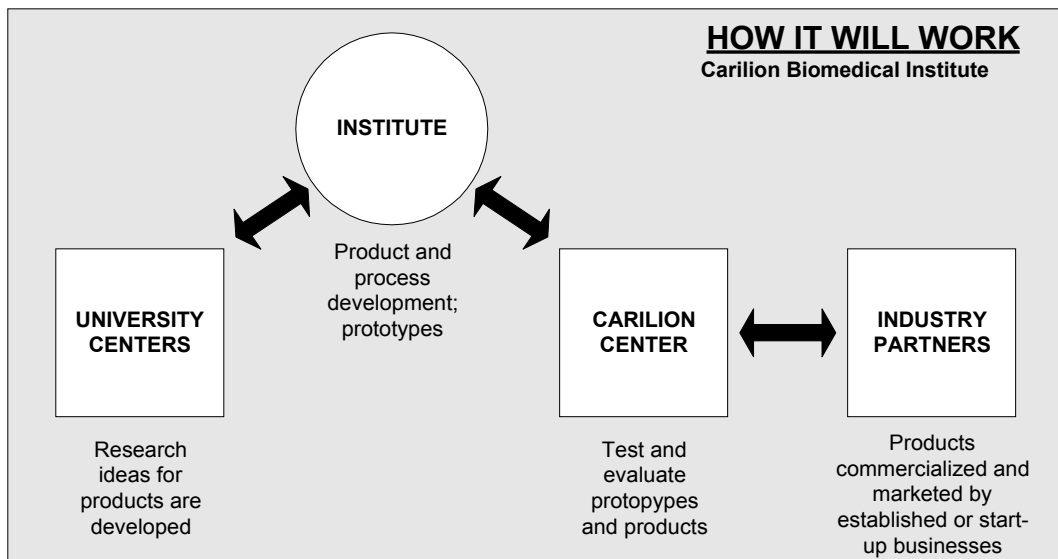
At its inception, the CBI established three goals: 1) to transform UVA and VA Tech's research into marketable health care products and procedures which can benefit patients' lives, 2) to help set up entrepreneurial biomedical companies to enlarge the local Roanoke and New River Valley economies, and 3) to generate more high-tech jobs for southwest Virginia. The overall plan for the CBI was to create a medically-oriented research and development place where biomedical businesses can originate (Sturgeon, 8/13/00a). According to CBI creators' visions: "It is not an investment opportunity, esoteric research boutique or a health care center. It [the CBI] will never treat a single patient. Rather, it is a small-business development center with connections to two powerful university research programs" (cited in Sturgeon, 8/13/00a, p. 2B).

The CBI claims it has the right to pursue the development of any type of device, machine, process, material and software that can improve human health and can be commercially marketed (Sturgeon, 8/13/00a). The CBI may also engage in veterinarian projects. The only area that seems off limits to the institute is pharmaceutical developments due to cost and time consumption (Sturgeon, 8/13/00a). According to

Dennis Fisher, CBI's CEO, the first two years will be geared toward writing successful grant applications, and forming solid relationships between the medical community and business companies. "Longer range, it will be business, sales and jobs" (cited in Sturgeon, 8/13/00a, p. 2B).

To accomplish its goal of transforming research into marketable health care products, the CBI's main role will be an integrating one, says Robertson (Robertson, 2000). The institute will be a clearing house for research ideas, a funding source for the universities' research, a testing place for prototypes and a link to forge business partnerships that will commercially produce viable biomedical products. The following chart provides a description of how the institute will provide these services. See figure 11.

Figure 11: How the Carilion Biomedical Institute Will Work (1999)



(Holton, 11/18/99, p. 18A)

The CBI differs from most other area biotechnology companies such as the Fralin Biotechnology Center at VA Tech or the Tech Corporate Research Center by providing

researchers and entrepreneurs three types of support: 1) start-up money for business, 2) statistical analysis and data systems for business support, and 3) research labs for test purposes. Robertson said, “We see the institute as being a place where researchers can get an early smell and taste test for their ideas” (cited in Holton, 11/18/99, p. 18A).

Robertson asserted that the institute would complement and advance, not compete with, the research facilities at VA Tech and UVA (Robertson, 2000). Brian Wishneff, CBI consultant, said, “To duplicate what is already being done at the universities would cost hundreds of millions of dollars. What we are trying to address is the difficulty there is in getting things from the basic research stage to market” (cited in Holton, 11/18/99, p. 18A).

Although the CBI was only formed in November 1999, it has already been working to get three areas of development to the stage of marketable products: medical robotics and automation, non-invasive diagnostic tools, and optical devices. As of the fall 2000, CBI was also developing: three devices or systems for measuring human vital signs, three disease detection systems, two hospital or clinical laboratory instruments, and a machine designed to speed DNA research (Sturgeon, 8/13/00a and Schnabel, 10/29/00).

A description of how the CBI develops products for market follows. First, a meeting of a CBI special board reviews proposals for funding. This board is composed of both medical and scientific members and CBI and university personnel. If the board decides the technology proposal is feasible, it will move forward (Sturgeon, 8/13/00a). These boards are extremely important and can change research directions. Dr. Andre Muelenaer, director of Pediatric Pulmonology at Carilion, while serving on a CBI funding board and looking at research in a VA Tech lab, was shown a humidity detector

developed by a fiber optics team. The VA Tech researchers experimented with the detector by blowing on it and causing a dial to move. The researchers thought the detector had weather applications. Muelenaer looked at the apparatus and said it may be useful as a respiration sensor. The CBI is analyzing currently the humidity detector for its possible use as a medical sensor (Sturgeon, 8/13/00b).

Once a proposal is considered feasible, the institute supplies funds for the researchers to create new technological products or procedures. Then, using its laboratory and staff, the institute tests prototypes for the technological products or procedures by applying the technology to real-world medically-related problems. At this stage, the institute may consult and/or employ other universities, or local or commercial companies to assist with the applied research. After the applied research phase has concluded and the CBI deems the technology workable and useful for patients' problems, the institute sells or licenses the researcher's product to other companies or helps researchers to work with an entrepreneur to produce the product for market.

The CBI will generate income through technology sales, license fees or business investments, but it will not be allowed to make a profit itself. The facility is a not-for-profit institute. All its income will be reinvested in new research (Robertson, 2000). The CBI does have a for-profit division, however. Institute Innovations, Incorporated was set up along side the CBI to provide stock dividends to shareholders through business investments it makes from CBI-generated technologies. The relationship arising from CBI and the Institute Innovations, Incorporated is an interesting one. On one hand, CBI allows Carilion to test new biomedical technologies for their usefulness and, given the institute's not-for-profit status, to write-off those non-useful technologies as losses

without financial implications. While on the other hand, Institute Innovations, Incorporated allows Carilion the opportunity to invest in the technologies CBI appropriates as useful and financially sound from a market (for-profit) perspective (Sturgeon, 8/13/00).

The work done from a researcher's initial product idea to the creation of a business to market the product is compensated. Dr. George Blonar, vice president of CBI's Business Development, says no research will go without compensation. If a university researcher's technology project is sold, licensed or creates a business, the researcher will be financially compensated (Sturgeon, 8/13/00a). According to Cromer, not only can university researchers benefit from the CBI, but doctors and other outside parties can, as well. Doctors may use the institute and the universities' services to develop ideas they have for products that they see as marketable to the health care industry. The doctor or outside party, in return for using the CBI's services, gives the institute a percentage of their profits from the eventual sale, license, or business creation their product delivers (Cromer, 2000).

Dr. Andre Muelenaer, who is working currently with the CBI to develop a web-based data management system for infant nurse cardiac monitors, believes the institute will be beneficial to many southwest Virginia doctors beside him (Sturgeon, 8/13/00b). He claims the region is full of doctors with technology ideas that they get from taking care of patients daily. Dr. David Scheiderer, Carilion's vice president for Clinical Research, comments that doctors often have useful technological ideas for two reasons: some want to be entrepreneurs, and others just envision better ways to take care of their patients (Sturgeon, 8/13/00b). Carilion's Don Lorton believes it can help those doctors

turn their ideas into usable products and procedures for the whole health care industry (Lorton, 2000).

Carilion formed a Center For Research at the same time the CBI began operations to help Carilion physicians know how to use the institute if they had inventive ideas (Robertson, 2000). The Center For Research will act as a liaison between the institute and Carilion. The center will educate the institute about what the medical community needs, and the CBI will inform the center or medical community about new technologies available. Besides providing a means to get university or physician research ideas transformed into marketable commercial products, the CBI will attempt to transform southwest Virginia from a blue-collar manufacturing and rural area, to a more professional, white-collar region.

Transforming Southwest Virginia's Economy

Since the early 1990s, the Roanoke Valley local government has spent millions of dollars to entice out-of-state companies to build new facilities in the region. Some of their efforts paid off. R.R. Donnelley and sons Company, Incorporated, built a book plant. Hanover Direct established a distribution center. Orvis Company located its catalog business, and other businesses relocated to the region, as well. The new facilities have employed thousands of residents and boosted local economies, but still have not brought high-paying, technical jobs to an area known basically as a blue-collar region of workers (Adams, 11/19/00). The CBI is one attempt to stop the exodus of highly skilled, highly educated workers from the Roanoke and New River Valleys (Robertson, 2000).

According to Robertson, "One of our [CBI's] goals is to generate more jobs in the region. Despite VA Tech's growth, it is frustrating to have so much intellectual capital

here, so many talented young people who have to move away from the area because they can't find jobs" (cited in Holton, 11/18/99, p. 1A). Robertson hopes the collaboration of Carilion and the two universities will also attract entrepreneurial biomedical companies to the region (Robertson, 2000). Robertson said:

The business community can spark economic development by tapping into the knowledge available at public research institutions. We live in an information age economy in which research universities are connected to mainstream issues of society, and more jobs will result from products of the ideas and products of those universities (cited in Sluss, Holton and Schnabel, 11/19/99, p. 2A).

Although Robertson does not know exactly how many jobs the institute will bring eventually, the institute as of November 1999, had received more than 35 idea proposals from VA Tech researchers, which could initiate start-up companies. Phil Sparks, executive director of the Roanoke Valley Economic Development Partnership said, "It's absolutely incredible. We're setting the stage now for this region to really make some inroads into biotechnology" (cited in Holton, 11/18/99, p. 18A).

In May 2000, Robertson outlined exactly how he intended the CBI to stop the migration of highly skilled, educated workers from southwest Virginia. On May 17, 2000, Carilion announced in a news conference to the Roanoke media that it had chosen a site to build its high-tech facility. The institute would be built in Roanoke, southwest Virginia's industrial center (Cramer, 5/17/00). Not only would the institute itself be built, but also the Roanoke City government announced they would build a 76-acre medical park called the Riverside Centre Biomedical Park to house the CBI and other biomedical interests. According to Allen, at the same time Carilion and the Roanoke City government held their news conference to announce the project, property owners in the

proposed building site were notified for the first time by a hand-delivered letter that their property would likely be uprooted by the project (Allen, 2000).

In 1999 when Carilion announced the creation of its institute, Carilion informed the public it would need 30 to 50 acres for the facility and an additional 100 acres for the institute's possible spin-off companies. Most Roanokers believed the sites considered would be outside the city of Roanoke itself, because of the large tract of land needed. Possible locations mentioned for the CBI included: Roanoke County's Center For Research and Technology in Salem, with over 400 available acres, the Botetourt Center in Botetourt, with over 500 available acres and the Roanoke's Centre For Industry and Technology, which had 120 acres of available land (Holton, 11/18/99). Those sites, however, were not chosen. In May 2000, Carilion announced it would construct its biomedical institute in the heart of Roanoke's downtown and in between Carilion's two Roanoke hospitals (Roanoke Memorial and Roanoke Community Hospital) (Cramer, 5/18/00).

Carilion and the city of Roanoke's proposed project would turn an already in-use industrial area just south of downtown Roanoke into a 76-acre biomedical business park within the next 15 years at a cost of \$175 million (Cramer, 6/2/00). The construction project to build the biomedical park represented collaboration between Carilion, Virginia Tech, the University of Virginia, the Roanoke City government and the Virginia Housing Authority. Carilion's announcement of the biomedical park touted the Riverside Centre as Carilion's showplace, but more importantly, a showplace for the city of Roanoke and southwest Virginia (Sturgeon, 5/18/00). The CBI would be Riverside Centre's first tenant. Other tenants would include the new medical companies that the CBI spun-off

from its products, which could either operate from the institute or establish their own facilities in the park. The CBI officials said the park would eventually employ approximately 2,500 people (Cramer, 6/2/00). Carilion had said it would create 200 jobs in the next five years at the park itself (Sturgeon, 5/18/00). While Carilion and the Roanoke City government project the Riverside Centre will bring 2,500 jobs to downtown Roanoke, one property owner in the proposed site area, Brad Allen, estimated the new Riverside Centre would displace approximately 1,000 workers immediately, while the 2,500 jobs would take ten to fifteen years to create (Allen, 2000).

According to Robertson, Carilion preferred building the CBI in the industrial Roanoke downtown location because its physicians and hospitals would be able to collaborate more easily with researchers and future park businesses. The CBI creates a new hub for Carilion's business of managing biomedicine. The CBI expands Carilion's traditional hospital "hub-and-spokes" system to include biomedicine, but at the same time, the CBI becomes a hub with its own spokes. The CBI feeds researchers, biomedicine, commercialized products and spin-off companies into the biomedical business park and then provides the park's businesses easy access to Carilion patients, since both the Carilion Community Hospital and Roanoke Memorial Hospital are just minutes away (Robertson, 2000).

The Roanoke City government had its own agenda for constructing the Riverside Centre Biomedical Park in downtown Roanoke. They, too, wanted to build a hub. Eventually, the city government hopes its Riverside Centre will transform Roanoke into a "high-technology hub" linking Carilion (its largest employer), the CBI, research partners (the universities), and start-up companies (deriving from the CBI's product

developments) (cited in Schnabel, 10/29/00, p. 2B). The biomedical park for the city of Roanoke according to Mayor David Bowers, became “the catalyst to transform Roanoke on the south side” (cited in Sturgeon, 5/18/00, p. 13A). The hope is that the Riverside Centre for Research and Technology will eventually reshape Roanoke into a city on the cutting edge of an exploding industry of biomedicine and biotechnology. The proposed biomedical project reconfigures land holdings and redevelops underused land to create a campus-like setting for the new biomedical businesses, which will stimulate demand for more professional and retail services in the downtown Roanoke area. As Darlene Burcham, Roanoke City manager stated:

This proposal is truly exciting because it brings new uses to property that generates inadequate tax revenues located in an underutilized flood plain area, increases opportunities for recreation and tourism, and creates a fascinating entrance to the world of biotechnology (cited in Sturgeon, 5/18/00, p. 13A).

Allen claims that it is ironic that the city government, which Carilion did not want to initially involve in its CBI, just one year later, had assumed a major role. The local city government, seeing the Riverside Centre for Research and Technology as its drawing card for future growth, joined forces with Carilion and began right away to accomplish Carilion’s goal of having the biomedical park open for business by 2002 (Allen, 2000). In the spring of 2000, the Roanoke City government decided to spend almost \$15 million to prepare the downtown area for the biomedical park. \$4.8 million would be used to buy and clear property while \$9.3 million would be used to improve the area with better lighting, landscaping and recreational amenities. In the spring of 2000, once the Roanoke City government agreed to fund the Riverside Centre, Carilion pledged another \$30 million in support funds for the biomedical park. Carilion agreed to spend \$10 million to

build the CBI and another \$20 million on park buildings as long as Roanoke City ensured the biomedical park would be built in the downtown area between Carilion's hospitals (Sturgeon, 5/18/00).

Achieving Carilion's biomedical park goal and its own vision of downtown revitalization with high-tech growth, the Roanoke City government had to quickly come up with a plan to redesign the already in-use downtown site for the Riverside Centre Park. While the Roanoke City Council recognized that the old industrial area was home to many business concerns, the city acknowledged the removal of those businesses and the installation of landscaping, lighting and amenities was essential to attract the future business park tenants Carilion envisioned inhabiting the park and contended the industrial businesses in the area had to go. Robertson insisted, "You can't attract businesses in [the Riverside Centre] if you've got a cement factory and you've got a mill across the street. The area has got to evolve into a commerce park geared to biomedicine if that's what [the Roanoke City is] going to attract" (cited in Sturgeon, 5/18/00, p. 13A). For Robertson, once Carilion announced where the park would be constructed, it was a completed deal. After the announcement, Carilion believed it was just a matter of time before current tenants were removed and the park was built (Allen, 2000).

Fearing Carilion might take its biomedical institute elsewhere if the Roanoke City failed to situate the Riverside Centre in downtown Roanoke, the city council began taking drastic measures to act on its agreement with Carilion to construct the park. The city council commissioned a study to be undertaken by the Roanoke Housing Authority to decide if the park's projected site could be declared a "blighted area" (Cramer, 7/22/00). The term "blighted," according to the federal government, denotes an area that

“jeopardizes the safety, health and welfare of a community” (cited in Cramer, 9/27/00, p. 4B). If the area could be declared a “blighted area” in need of redevelopment, the plan for the park would become a redevelopment strategy for the area. The city could then empower the Roanoke Redevelopment and Housing Authority to negotiate with area property holders to either purchase their property at market price or just condemn the property and buy it (Davis, 3/19/00). According to Allen, the Roanoke Redevelopment and Housing Authority has the right under Eminent Domain law to “take” (buy) any private property in what it deems a blighted zone for redevelopment projects, even if that particular property in question was not deemed to be blighted (cited in Virginia Property Rights Coalition, p. 2). The area just has to have a certain percentage that is blighted. Without declaring the area “blighted” in need of redevelopment, the city of Roanoke would be ineligible for federal redevelopment funding, and the Roanoke City government needed the federal redevelopment funding to help pay for its future vision of Roanoke’s revitalization, or in other words, the city’s portion to fund the Riverside Centre (Allen, 2000). According to Najjum, in the spring of 2000, city officials began arguing that the site had been run-down and underused for years and commenced negotiations with property and business owners in the area to claim the land under eminent domain and rezone the area for the Riverside Biomedical Park (Najjum, 2000).

Not only will the proposed Riverside Centre for Research and Technology reconfigure Roanoke’s economy and potential for high-tech employment; the biomedical park will extend Roanoke’s reach and alliances to other communities. One of the surprising ways the CBI will impact communities is in its global reach. The CBI will not merely be a regional institute intent upon health-related issues for Virginia, but instead, it

will be a globally-connected center to decide the health issues for the rest of the world. Just eight months after Carilion announced its biomedical facility, the CBI itself announced it would form a business partnership with Kobe, Japan (Sturgeon, 7/18/00).

In July 2000, the CBI, UVA and the mayor of Kobe, Japan, signed an agreement to pursue a new economic development partnership based on cooperative health care research and business ventures. UVA had previously been involved with Kobe, Japan, as part of its international outreach program since Kobe, Japan's 1995 earthquake. Once UVA's relationship with the city became business-focused in 1999, UVA officials invited the CBI to participate. Dennis Fisher, CEO for the institute, met with Kobe representatives in San Francisco early in 2000. Fisher said, "I sensed their passion for rebuilding their city," and he went on to say, "Just as we [Roanokers] are rebuilding our city. I think we share a common vision in moving into the bio-century" (cited in Sturgeon, 7/18/00, p. 6A). The two groups: CBI and Kobe representatives, see the biomedical industry as the new economic engine for the millennium. Kobe, which has always believed itself to be "a city of creative citizens open to the world," is a good place to initiate the CBI's global network, according to Fisher (cited in Sturgeon, 7/18/00, p. 6A).

For the CBI, Kobe represents a gateway to Asian markets, says Fisher (Sturgeon, 7/18/00). Fisher believes that the partnership with Kobe, Japan, will provide the CBI with "meaningful connections to Japan and Japanese industry and will give them an understanding and set of connections that will help businesses that Carilion spawns in Roanoke, and other businesses that may develop products out of institute research that could be marketed internationally" (cited in Sturgeon, 7/18/00, p. 5A). With a potential

network established with Asian markets, the CBI seems to be positioning itself to participate in a global community rather than just a regional one. Of course, the more far-reaching CBI becomes, there is more potential for high-paying jobs and biomedical start-up companies in southwest Virginia. In total, the CBI and its global alliances will bring significant changes to Virginia and redefine its communities in terms of business and health care. Whether these changes will be fortuitous or not, southwest Virginia will have to wait and see.

The Riverside Centre for Technology, although not built yet, already represents an important piece of Roanoke and southwest Virginia's future (Sturgeon, 11/19/00). Roanoke in the twentieth century was known as a railroad town (Barnes, 1968). The railroad, for most of the 1900s, fueled Roanoke's economy. The rails and their work-related activities were the source of jobs and income for Roanokers. In 1982, Norfolk and Western Railroad consolidated with the Southern Railway and moved its headquarters from Roanoke to Norfolk, which had a deep psychological and financial impact on the city (Dabney, 1989).

When Roanoke Memorial and Community Hospital merged in 1990, Carilion became the largest employer in southwest Virginia. Since then, although railroad work is still done at the Norfolk and Western workshop, the history of Roanoke is no longer "reflected off gleaming ribbons of steel and wreathed in steam." Instead, the history of Roanoke is tied to Carilion's medical industry, and Carilion's future of biomedicine and biotechnology awaits Roanoke and southwest Virginia (cited in Lowe, 11/7/99, p. 1E). Today, Carilion hands out over 5,000 paychecks to Roanoke employees and approximately 9,000 in total for the southwest Virginia region (Sturgeon, 10/24/00).

Carilion is the largest employer in Roanoke and the largest health care system in the State of Virginia.

Like the railroad that ran the city of Roanoke and surrounding southwest Virginia for much of the early 20th century, in the early 21st century Carilion appears to be a similar reckoning force. According to Allen, it does not seem so unusual that Carilion and the city of Roanoke found themselves announcing a biotechnical park that would displace 30 to 50 property owners. Carilion could have chosen among several other sites to locate its biomedical institute. Carilion chose the downtown Roanoke location to situate its institute and to help fund a biotechnological park because it would connect Carilion's two hospitals – Roanoke Memorial and Community Hospital. The new CBI and the biomedical park will have high visibility for all passersby traveling on Routes 581 and 220 through Roanoke. Just like the old symbol of Roanoke – the Norfolk and Western Railroad workshops, Carilion's CBI and the Riverside Centre for Research and Technology will become symbols of Roanoke's revitalization, founded upon biomedicine and biotechnology. The CBI venture allows Roanoke to clean up its older manufacturing areas, but, more importantly, to rid itself of old world economy business and to enter a more global, modern world of business – biotechnology and biomedicine (Allen, 2000).

Whether the bio-industries will come to be all that is anticipated remains to be seen, but Roanoke gambled in the early 1900s with the railroad and won. Roanoke became a boomtown. In 2001, Carilion and Roanoke Council members are gambling again to piece together the future of Roanoke with entirely unknown economy boosters of the 21st century – biotechnology and biomedicine.

Carilion itself gambled throughout the last 25 years as it waged a war against impending regulations, tougher third-party reimbursements and the advent of managed care to transform itself into a regional health care delivery system. Carilion is now gambling on its CBI to foster new markets, products and services for its future vision of managing care. The future health care system Carilion envisions will link medicine and technology in exciting and alarming ways. It is in this future vision that Carilion's reliance on a medical-model for managing care will be replaced by a preventive or health-wellness model.

Thornhill insists that for Carilion, the biomedical industry may provide a more economical way to manage care. If Carilion physicians know a patient's genetic dispositions, they can initiate care and utilize potential biomedical or biotechnical treatments that may help the patient prior to an acute stage ever arising. Wellness becomes a state of strength for the health care community to act from. This idea transforms care entirely. Wellness and illness become ambiguous states: one who thinks she is healthy, may not be according to genetic information and a person who is sick, may be well by all acceptable current standards such as symptoms, pains, etcetera. It is ironic, but a person who is truly ill within the new wellness model may be isolated in hospitals much like people were in previous centuries in the pest houses or hospitals. Hospitals under the wellness model may come to signify once again, places where no one wants to go or places where the very ill go to die, not get better. The patients who can get better will be treated outside the hospitals in wellness centers (Thornhill, 2000).

In Carilion's future health care delivery system, once more language for doctor-patient exchanges will change. "Sick," "symptoms," "pains," "fevers," may never enter

the conversation. Instead, descriptions of “code,” “mutations,” “genetic manipulations or transmissions,” will replace doctor-patient language. The doctor will become an electronic medical records keeper and the patient – an electronic medical records user (Nuckolls, 2000). Even today, the doctor-patient relationship under managed care consists of providers and consumers or users. The future is not too far away.

Besides changing the model for health care delivery, the CBI and the Riverside Centre for Technology mark an unprecedented alliance between universities like VA Tech and UVA, city governments and health care systems to foster research, improve health care and spark economic development. Such alliances will probably be more numerous in the future, but at this time seem out of the ordinary and a little unnerving.

Each of these groups: academic universities, health care systems, and city governments have historically had very different societal roles, agendas, and most importantly, definitions of communities’ best interests. An alliance of the groups signifies changing societal values and concerns for academic research, government, health care, and community economics. These alliances may also necessitate new definitions for Virginia lawmakers, government officials, academicians, health care systems and others of what constitutes a community’s best interest.

Carilion insists it is working to improve the health of the communities it serves. The Roanoke government claims it is working to promote the downtown area of its city to become a revitalized site for high-tech industries. Current property owners located where Carilion and the city of Roanoke hope to build their biotechnology park believe they serve the community by providing necessary manufacturing services. The federal government and the Roanoke Redevelopment and Housing Authority see communities in

terms of property dollars and funding and, therefore, see the CBI and park as a potential source of economic growth. The average citizen may not even be aware of what biotechnology is and what it can do for a community. Even if community residents understand biotechnology and biomedicine, they may not be certain of the ethical and moral issues surrounding the usage of such technologies. These different groups have maintained specific definitions of communities to achieve their goals. Now, boundaries are being crossed and organizational goals, directions and definitions of communities are becoming tangled. The impetus to change these definitions appears to be Carilion's attempt to determine health care delivery for the future of southwest Virginia. Carilion contends a biomedical park is the right direction for maintaining its mission of improving the health of the communities it serves. Carilion, however, is only one actor in the fray, but one with power, which has aligned itself with other powerful allies – the city government and the Roanoke Redevelopment and Housing Authority. The alliance of the three to build the Riverside Centre for biotechnology is a strong partnership that many property owners and ordinary citizens do not have the desire to confront or the resources to fight, according to Fred Najjum, another property owner in the proposed park site (Najjum, 2000). Even those property owners who have chosen to fight against the law of Eminent Domain to save their property or businesses from the project, have not met with success (A Citizen for the Reform of Eminent Domain in Virginia, 2000). The law of Eminent Domain has not been reformed so that the property owners can receive what they consider “fair market value” for their property (Walker, 1/25/01). Property owners continue to have questions as to who is right when governing bodies want to take over their property (Williams, 1/4/99).

Yet the controversy unfolding with the CBI and the Riverside Centre is significant in terms of changing definitions of community welfare. Who or what decides community welfare: state senate committee condemnation panels, Eminent Domain lawyers, housing authorities, city councils, property owners, health care systems, genetics, biotechnology? It is interesting to ponder that the genetic code determines, not only, the code of life and to some extent health and wellness, but may also decide through its usage in biotechnology, the code of communities' welfare and health. When the CBI and the Riverside Centre in Roanoke are built, they will stand as symbols of what defines a community's welfare to the various groups involved.

For Carilion, its definition of community welfare is wrapped up in its corporate mission statement: "Carilion Health System exists to improve the health of the communities it serves" (CHS, 1998). Carilion's definition of a community's well being consists of consumers, medical providers, health plans, clinics and hospitals, programs for education and wellness and alliances with whomever necessary to achieve the corporate mission. Robertson notes that Carilion's definition of community welfare is encoded in its objective to develop the biomedical institute (Robertson, 2000).

Carilion's interpretation of communities' welfare may surpass other groups' definitions of communities, since Carilion's definition rests upon resources such as medical providers and facilities that most communities deem essential. Carilion's determination of a community's welfare may or may not be a bad future for southwest Virginia communities. The outcome is to be told years from now. The controversy to build the Riverside Centre, like Carilion's new partial-ownership program for hospitals

and its EMRS describes a health care system that grew out of community traditions of care but that now is initiating its own agenda for care.

Conclusion: Carilion's New Directions Analyzed

All combined, Carilion's new directions for growth: partial ownership of hospital facilities, installation of an EMRS and the creation of a biomedical institute set Carilion on a course of providing care in surprising ways. The new directions transform Carilion once again into a different type of health care delivery system. Carilion becomes a system intent upon managing care from a wellness or preventive model versus an acute medically-related model. Carilion's concern to use a preventive model instead of an acute care one, is mirrored in the federal government's own questioning of how its Medicaid and Medicare's benefit packages are based on a model of acute care that is inadequate for the beneficiaries who have chronic illnesses (Iglehart, 1999a and 1999b).

Carilion's partial-ownership program for hospitals allows Carilion to garner those facilities, previously unavailable to Carilion because of their commitments to remain independent community-owned institutions. Partial-ownership means Carilion can spread out their risky acute care services over a wider group and, thus, hopefully accrue more financial stability. Partial-ownership also gives Carilion more facilities in which to offer its financially solvent outpatient services and community programs.

Carilion's EMRS is the integrator to push Carilion's new paradigm of wellness over illness as the model for care. The EMRS becomes Carilion's way to standardize and create uniform practices and guidelines to keep patients (EMRS users) well. The EMRS provides Carilion a method to apply individual standards of production to the practice of medicine. The EMRS creates assembly line medicine for Carilion.

The EMRS also becomes a system builder for Carilion. Because of the EMRS, physicians have moved away from their initial integration into Carilion's CHC due to fear of capitation, to a new integration catalyst based on information databases the EMRS supplies. Dr. Nuckolls points out the new EMRS pulls the primary care doctors, specialists, and drug companies together to work on clinical research protocols in exciting new ways outside traditional practice walls. He says:

With the EMRS you start pulling the different groups together to think about clinical research protocols. That is a great integration piece for doctors because then managed care is aimed at improving patient care. And rather than having the money piece [capitation] put us all together, we are put together through science. I think we are all oriented towards that, hopefully (Nuckolls, 2000).

Carilion's EMRS will play a significant role in the management of information for the CBI. For example, if the CBI wishes to test a new innovation, Carilion's EMRS will be able to identify the number of potential patients in its database who might benefit from the invention. Carilion could then choose a patient group to test the new product.

Speaking of the possible collaboration arising from Carilion physicians and its CBI,

Thornhill says:

Carilion Health Care Corporation becomes a very good source of information, a very good source of reality. Given the large patient population CHC manages and the broad geography of the Carilion System, Carilion Health Care Corporation's patient data becomes important for biotechnology test purposes. Historically, a lot of clinical tests have been conducted in urban areas with indigent patients. The merger between Carilion and University of Virginia and Virginia Tech's biotech departments will provide a new network in which to perform clinical trials that can utilize a broader cross-section of the population. Thus, the Carilion Health System's patient population may offer a potential test bed and marketplace for products and services arising from the biotechnology industry (Thornhill, 2000).

Carilion's new directions do more than determine how Carilion will transform its divisions in the future. Carilion's new directions transform southwest Virginia communities. Institutions such as hospitals, physician practices, and local economies based on manufacturing interests are being reconceptualized as Carilion transforms itself. Because of Carilion's success in the region as an employer and caregiver, Carilion's visions become incorporated into residents' visions of the future. The region needs Carilion's services and employment and, therefore, is willing to take part in its strategies for growth. Whether it will pay off in the future for all the region's varied groups involved, we must wait to see. What communities can discern at this point is that Carilion is no longer just blending communities' traditions of care into their operations. Instead, Carilion is seeking actively to create its own care delivery in the dynamic world of managed care with the evolving sciences of biotechnology, biomedicine and bioinformatics.

Notes

¹ Dr. Nuckolls' discussion about what is normal and what is diseased brings to mind Georges Canguilhem's The Normal and the Pathological. Canguilhem writes that views of health and disease are shifting and dependent upon the changing requirement of institutional power and state of science. Canguilhem also insists that the ideas of normal and pathological are deeply imbued with political, economic and technological imperatives. Dr. Nuckolls' description of normal and diseased states dependent upon Carilion's model of care, biomedicine, biotechnology and genetic predestination goes to the heart of Canguilhem's argument. See Canguilhem, 1999.

² The Carilion hub-and-spokes system diagram is based on my own interpretation of the system as described by Carilion interviewees.

³ Tertiary care represents one of four possible types of care Carilion provides. The four types of care include: primary, secondary, tertiary, and quaternary. Primary care represents "the first contact in a given episode of illness that leads to a decision regarding a course of action to resolve the health problem. Primary care usually is provided by a physician, but some primary care functions are also handled by nurses." See Mosby's Medical Dictionary, 1990, p. 963. Secondary care is "an intermediate level of health care that includes diagnosis and treatment, performed in a hospital having specialized equipment and laboratory facilities. Secondary health care is provided to a larger group of people from a larger geographic area than those served by primary care." See Mosby's Medical Dictionary, 1990, p. 1061. Tertiary health care is "a specialized, highly technical level of health care that includes diagnosis and treatment of disease and disability in sophisticated, large research and teaching hospitals. Specialized intensive care units, advanced diagnostics support services, and highly specialized personnel are usually characteristic of tertiary health care. It offers a highly centralized care to the population of a large region; in some cases, to the world." See Mosby's Medical Dictionary, 1990, p. 1157. Archie Cromer, a Carilion board member, says quaternary health care represents the most modern and sophisticated services a health care system can provide for the treatment of disease and disability. Cromer, 2000.

⁴ Some doctors and health care analysts like Thomas Bodenheimer argue that the use of information-and-reminder systems aid in redesigning goals, not just for preventive care, but for acute and long-term care, too. Bodenheimer states that these systems increase the proportion of patients who regularly undergo glycohemoglobin tests, retinal and foot examinations. See Bodenheimer, 1999b.

Conclusion: An Analysis of System Building

In the 1980s, as care came to be managed by corporate systems in America, southwest Virginia was no exception. The Carilion Health System (CHS) arose as a corporate system to manage southwest Virginia's care, consumers and communities. Since then, Carilion has continuously transformed its operations to better position itself to compete against Columbia/HCA and other health care organizations. Originally, Carilion relied upon the network of dependency William H. Flannagan, retired president of the Roanoke Hospital Association (former name of CHS) (RHA), built from 1950-1985 to connect the Roanoke Memorial Hospital (RMH) to all of southwest Virginia. From 1986-2000 under the leadership of Tom Robertson, former CEO of CHS, Carilion transformed into a corporate system managing all aspects of southwest Virginia's care. In 2001, with Dr. Edward Murphy, acting as Carilion's new CEO, Carilion continues its evolution. Currently, Carilion is becoming more than a managed care delivery system. Through its hospital partial-ownership strategy, Electronic Medical Records System (EMRS) and biomedical institute, Carilion has found a new model based on preventive services to deliver care and to define its relationship with consumers and communities. Building on a framework of current scholarship, this study has illustrated how corporate America undertook the management of care, consumers and communities in the late 20th century.

While this dissertation has addressed the development of the CHS and the transformations Carilion has undergone in its management of care, consumers and communities, the project is, above all, an analysis of system building in America today. Like most corporate systems, CHS exemplifies a social, cultural, historical, technological and economical mix of components, services and processes that have been assembled to

form a corporate entity. Corporate systems, like CHS, should press home the message to readers that corporate organizations are many things at different times. According to Archie Cromer, former CHS board president, such systems represent businesses, symbols, commitments, values, resources, and traditions within communities and for communities that are difficult to separate out from one another (Cromer, 2000).

Corporate systems, like CHS, have no respect for knowledge categories or professional boundaries to which historians, economists, sociologists, philosophers or others would like them to conform. “Technology/science,” “internal/external,” “technical/social,” “business/medicine” and “corporate/government” are some of the dichotomies that are used continuously when speaking about systems, especially corporate health care systems. These terms were helpful to me as I described some of the shifts that have taken place in the Carilion Health System, but were not always easily separated from one another. Even to date, debate has not been put to rest whether or not medicine is an art or a science or perhaps becoming a technology itself, noted Dr. Bumgardner, a Carilion physician in Rocky Mount. No one, physicians, corporate healthcare executives, insurers or patients dispute that technology and its accompanying endless ensemble of pharmaceuticals, machines, computers and lasers, have been firmly placed in western medicine’s black bag. The distinction of whether medicine is an art, science, or technology does not really matter. In systems, these distinctions are not independent of one another.

The ideas of medicine as art, science and technology each denote socially constructed definitions. The boundaries between the three distinctions is a matter for social negotiation (Bodewitz, Buurma, deVries, 1987). As I explained in Chapter One,

the late 20th century's introduction of managed care into medicine brought another distinction to the practice of medicine – corporate business – which serves to define medicine alongside art, science and technology. Combined, all these delineations have led many to see that the practice of medicine in America today is much larger than a singular doctor-patient social relationship. Instead, the practice of medicine is about system building. Systems, like Carilion, manage health care using art, science, technology, and business acumen.

In The Social Construction of Technological Systems, Wiebe Bijker, Thomas Hughes and Trevor Pinch note that system builders so thoroughly mix matters commonly labeled economic, technical, and scientific that systems become “seamless webs” (Bijker, Hughes and Pinch, 1990). System builders like Carilion produce “seamless webs” of services within the communities they serve through networks. CHS's networks include their hospitals, physician practices, outreach community programs, and other services. Carilion's CEO, Dr. Edward Murphy, says that a corporate system then may be defined as a “seamless web,” a synthesis or holistic vision of operations which shapes together all sorts of knowledges, elements and groups of society to build networks (Murphy, 2000). Carilion's “seamless webs” expand by incorporating new components into the system. The new components often arise by recombining various elements from pre-existing system facilities and/or services in new ways. According to Dr. Murphy, the challenge of corporate systems, like Carilion, is to integrate its many pieces to better achieve a seamless web (Murphy, 2000).

This work has examined the social shaping of the CHS. Social shaping refers to social contexts, but so much more goes into social context than what some historians or

sociologists consider social elements (Bijker and Law, 1992). For the purposes of this project, social shaping included political, economic, psychological and historical aspects. To talk about the shaping of Carilion Health System demands a multidisciplinary approach, especially for discussing two important factors found within Carilion and all other corporate systems: heterogeneity and contingency. Cromer explained that systems are neither purely social nor do they represent any one group's knowledge set (Cromer, 2000). Managed care systems, in other words, are not the creation of a few isolated groups. Corporate systems are heterogeneous in their organization. Systems, as CHS exemplifies, embody social, political, psychological and economic consequences. Corporate system development attests to the compromises, contracts, trade-offs, prejudices, markets, constraints, possibilities, and professional commitments of the disparate groups comprising systems or connected to corporate systems. Corporate systems are contingent on what all groups involved with the system do.

Systems do not necessarily have to be what they are; they could have been otherwise. CHS, which is currently in the process of developing its biomedical institute, might, at least in principle, have taken a variety of different shapes. For example, Carilion could have said no to bringing biomedical research and development and distribution units into its corporate structure. Corporate systems have budgets and future strategies but these impinge on other groups and societal elements that can re-chart corporate courses. RMH's history was re-charted many times. Its business and stability as a hospital depended on community groups' needs and accommodations. For instance, in the 1930s, RMH became the Crippled Children's Hospital to help with polio victims in southwest Virginia.

Even if a system trajectory seems evident, one still has to question why a corporate system moves in one direction rather than another. In this work, I have argued that systems, like CHS, are transformed and/or shaped as they pass from encounters the system has with one system interactor to another. My use of the word “encounter” is quite poignant. Dr. Murphy notes that the most basic relationship that the CHS has, its doctor-patient one, is called an encounter (Murphy, 2000).

Carilion is subject to contingency as it is shaped and reshaped by other social groups, artifacts, and medical philosophies. Five assumptions governed my approach to understanding the shaping of systems like CHS. First, messy contingencies do not lend themselves to a grand plan of history of corporate systems. Contingencies denote that the efforts of many groups go into the shaping of corporate systems. The history of CHS is not a unified or linear progression. Next, systems arise from conflicts, difference and resistance among the various groups interacting within and outside the system. Conflicts are major causal factors in shaping systems. Conflicts have implications for all the actors and any other systems they may be members of. Actors may act differently if they are left to their own devices. CHS would probably not have built a hospital along Interstate-81 had it not been for the fierce competition with Columbia/HCA to build a new facility to service the entire New River Valley. The pattern is that resistance is put up from the relations facing any one of the groups one wishes to single out against a system’s protagonists. If a system does not force an actor to act a certain way, then the system under examination might have been shaped otherwise and so too the other involved actors (Bijker and Law, 1992).

Differences among the various actors involved in CHS do not have to break out into overt conflict or disagreement. CHS patients will probably not riot if their health needs are not met, though they may take their business to Carilion's competitor – Columbia/HCA. On the other hand, federal government departments might resist providing necessary funds for CHS's biomedical venture if the Roanoke City government does not resolve their land ownership disputes with downtown residents. Regardless, and this is the third assumption that governed my examination of CHS, one must map out the strategies deployed by systems and other groups involved in dispute, disagreement or resistance. Such strategies are empirically varied. They range from legal, organizational, political, economic, scientific, to technical strategies. But, although they differ in specifics, I assumed that in all cases these strategies were designed to box in the opposition – to stop it from acting otherwise, going elsewhere, or successfully stabilizing its own alternative version of social relation (Bijker and Law, 1992). This work mapped CHS' strategies as it went through several important conflicts: the merger trial for Roanoke Memorial and Community Hospital in the late 1980s, the purchasing of physicians' offices during the 1990s, the installation of the EMRS in 2000, and Carilion and the Roanoke City government's current attempt to purchase land in downtown Roanoke for a biomedical park.

The fourth assumption which governed my work was that a system's operations or services are only stabilized, if and only if, the heterogeneous relations in which it has been implicated and of which it forms a part, are themselves stabilized. If one of a system's services is stabilized, it is because the network of relations in which they were involved together with the various strategies that drove and gave shape to the network –

reached some kind of accommodation. Accommodation is difficult to talk about in the abstract, however, because it can take the form of compromise (a negotiated settlement) or it may look like politics, bureaucracy or the exercise of naked power (Bijker and Pinch, 1992).

In the case of CHS, the merger of its two hospitals, Roanoke Memorial and Community Hospital, came by a negotiated legal settlement. Carilion's decision to build its biomedical institute and its partnership with the Roanoke City government to construct a biomedical park for the economic future of Roanoke may be a show of naked power. In 2001, Carilion is the controlling work-place employer in the Roanoke Valley. According to Brad Allen, a Roanoke property owner in the proposed biomedical park building area, insuring those jobs and the creation of even more professional positions in the Roanoke Valley is strong inducement for the Roanoke City government to promote Carilion's Biomedical Park (Allen, 2000).

The last assumption, which I used to guide this research, is that both strategies and the consequences of those strategies by a system and its involved groups must be treated as emergent phenomena. When two strategies are molded into one, new strategy, an emergent phenomenon arises. Emergent phenomena are arising all the time in systems, like CHS, because actors (people, organizations, artifacts, etc.) are both shaped by and at the same time shaping, the context in or which they are recursively implicated (Bijker and Law, 1992). Some of Carilion's most unusual emergent phenomena that this work has discussed include its EMRS, its Carilion Health Care Corporation (CHC), its Carilion Health Plans, Inc. (CHP) and its Carilion Biomedical Institute (CBI).

A number of theoretical approaches and different vocabularies were used to explore how these assumptions concerning contingency and heterogeneity played out in Carilion's system building. Robertson's push for the CBI, the CHC network of physicians and the CHP were thought of in some terms of Hughes' system building theory. Originally, intended to describe and account for the growth of large technical systems like the electric supply industry, Hughes' theory works well to explain CHS's success in system building. Hughes's argument is that the successful entrepreneurs were those who thought in system terms, not only about the technical character of their innovations, but also about their social, political, and economic context (Bijker and Law, 1992). If one speaks of Tom Robertson or William Flannagan as the entrepreneurs of Carilion, then yes, these men were not only designing technologically and medically-related hospital organizations, physician networks, and managed care programs, but were designing societies-communities within which these networks, hospitals and managed care plans might be successfully located.

But Hughes's system theory represents only one way that I went about explaining the success of CHS's system building. Actor-network analysis as advocated by Bruno Latour, Michael Callon, and John Law was also important for explaining Carilion's system building. In actor-network analysis, the actions of "actors" including people, machines, systems, organizations are followed (Law, 1990). Actor-network analysis describes actors using a rigorous, semiotic vocabulary to talk symmetrically about all actors: people, machines, etc. (Callon, 1986a). In actor-network analysis, elements comprising networks are, at the same time, constituted and shaped by the networks. Callon, Latour and Law avoid making a "backdrop" about social, economic, political or

other factors: the “backdrop” itself is constructed in the course of building networks or systems (Bijker, Hughes and Pinch, 1990). Actor-network analysis assumes that people, machines, artifacts and entrepreneurs are not naturally occurring categories (Callon, 1986a). In this work, I assumed for example, boundaries drawn between Carilion’s CEOs and physicians, MRI machines, electronic medical records systems were not naturally occurring categories. Instead, I contended that they were constructed boundaries that had been boxed and must be unboxed to understand how they were constructed and related to one another. Latour calls this procedure opening “black boxes.” Latour insists that machines and systems when unpacked reveal unexpected relationships (Latour, 1987).

By using Latourian analysis and unboxing Carilion’s black boxes, I went from Carilion’s final product, a system, or as Latour would say, a “cold” stable system to “warmer” and unstable system elements (Latour, 1987). In other words, I began to unravel the heterogeneous and contingency factors discussed previously. I learned that health care systems, like most scientific or technological artifacts come to the public basically ready-made, and ready-made is just how system builders, inventors of scientific or technological artifacts want their products perceived. For example, in 2001 CHS appears to have over 100 years of service to its communities. It’s a ready-made history that incorporates traditions, loyalties, and services, but when I unboxed CHS services, hospitals, physician offices, clinics, etc., (when I got into the making of CHS) then the input and output of the black box were no longer so simple. The connections – the contingencies and the heterogeneity – became messy with controversies, resistances, and different stories from all the actors involved. How controversies are resolved or negotiated depends on how well actors enroll allies and promote alliances (Latour, 1987).

In Science In Action, Latour notes when the assembly of disorderly unreliable allies turn into something that closely resembles an organized whole, a black box forms (Latour, 1987).

What should interest readers the most from this type of analysis is how controversies and resistances are negotiated and thus boxed or closed so that as in the case with CHS, one gets a CHC, a CHP, a CBI, an electronic medical records system, traveling MRI machines, hospital management contracts, Elizabeth Arden free gifts for breast examinations, fitness centers and the list goes on and on. Closure is the process by which conflicting groups reach or impose a specific outcome and so conclude a dispute (Misa, 1992). Closure creates what I call “navigation pathways.” Navigation pathways allow all the actors involved (including researchers like me and readers of my research) to “map out” the pathways of CHS and other actors to follow the contingencies and heterogeneity of the system.

This work represents an attempt to unbox the CHS black box. It is an attempt to follow actors such as biomedical institutes, electronic medical records systems, physicians, hospitals and housing authorities, and others around and to document those allies CHS enrolled and to unravel the complexities surrounding the boxed CHS. I have tried to give voice to many of the actors involved, but the story of CHS is even more complex than this dissertation indicates. This work, however, provides an excellent case study for STS scholars, historians of medicine and ordinary citizens – all health care users – to take to understand and navigate the large health care systems found in America today. This work blurs the knowledge boundaries of social, economic, political, medical,

historical bodies of work to create a multi-disciplined approach to untangling health care issues and health care systems.

In Chapter One, “How America’s Care Came to be Managed,” I analyzed the origins of managed care. I explained how care came to be managed by corporate systems in America due to a series of events starting with the Medicare and Medicaid programs of the 1960s. Throughout the 1970s and 1980s, third-party reimbursements to America’s care facilities, especially hospitals declined, but Americans continued to demand more and more medical services. In the 1980s, corporate managed care systems arose as a way for medical facilities, consumers and third-party payers to arrange care and costs into affordable and attractive packages for all groups concerned with health care (consumers, providers and payers). In 2001, America’s corporate managed care remains a strange arrangement of health care components consisting of consumers, providers and payers who each have concerns about the efficacy of the corporate systems managing care. The groups involved in corporate managed care often speak loudly of their own issues, but remain unconcerned about each other’s dilemmas.

In Chapter Two, “‘Carilion’s Mission Began With Its Hospitals:’ 1988-1992,” I explored how the RMH and its charter association, the RHA transformed into the CHS. Until I unpacked the CHS box, Carilion’s hospitals appeared to be only one of many organizations accounting for Carilion’s success. After investigating Carilion’s history, I found that Carilion’s mission to provide care in southwest Virginia originated within its hospitals, in particular one of its facilities – the Roanoke Memorial Hospital. By tracing the history of the RMH, I discovered that the Roanoke Hospital Association’s (parent company of the RMH) first growth strategy was to secure a “network of dependency” for

Roanoke Memorial to southwest Virginia communities. William Flannagan, the RHA's former CEO, enlarged RMH from a single hospital to a medical state-of-the-art facility that provided care, training and educational programs for all of southwest Virginia. In 1986, Tom Robertson, who succeeded Flannagan to become CEO of the RHA, extended Flannagan's "network of dependency" for RMH. Robertson visualized a new health system which would, not only network care, training and education to other southwest Virginia facilities, providers and patients, but would provide directly those services within those communities. In 1988, the renamed RHA, Carilion Health System, became Robertson's vision.

As Archie Cromer, former president of the CHS board recalls, Carilion became the "caring lion" for all of southwest Virginia (Cromer, 2000). The "caring lion" was not without its troubles, though. One only knows of Carilion's troubles after examining its past, however. In the chapter, I describe some of Carilion's troubles as it attempted to become southwest Virginia's caregiver. I examined the Carilion and U.S. Justice Department court case concerning the merger of Roanoke Memorial with the Community Hospital of the Roanoke Valley, and I explored the affiliation agreements Carilion, Franklin Memorial and the Radford Community Hospital signed in the late 1980s.

These incidents are important to Carilion's shaping as a system, but are lost in the story Carilion tells of itself. The court case positioned Carilion in the national news as a health care system expanding its territory in a highly competitive way. The story of the affiliation of Franklin Memorial and Radford Community Hospital to CHS serve to recreate the experiences that countless small American community hospitals went through as they merged with corporate health care systems, like CHS. Those hospitals,

their communities and their patients had to make choices and sacrifices about what kinds of resources and services that their communities would have concerning health care services. As the chapter explained, the decision to merge America's small community hospitals into large health care systems was a difficult decision for most community hospital boards to make. Communities' traditions of care were disrupted and hospital boards feared that their facilities might go under financially. Fortunately, Carilion's many small community hospitals escaped financial ruin. Thus, Carilion instead of merging the histories of its small, community hospitals into its corporate history should be proud of its accomplishments to financially stabilize local hospitals and its maintenance of community traditions of care.

In Chapter Three, "Transforming Carilion from a Hospital System to a Managed Care System: 1992-1996," I retraced Carilion's steps to become a managed care system. Robertson recalled that he knew if Carilion was to survive in an increasingly managed care market, the hospital system needed to evolve into a managed care system. To become a managed care system, Robertson claimed that Carilion had to first become what its name implied – a health care system (Robertson, 2000). In 1992, Carilion began transforming itself into a health care organization. Carilion created a physician-management company (CHC) to network primary care physicians into the system. Robertson believed that the primary care physicians were essential to lure patients into the system. Next, Carilion created its own health plans division (CHP) which could provide plans to secure consumers to the system. Combined, the creation of the CHC and CHP made Carilion a health care system. To become a managed care system, Carilion had to provide its own HMO to consumers. Carilion initiated its own commercial HMO

in 1999. By opening the Carilion black boxes for its CHC and CHP, we begin to see Carilion in the making as it built a managed care system. Without revisiting the history of the CHC and CHP, it is difficult to understand the commitment to system building CHS exerted. By unpacking the CHC and CHP, I describe the work and effort CHS, physicians, and community consumers have put forth to system build.

In Chapter Four, “Corporate Strategies for Managed Care,” I examined Carilion’s attempts to compete against Columbia/HCA. According to Sid Mason, FMH board president, Carilion’s strategies included: a reengineering program (1995) which almost destroyed the system. Mason recounted that the program was undertaken to reorganize Carilion’s services to better network them to be more cost effective. The program eventually worked, but not without Carilion losing important personnel, like Dorman Fawley, the heir apparent to the Carilion system. Carilion had to rethink its corporate makeover strategies because of the crisis that ensued in the patient care areas with nursing staff (Mason, 2000b).

The second growth strategy I analyzed that Carilion undertook to compete against Columbia/HCA involved a marketing blitz (1998-2000). Carilion advertised for its facilities, programs and events via radio, television, newspaper, malls and consumer give-aways. The campaign coincided with Carilion’s 100-year celebration of its RMH. Carilion used the RMH’s anniversary as a marketing tool to provide recognition to all its facilities (hospitals, physician-practice sites, and others). Carilion’s display of banners at each of its facilities claiming 100 years of caring were reminders of how corporate America uses history to present progress. It is only by investigating corporate pasts that we learn different stories such as the individual histories for each Carilion hospital.

The third growth strategy explored was Carilion's construction of a medical center in the New River Valley (1995) to compete against Columbia/HCA's two hospitals in the area. By the early 1990s, Carilion administrators knew they wanted to build a facility to replace the aging Radford Community Hospital, but once Columbia/HCA presented a plan to the State of Virginia to build a new type of managed care facility in the area (1995), Carilion was not to be outdone. Carilion set out to build a state-of-the-art facility that was not just a hospital – it was a medical complex. As my examination of the Carilion New River Valley Medical Center (CNRVMC) showed, Carilion's proposal won out over Columbia/HCA's plan because Carilion was able to assemble faster and more efficiently more actors to its cause. Carilion managed to network the local utility company, the Montgomery County board of supervisors, the Radford community, the physicians and area planning and zoning committees to back their medical center. This section showed that corporate growth strategies to thwart competition are dependent upon enrolling allies and that much of Carilion's success was due to its ability to enlist supporters.

In Chapter Five, "Narrations of Managed Care," I listened to the experiences of Carilion's physicians and its hospital board members, administrators and medical staffs. My interviews allowed me to go beyond simply talking about Carilion physician practices, physician-management companies, health plans divisions, and hospitals. I went inside those boxed spaces and watched workers doing the system building. I saw managed care being managed by CHS. I consider the experiences shared by Carilion employees to be the most important part of this work. Without their stories, I would have written an organizational history of CHS. Because of their shared visions, I have written

about how systems continually build and manage care, because it is the people I interviewed who are building the system and managing care every day in their encounters. Doctors encounter patients. Hospital board members encounter federal and state restrictions for their facilities. Hospital administrators encounter CHS corporate budgets that have to be molded into their local hospital budgets. Encounters are the most basic level of every major Carilion transformation that I discuss. The groups that I interviewed experience those encounters.

In Chapter Six, “New Directions,” I looked at three new ways in which Carilion is attempting to change its model of care giving from an acute care model to a preventive-type model. In 2000, Carilion initiated a partial-ownership strategy within its hospital holdings. Carilion’s partial-ownership strategy allowed it to buy-in or sell-off parts of hospitals in southwest Virginia without having to assume full-ownership. The strategy permits Carilion to stay in the hospital business, but at the same time, to contain its costs for acute care services. The strategy also affords Carilion facilities the ability to promote its preventive-type programs.

The second new direction that I found Carilion has undertaken to change its model of care involves its physician-practices. Carilion installed in each of its practices (1999-2000) an EMRS, which has changed doctor-patient encounters unlike any major technology introduced into medical technology before. The Carilion EMRS is the largest patient database in the U.S. The system manages care for Carilion’s patients and physicians, and it manages Carilion physicians’ productivity. Inside the Carilion boxed EMRS, I found knowledge, expertise, technology, charts, graphs, patients’ histories, physicians’ productivity, and CHS’s profit data for physicians. The EMRS is a system-

building tool, a system identifier, a system organizer and a policing mechanism for CHS. I found that the EMRS is a system unto itself and I am very wary for physicians, patients and communities of how the system will be utilized in the future.

The third new direction that Carilion has taken in its struggle to manage care using a preventive-type model of care was its development of a biomedical institute (1999). Carilion's announcement to create an institute relying on biomedicine and biotechnology that could provide treatments to prevent illness or disease represented a significant break from Carilion's former maintenance of communities' traditions of care which took place mostly in physicians' offices and hospitals. Carilion's CBI undertakes the delivery of care from a new and foreign arena to communities. Besides providing care outside traditional medical facilities, the construction of the center itself breaks down the traditional community, organization and economy of downtown Roanoke. Carilion's CBI is another good example of how Carilion enrolls allies. The CBI represents alliances with university groups (Virginia Tech and the University of Virginia), local, state and federal government groups, Roanoke City property owners and emerging sciences and technologies. The CBI is a perfect example of how Carilion transforms care, consumers, and communities via enrollment of allies.

These six chapters together represent Carilion's history, corporate system building and management of care. Besides exhibiting how a corporate system builds itself and manages care, these chapters describe how communities' care came to be managed by corporate systems. The future of CHS and its communities in some ways appears to be business as usual – continued improvement of the health of the communities it serves. In other ways it appears significantly different such as the EMRS and the CBI.

One might argue that Carilion physicians, armed with their electronic medical records systems may become community health police. Managed care systems have already renamed physicians. They are now called service providers. The next step may be from provider to police. Police/physicians/providers with their rules and guidelines for scheduling health care services will inform citizens/consumers of CHS's system when they need to come to clinics. If the citizens do not come for the "required" procedure according to the EMRS, they may be dropped from their HMO/health plan (the freedom card to wellness and health in the community). The community itself will be redefined into a "health state" with biotechnology and biomedicine industries determining womb-to-tomb genetic code information and necessary health care for citizens. In essence CHS may be creating a system that will lead to a new 21st century definition of communities based on a "health state." Like the industrial state of the 18th century, the nationalized state of the 19th century and the capitalistic state of the 20th century, the "health state" may be the watchword for the 21st century.

According to one health care group, The Virginia Hospital and HealthCare Association, the health of communities is depended upon a multiplicity of variables, but, somehow, the Virginia Hospital and HealthCare Association have taken it as part of their role to define these variables for Virginia communities. In 1995, The Virginia Hospital and HealthCare Association, an alliance of hospitals and health care delivery systems, assembled a Task Force on Community Health and Accountability to determine the healthiness of Virginian communities. The task force included health system managers, businessmen, insurance carriers, local government, local health departments, community foundations and advocacy groups. The task force surveyed the various members' needs

for improving community health. Most members insisted that they needed comparative data about communities to help them plan initiatives and against which they could evaluate their efforts. The task force's product was a report titled "Indicators of Health Communities 1997," a booklet that divided Virginian communities into four regions: Roanoke, southwest, southeast and northern Tidewater areas to describe the "healthiness" of Virginia's cities and counties. The task force's definition of a "health community" was quite broad. In defining healthy communities, the task force said:

People's health and quality of life are dependent on many community systems and factors, not just well-functioning medical systems or the absence of disease. The many disciplines participating in the activity agreed that the focus for viewing health had moved beyond monitoring diseases to stimulating and encouraging collaborative action and efficient use of resources from all segments of society (cited in Virginia Hospital and HealthCare Association, 1997, p. 1).

The task force's indicators relied on the influence of economics, education, population growth, health status, community services, and natural resources that allowed a community to thrive (Virginia Hospital and HealthCare Association, 1997).

The task force maintained its findings presented the "health" of Virginia communities in a holistic way. But it basically supports the argument that how communities are defined, whether in terms of health or otherwise, seem to be changing. The fact that a health care association is defining Virginia communities in partnership with local governments, businesspersons and health care systems leads one to ask, what is a community? Who should define it? How should the health of a community be defined? And how does one safeguard the health of some community members (like the property owners at the proposed Carilion Biotechnology Park) at the expense of other community members' health?

Alliances, partnerships, and systems are big business in the health care industry today. Much is at stake: controlling the big dollar care industry, controlling consumers, controlling communities. That is why the title of this work is “Carilion Health System: A History of Managing Care, Consumers and Communities.” Carilion’s Dr. Jack Bumgardner, a physician in Rocky Mount, said:

I’m somewhat cynical anyway, I guess. I would still define managed care as an economic means of trying to control medical costs, but I am still not convinced that’s managed care. I look upon managed care as a bureaucracy that’s managing money and communities and not committed to patient care (Bumgardner, 2000).

The level of control CHS has over the communities it serves today is immense. Carilion throughout its history has built powerful alliances with hospitals, physicians, consumers and communities to assemble a health care system that not only delivers care, but delivers community revenue, consumer goods, services, programs, wellness and health education, training, professionalism, grants and funds. But CHS has also delivered changes to communities’ geography, economics, history and technology in some ways that may prove unfortunate to communities. Utility lines to competitive industries in the Virginia I-81 corridor may have been different had it not been for Carilion’s NRVMC. Downtown Roanoke’s revitalization project may have taken a different turn had it not been for Carilion’s biotechnology initiative. Countless other stories have been presented in this study which describe how Carilion, a powerful system builder, has controlled the direction of communities’ futures.

The result is that Carilion is a unique system that developed out of the traditions of caring in the communities it serves, but Carilion has, in turn, shaped and is still shaping those communities it serves as well. Carilion and its communities are in a

dynamic movement of flux, like all systems (whether they be health care systems or other) and communities daily. It is only when one looks back and opens the black boxed history of a CHP, CHC, or the property owner's meetings with the Roanoke Redevelopment Housing Authority that one understands how systems, communities, consumers, technology, medicine, economics, history, sociology, and corporate missions are constructed into seamless webs, to tell stories of communities' past, present and future.

In 2001, Carilion Health System is the largest health care system in Virginia employing over 9,000 employees and one of the top-ranked health care systems in America. Carilion is a financially strong corporation that operates many successful for-profit and not-for-profit enterprises. Carilion is dedicated to its mission: to improve the health of the communities it serves, but one must question its ways and means of getting there. Carilion's vision to fund community initiatives, to educate individuals about health care issues and services available, and to provide access to affordable, high quality health care to meet a community's needs seem benevolent and community-focused. It is difficult, however, to discern the full impact, costs, and the loyalty and opposition communities have toward Carilion.

Carilion and Columbia/HCA continue to fight for market share and market domination. When asked why the fierce competition exists, Carilion and Columbia/HCA physicians, managers, executive CEO's, senior vice presidents, nurses, and board members all exclaim, like Cromer, "We have to advertise, market ourselves; competition is tough" (Cromer, 2000). Cromer believes that consumers remain unconvinced that all the marketing hype is necessary. He notes that consumers argue, for the most part, that

the two health care systems do not need to spend so many dollars on marketing.

Consumers would rather the health care systems put the money into lower-cost health care services (Cromer, 2000).

Both Carilion and Columbia/HCA see it differently. Carilion board members contend Carilion's money flows back into its communities in terms of more programs and services that benefit the entire community. Carilion's and consumers' different philosophies about health care dollars remind us of the debate between most Republicans and Democrats. Cromer argues:

The Republicans demand all budget surpluses go back to American citizens in the form of tax cuts. The Democrats want the excess funds to be used to sponsor more government programs. In terms of southwest Virginia's health care, some would argue it's a case of big business (Carilion Health System and Columbia), like big government (United States Government), telling its consumers what they can and cannot have (Cromer, 2000).

Carilion and Columbia could have chosen to lower costs to consumers, but they have not. They could choose to support other community initiatives rather than the ones they chose, but they do not. Unlike the United States Government, Carilion consumers are not allowed to elect officials to represent their interests. The Carilion and Columbia/HCA board of directors and their hospital boards decide most community funding projects. For the most part, communities' residents are completely left out of the decision-making processes of how Carilion money will be spent on community health needs. The fact that Carilion or Columbia/HCA could have chosen otherwise underlies two significant points about systems not only in health care delivery, but systems managing business for other services. First, systems operate by making decisions based on various criteria, but the decisions always support the basic interests of the system.

Carilion's mission might be to improve the health of the communities it serves, but how it accomplishes that mission will always be to protect its own "healthy" financial well-being first (Robertson, 2000). Second, corporate America makes choices for consumers; consumers sometimes have no voice even in a capitalistic society.

Consumers typically vote with their feet. They are active agents and can walk away from purchasing goods or services if they choose, but in some markets like health care, consumers have limited choices. Although Carilion and Columbia/HCA claim competition is tough in southwest Virginia for health care market-share, for the citizens of southwest Virginia, there are only two choices for health care services – Carilion or Columbia/HCA. Even consumers who have the financial means to purchase health care services outside Carilion or Columbia/HCA's networks find they must rely on one or both of the systems if sophisticated care services are required. The southwest Virginia region is not equipped with physician and facility resources at this time to offer medical "concierge care" like that found in some areas of the U.S. (Chase, 7/27/01). "Concierge care" has been defined as a system in which patients pay an annual fee and receive "leisurely consultations, same-day lab tests, no wait appointments and home delivery of drugs" (cited in Chase, 7/27/01, p. 1B). When corporations attempt to provide medical boutiques for care services outside Carilion's network, the "caring lion's" administrators claim such outlets will jeopardize health care resources throughout southwest Virginia.

In 1999-2000, Carilion's fight with the Vistar Eye Clinic exhibited Carilion's hardball strategies to compete against the establishment of free-standing medical boutiques. In 1999, Carilion initiated steps to force cessation of operations by a group of Roanoke Valley ophthalmologists called Vistar Eye Center who were seeking to build an

outpatient surgery center in Salem. Carilion criticized the proposed surgery center claiming it would jeopardize an important source of its hospital income (outpatient surgery). Carilion argued such a free-standing surgery center could take business away from them and lead to cost increases and reductions in other hospital services (Holton, 9/20/99). The competition dispute triggered a debate in the Virginia legislature to revisit the state's Certificate of Public Need law (Holton, 12/16/99). Virginia's certificate of public need law states that "before constructing a new building or offering certain types of medical care" an organization must procure an approval from the state government (cited in Sluss, 1/27/00, p. 1B).

Arguments between Carilion's Tom Robertson and one of Vistar's ophthalmologists, Frank Cotter, were publicized in Roanoke Times commentaries. After Vistar was denied the right to build its free-standing clinic, Cotter argued that Carilion failed to provide affordable eye surgery at its Community Hospital in Roanoke, even though it swore in an affidavit to the Virginia State Health Commissioner it would lower its charges if the center was not built (Cotter, 12/28/99). Robertson insisted, on the other hand, that Carilion was attempting to lower its charges. He stated:

While this is a complicated undertaking, we remain committed to this promise. The average charge of cataract surgery has gone from more than \$2,000 to \$1,150 in the past year and continues to drop.

Reducing process to this extent is not a trivial task. Complex Medicare regulations and physician-controlled decisions weigh heavily on our ability to lower prices. Lowering costs requires being more efficient with operating room time and in ordering supplies. These require behavioral changes by independent physicians. These changes do not happen overnight (cited in Robertson, 1/5/00, p. 13A).

Robertson went on to state that Carilion followed the state policy regarding Certificate of Public Need and would continue to do so (Robertson, 1/5/00). Robertson learned shortly after making his statement that Virginia's Certificate of Public Need was about to change.

A Virginia legislative subcommittee began hearing requests for changes to the law in late January 2000 (Sluss, 1/27/00). In February 2000, the state legislature voted to gradually eliminate the Certificate of Public Need and to allow competition between Virginia's hospitals for outpatient services such as eye surgery and free-standing clinics like Vistar (Turner, 2/14/00). Carilion lost its competitive fight and lost some of its healthy financial well being which Robertson deemed to be top-priority for corporate systems (Robertson, 2000).

When Carilion's fiscal year ended September 30, 2000, Carilion had \$1.08 billion in gross revenue at a time when many health care systems reported financial losses (Integrated Healthcare Report, 1999). The \$1.08 billion represented eight times the gross revenue for fiscal year 1986 when the Roanoke Hospital Association became Carilion Health System and Robertson became CEO and president of Carilion (Sturgeon, 11/22/00). Robertson oversaw the transformations Carilion underwent from 1986-2000. Under his leadership, Carilion not only survived in the health care industry in a time of rapid, profound change in both the delivery and financing of health care services, but also grew into the region's largest economic concern.

The transformations of Carilion were difficult at times for employees and communities, but Carilion "preserved in western Virginia the tradition of non-profit hospitals whose first obligation is to their communities rather than to private investors" (cited in Robertson, 11/25/00, p. 15A). Robertson especially recognized the value of local

control and worked diligently to build a solvent health care system, while at the same time keeping control of Carilion within the region (Sturgeon, 11/22/00 and Holton, 2/27/00). Robertson himself was a native of southwest Virginia, known as the “Can-Do Man” at Carilion because he was willing to try anything to make the system stronger to withstand competition. To depict Robertson as the “Can-Do Man,” the Roanoke Times printed a compelling photograph of Robertson, where he was standing in front of a glassed block area with curtains drawn wearing a dark suit with his silver-white hair. The photo almost has a spiritual tone to it. Robertson appears solemn and God-like against the bright, halo-like glass blocks. The picture makes one think of Robertson as the spiritual leader of the Carilion Health System (Holton, 2/27/00, p. 1B).

The value of Carilion’s commitment to retain local control of its operations has both positive and negative economic, social, cultural and political consequences for the southwest Virginia region. Carilion, a major corporate system provides jobs and security for thousands of residents. If Carilion’s finances fail, many other Virginians suffer, too. The system furnishes health care services and programs to the region’s consumers, and if Carilion cannot supply a specific program or service, communities may just have to go without the services. Furthermore, Carilion promotes future growth for the region such as the Carilion Biomedical Institute. Such growth, however, creates conflict as it reorganizes communities’ politics and economics.

Carilion connects communities, consumers and care. These connections are powerful ones. Traditions of care, knowledge, science and technology and relationships are networked within Carilion’s connections and every transformation Carilion undergoes, as this work has shown, redefines those networks. The network nodes

themselves constantly reshape the system, too. Carilion's attempts to steer its system transformations are a result of Carilion's attempts to hold onto its corporate mission and visions. According to Cromer, because Carilion has held on to its mission of promoting health in the communities it serves and to its visions of maintaining local control of its operations, southwest Virginia has been mostly receptive to each Carilion transformation (Cromer, 2000). Robertson claims that Carilion and southwest Virginia have a long-standing working relationship. Carilion's corporate success has as much to do with its leadership and mission as the commitment and traditions of care carried out by all southwest Virginians. Together, Carilion Health System and southwest Virginians have built a regional health care delivery system (Robertson, 2000).

Virginians, like most Americans, have had to make some hard decisions about what kinds of medical care they can afford. America exists today in between a private system of care and a national one of Medicare and Medicaid. Until Americans decide finally what rights and privileges they have with respect to health care, communities will continue to see their care managed by many groups: HMOs, government programs, employers, and corporate health care systems. CHS has attempted to help Virginians make those decisions. According to Dr. Murphy, if CHS is to go further, it must continue to enlarge its community networks and to mesh the social, political and cultural goals Virginia communities articulate concerning their needs for a health care system (Murphy, 2000). CHS's story is a history of managing care, consumers and communities. CHS has successfully managed to incorporate into its care strategies community traditions of care. Carilion consumers have as a result been satisfied with their care. Managing care, consumers and communities is the business of health care systems like Carilion. CHS and

other health care organizations will continue to survive in the health care industry as long as they are reminded they manage care only by managing to compromise the disparate interests surrounding care, consumers and communities.

Epilogue

As of the last draft of this work, Carilion Health System (CHS) continues to incorporate changes to its hospitals. In the three hospitals examined in this work, Franklin Memorial (FMH), Roanoke Memorial (RMH), and Carilion New River Valley Medical Center (CNRVMC) additional changes have been undertaken since I began writing this study. Throughout 2000, FMH renovated to provide new primary care facilities and administrative space for the hospital (Bradley, 9/4/00). Carilion publicized in August 2001, that it would construct a new psychiatric facility at its CNRVMC (Miller, 8/14/01). In May 2001, Carilion management announced that the Roanoke Memorial Hospital would be modernized once again. The RMH expansions will come at a cost of \$70 million to Carilion (Sturgeon, 6/1/01). What is more astonishing about RMH's expansion than the cost, is the fact that the expansion is to include a seven-story addition for areas to care for Carilion's very ill patients. Dr. Edward Murphy, Carilion's CEO stated, "The need for our services is growing and changing" (cited in Sturgeon, 5/31/01, p. 1A). The proposed seven-story addition will provide approximately 50 intensive care and 100 other critical care units (Sturgeon, 5/31/01). Besides the RMH adding additional acute care beds, the CNRVMC announced that it would convert some of its extended stay beds to acute care ones (Gangloff, 7/26/01). The changes to RMH and CNRVMC come at a poignant juncture when Carilion is trying to move from an acute care model to a more preventive-type system of care delivery. The addition of intensive care units may mean that Carilion is just playing both sides of care – acute and preventive – to see what happens.

Carilion continues to attempt new directions in care even as the writing for this project closes. In August of 2001, Carilion announced it would explore ways to assist a new college of osteopathy opening in Blacksburg at the Virginia Tech Corporate Research Center. Osteopathic medicine utilizes a “whole body approach to health care and healing” (cited in Sturgeon, 8/28/01, p. 1A). The school hopes to link its resources to Virginia Tech’s biotechnology and bioinformatics program. I venture to guess it is in the realm of Carilion’s Biomedical Institute that Carilion sees possibilities for association with the new school of osteopathy.

In October 2001, the Carilion Biomedical Institute’s (CBI) organizers announced that they had successfully aided Biophile Inc. in becoming one of Virginia’s newest technology startup companies. Biophile Inc. grew out of research being conducted by staff and students at the University of Virginia. The company designs ultra-low temperature freezers for storing DNA samples. The CBI provided financial assistance and business advice to the company’s founders and is currently aiding them to market the freezers and, possibly, to locate a manufacturing plant to produce the freezers in Roanoke. Although the CBI has not disclosed how much it invested in Biophile’s startup needs, the CBI does hold controlling ownership of the company (Sturgeon, 10/2/01).

Besides initiating new directions for care giving, Carilion has also begun removing itself from certain areas of care delivery. In October 2001, Carilion administrators announced that they would close the Burrell Nursing Center in Roanoke, and gift the facility to Blue Ridge Behavioral Healthcare. Blue Ridge Behavioral Healthcare intends to use Burrell as an outpatient mental health facility. Carilion administrators say the home is losing \$1.5 million per year, even with full occupancy.

Carilion's Bud Thompson, vice president for Administrative Services, said Carilion wanted Blue Ridge Behavioral Healthcare to have the building because it would be preserved and still serve a needed community purpose. Carilion's decision, however, has antagonized some Afro-American members of the Roanoke community (Sturgeon, 9/30/01). These residents argue that the Burrell Nursing Center, originally a hospital specifically for care of the Afro-American community and then a home for adults, became an affiliate of CHS (1980s) to garner financial resources to continue its traditions of care. The Afro-American community insists that Carilion should give the building back to them or allow joint ownership of Burrell to both Blue Ridge Behavioral Healthcare and the Afro-American community. Carilion's decision to gift the Burrell facility only to the Blue Ridge Behavioral Healthcare illustrates that Carilion may not be as concerned about the maintenance of communities' traditions of care as it was in the past.

In total, CHS continues to change its face and facilities to deliver care. Carilion's moves show that the health care system continues to be intent upon expanding its system's finances and managing southwest Virginia's care, consumers and communities. The story of Carilion is an evolving one, and I predict that Carilion will continue to affect southwest Virginia's traditions of care for a very long time.

Appendix One

Managed Care Terminology and Abbreviations Used for Project

Part A: Glossary of Terms

Capitation

A fixed prepayment to a doctor or a hospital to deliver medical services to a certain group, such as all the members of a particular health plan. (Korczyk and Witte, 1998)

Electronic Medical Records System (EMRS)

Computer software programs that organize patient medical records, compile patient histories, correlate patient histories with medical theory sources and link patients, providers and health care systems together to manage (oversee) care, costs and consumers.

Exclusive Provider Organization (EPO)

An organization that uses primary care doctors as gatekeepers and does not pay for care outside the established network of providers. In many states EPOs are regulated under state insurance statutes. (Korczyk and Witte, 1998)

Gatekeeper

In most managed care systems, gatekeepers are primary care doctors. In HMOs, services other than that of the primary care physician or true emergencies must be approved by gatekeepers or a patient's primary care physician. Gatekeeping is the cornerstone of care in HMOs and many other types of plans. (Korczyk and Witte, 1998)

Health Maintenance Organization (HMO)

Prepaid, fixed-price managed care arrangements. (Wilson, 2000) Traditionally, HMOs have been broken down into staff, group, network and independent practice association (IPA) models but these distinctions are fast losing value. "An HMO is a health insurer that assumes responsibility for providing comprehensive health services to a formally enrolled population in return for a predetermined payment." (Cited in Zelman and Berenson, 1998, p. 67)

Health or Medical Care System

A set of mechanisms through which human resources, facilities and medical technology are organized by means of administrative structures. The system offers integrated services in sufficient quantity and quality to meet a community's demand at a cost compatible with the community's financial resources. (Snook, 1981)

Health Plan

Any particular offering or option- a preferred provider organization (PPO), a point-of-service (POS) plan, a high or low option plan, or even an IPA model HMO-marketed by an insurer, which may be offering many such plans. (Wilson, 2000)

Hospital

Site of interchange of service and providers with managed care organizations' users. (Wilson, 2000)

Hospital System

A collection of hospital facilities linked together via management contracts by a charter association to provide acute care services within each facility

Independent Practice Association (IPA)

A group of primary care physicians and/or specialists who have associated together to for the purposes of managed care contracting and risk sharing. (Todd, 1996)

Integrated Delivery System (IDS) or Organized Delivery System (ODS)

A system that is "structured to accept and capable of accepting clinical and financial responsibility for delivering at least the full continuum of care" defined through a standard managed care benefits package. (Cited in Zelman, 1995, p.136)

Managed Care

An attempt at a coordinated approach to deliver a full continuum of health care services "through a system designed to measurably meet the objectives of delivering appropriate care by the appropriate provider at the appropriate venue at the appropriate time and utilizing appropriate resources such as staffing and technology. The target is to deliver care at a lower cost and realize a higher favorable outcome ratio than care that is not managed." (Cited in Todd, 1996, p.1)

Managed Care Organization

A corporation of insurers offering managed care plans such as preferred provider organizations (PPOs) or health maintenance organizations (HMOs). (Gillenwater, 2000)

Managed Care System

A system capable of providing a full continuum of care services and offering HMO plans for the system services

Network Health Maintenance Organization or Independent Practice Association Model HMOs

HMOs that contract with individual providers or groups of providers who maintain similar contractual relationships with other health plans. (Zelman and Berenson, 1998)

Physician Hospital Organization (PHO)

An organization comprised of both physicians and one or more hospitals to manage care.

Point of Service Plans (POS)

Type of plan that lets a patient decide at point of service which provider she wants to use. (Korczyk and Witte, 1998)

Preauthorization

A utilization management strategy in which a physician's recommendation for complex or costly services is evaluated by trained HMO personnel (usually nurses). They seek to determine if the recommendation meets the plan's definition of "medically necessary" care and whether that care could be provided in a lower cost setting. If the physician request for care is approved, it is said to be "preauthorized" and will be paid for by the managed care insurers. (Zelman and Berenson, 1998)

Preferred Provider Organization (PPO)

A health plan in which a member's health care is largely or completely paid for if they use the doctors and hospitals in the group or network with whom the plan has a contract. If one goes out of the network for doctors or hospitals, it will cost more (sometimes much more). (Korczyk and Witte, 1998) A PPO is a much looser arrangement than an HMO. It bears more resemblance to traditional insurance, particularly in using fee-for-service payment-like reimbursement to physicians. (Zelman and Berenson, 1998)

Provider

Physician or medical facility initiating service. (Gillenwater, 2000)

Service

Medical visit and/or treatment rendered. (Gillenwater, 2000)

Staff Model Health Maintenance Organization/Group HMOs

These HMOs contract with or employ an exclusive provider network. (Zelman and Berenson, 1998)

System

A set or arrangement of things related or connected as to form a unity or organic whole; a set of principles, etc., arranged in a regular orderly form as to show a logical plan linking the various parts. (Todd, 1996)

User

Patient or plan holder in a managed care system. (Gillenwater, 2000)

Utilization Review or Utilization Management

A practice in which teams of doctors, nurses, and other health care professionals review the treatment history of patients in order to evaluate the appropriateness of their health care treatment. Utilization Review is usually before treatment begins and Utilization Management is review after it has been received. (Korczyk and Witte, 1998)

Part B: Abbreviations

Blue Ridge Primary Care Group	Blue Ridge Group
Carilion Biomedical Institute	CBI
Carilion Community Hospital of the Roanoke Valley	Community Hospital
Carilion Franklin Memorial Hospital	FMH
Carilion Health Care Corporation	CHC
Carilion Health Plans, Inc.	CHP
Carilion Health System	CHS, Carilion
Carilion New River Valley Medical Center	CNRVMC
Carilion Radford Community Hospital	RCH
Carilion Roanoke Memorial Hospital	RMH
Electronic Medical Records System	EMRS
Health Maintenance Organization	HMO
Physician-Hospital Organization	PHO
Preferred Provider Organization	PPO
Roanoke Hospital Association	RHA
University of Virginia	UVA
Utilization Management	UM
Virginia Polytechnic Institute and State University	VA Tech

Appendix Two

Part A: Interview Profiles

A total of 46 interviews consisting of individuals connected to health care, business, and insurance were conducted for this project. Many of the individuals working within the health care field that I interviewed held, not one, but several positions, titles or duties connected to health care. Sketches for each interview participant follow.

Allen, Brad

Owner of Surfaces Inc. Allen is one of the Roanoke City property owners concerned about Carilion Health System and the Roanoke City government's proposed Riverside Biomedical Park

Allen, Rosa, RN

Nurse for the Veterans' Hospital in Salem, Virginia

Amos, J. Francis, MD

Carilion family medicine practitioner in Rocky Mount, Virginia. Amos began his practice in 1975. He helped to found the Blue Ridge Primary Group in 1994. Sold his practice to Carilion Health System in 1996. Amos is a former Carilion Franklin Memorial Hospital board member and chief of Carilion Franklin Memorial Hospital medical staff. Amos was the first graduate of the Roanoke Memorial Hospital family practice residency program in 1972. He functioned as the program's first acting director from 1972-1975.

Bell, Houston L., Jr.

Carilion Health System executive vice president, president of Carilion's Western Division, current chairman of the Virginia Hospital and Health Care Association, Carilion Health System board member, and local hospital board member of three Carilion hospitals (Wythe, Smythe, and Tazewell, 1999-present). Bell began his career with Carilion Health System in 1969 when he was employed by the Roanoke Hospital Association. Bell has served as executive vice president for Carilion Support Services (1996-1999) and as CEO of Carilion Roanoke Memorial Hospital (1993-1995).

Board, Phillip

Wal-Mart store manager, Roanoke, Virginia.

Bumgardner, Jack H., MD

Carilion family medicine practitioner in Rocky Mount, Virginia. Dr. Bumgardner began his practice in 1975. Bumgardner joined the Blue Ridge Primary Care Group in 1994. Bumgardner sold his practice to Carilion Health System in 1996.

Carmichael, Elizabeth, MD

Carilion family physician in Blue Ridge, Virginia. Dr. Carmichael began practicing medicine in the 1980s. She joined her practice to Blue Ridge Primary Care

Group in 1994 and then sold her practice to Carilion Health System in 1996. Dr. Carmichael retired from her practice in the summer of 2001.

Chakravorty, Ranee, MD

Veterans Hospital physician and surgeon in Salem, Virginia. Instructor of anatomy at the College of Health Sciences, Roanoke, Virginia. Reviewer of books for Roanoke Times, Roanoke, Virginia.

Chamberlin, Mark

Patient who I accompanied through his outpatient surgery visit to Lewis-Gale Hospital in October 2000.

Chrisman, Carolyn

Chief executive officer of Carilion Health Plans, Inc. in Roanoke, Virginia. Member of the Carilion Health Plans board of directors. Former Carilion Health Plans director of operations. Former Carilion Health Plans director of sales (1996-1997). Former senior vice president of operations for Sentara Health System in eastern Virginia (1983-1996).

Cromer, Archie

Local hospital board member for Carilion New River Valley Medical Center in Radford, Virginia since 1971. Retired board member for Carilion Health System (1988-1995). Chairman of the Carilion Health System board (1993-1999). Member of the Radford Community Health Foundation board. Served on the board of directors for V.A. Hospital and Healthcare Association (VHHA). Chairman of the Region III Congress of Hospital Trustees of the American Hospital Association's Committee on Governance. Cromer received the Meritorious Service Award from VHHA (the highest honor bestowed on a trustee).

De Lapp, Vic

Carilion hospital pharmacist in Roanoke, Virginia.

Essig, Abe

Vice president of the Carilion Franklin Memorial Hospital local board. Former chairperson of the Carilion Franklin Memorial Hospital finance committee. Member of the Carilion Franklin Memorial Hospital nominating committee (physician reenlisting committee). Essig is president and CEO of Ronile, a manufacturing concern in Rocky Mount, Virginia.

Fernald, Jacquelyn, RN

Nurse at the Lewis-Gale Psychiatric Hospital in Salem, Virginia.

Flannagan, William "Ham"

President and CEO of the Roanoke Hospital Association (predecessor to Carilion Health System) (1980-1985). Roanoke Hospital Association board member. Roanoke Memorial Hospital administrator (1954-1981). Franklin Memorial Hospital administrator

(1951-1954). Administrator in the Virginia State Government to administer the Hill-Burton program (1946-1950).

Gillenwater, Brady

Benefit consultant with Trigon in Roanoke, Virginia.

Grayson, Wayne E., MD

Carilion family medicine practitioner in Roanoke, Virginia. Began practicing in Roanoke in 1975. Grayson helped to form Blue Ridge Primary Care Group in 1994. Sold his practice to Carilion Health System in 1996. Grayson is a member of the Carilion Roanoke Community Hospital local hospital board in Roanoke, Virginia.

Haas, Michael

Chiropractor in Salem, Virginia.

Hart, Neva

A freelance writer employed by Carilion Health System in 1998 to write an account of portions of the Carilion Health System history.

Hendricks, William T., MD

Carilion family physician in Blacksburg, Virginia. Hendricks has been practicing medicine since 1976. He joined Carilion in 1996. Hendricks is a former board member for the Montgomery Regional Hospital (Columbia/ Hospital Corporation of America) in Blacksburg, Virginia. Hendricks is currently vice chairman of the Carilion Health Care Corporation board and a board member of the Carilion New River Valley Medical Center.

Holland, Janice

Carilion Franklin Memorial Hospital supervisor of Patient Access Services in Rocky Mount, Virginia. Mrs. Holland has been employed by Franklin Memorial Hospital since 1957. She is the longest serving employee of the hospital.

Kennedy, Shirley, RN

Carilion Bedford Memorial Hospital operating room and recovery nurse. Kennedy has been with Carilion Bedford Memorial Hospital since 1985 starting as an LPN.

Lamb, Lester

Current Carilion Health System board member. Current Carilion New River Valley Medical Center board member and Giles Memorial Hospital board member. Retired executive vice president and president and CEO of the Radford Community Hospital (Carilion New River Valley Medical Center). Radford Community Hospital administrator executive director (1970-1988).

Lambert, Brent, MD

Carilion family medical practitioner in Christiansburg, Virginia. Dr. Brent Lambert has been practicing medicine in Christiansburg since 1984. He joined Carilion

Health System in 1995. Lambert is currently serving as a board member for the Carilion Health Care Corporation and chairman of the Carilion New River Valley Medical Center local hospital board.

Lambert, Reed, MD

A Carilion family medical practitioner in Christiansburg, Virginia. Dr. Reed Lambert has been practicing medicine in Christiansburg since 1994. Lambert is a board member and executive committee member of the Carilion New River Valley Medical Center. Lambert sold his practice to Carilion Health Care Corporation in 1995.

Little, Vicki, RN

Director of Home Health, Carilion Franklin Memorial Hospital, Rocky Mount, Virginia. Little has been with Carilion Health System since 1991.

Lorton, Don

Carilion Health System executive vice president of strategic services and treasurer of Carilion Health System. Lorton oversees the following divisions for Carilion Health System: Carilion Health Plans, Carilion Health Care Corporation, Information Services, Strategic Development, Financial Planning and Budget Accounting Services, Internal Audits, Legal, Wellness and Fitness, Patient Financial Access Services and Strategic Planning. Lorton came to the Carilion Health System in April 1972 as an assistant financial controller and has since worked his way up through numerous Carilion financial positions.

Mason, Sidney

President of the Carilion Franklin Memorial Hospital board of directors and member of the Carilion Health System board of directors. Mason has been a member of the Carilion Franklin Memorial Hospital since 1985. Mason was also president and CEO of Virginia Apparel Corporation in Rocky Mount, Virginia from 1976-1996.

Montgomery, Ila

Employee for Mastin Kirkland Bolling (MKB) Realtors in Roanoke, Virginia.

Murphy, Edward, MD

President and CEO of Carilion Health System (2001-present). Executive vice president and chief operating officer for Carilion Health System (1999-2000). Came to Carilion Health System in 1998 to fill position as executive vice president of patient services. Murphy acted as president and CEO of Seton Health System. Murphy received his medical degree from Harvard Medical School. Murphy served as medical director and vice president of clinical services for Leonard Hospital in Troy, New York before becoming the hospital's president and CEO. Murphy also served as a New York state consultant on hospital quality, an instructor of hospital administration and researcher at Rensselaer Polytechnic Institute and a health care researcher and health benefits analyst at Weill Medical College of Cornell University.

Najjum, Fred

Owner and manager of the Roanoke Fruit Produce Company in Roanoke, Virginia. Najjum's property is one of the businesses that are affected by Carilion Health System's and Roanoke City's proposed Riverside Biomedical Park.

Nuckolls, James, MD

Practicing internist at Carilion Family Physicians in Galax, Virginia, medical director for Carilion Health Care Corporation (1996-present) and administrator of the Carilion Electronic Medical Records System (1998-present). Nuckolls is one of the organizers of the Blue Ridge Primary Care Group in 1994. Nuckolls sold his practice to Carilion Health Care Corporation in 1996.

Ober, David, MD

Independent practicing neurologist in New York. Ober has been practicing since 1997.

Ousley, Virginia

Vice president of Carilion Health System and hospital director for Carilion New River Valley Medical Center. Ousley started her career with Carilion Health System as a staff nurse in the Carilion Radford Community Hospital in 1989 and moved into various positions including head nurse of progressive care, executive director of diagnostics and hospital director.

Patton, Larry, MD

Practicing Lewis-Gale Clinic dermatologist in Roanoke, Virginia. Patton has served as president of the Lewis-Gale Clinic board of directors. Patton has been a practicing dermatologist since the 1970s.

Perry, Matthew

Hospital director for Carilion Franklin Memorial Hospital, director of environmental and food and nutrition services for Carilion Health System (1996-present) and Carilion Franklin Memorial Hospital board member. Perry began working for Carilion Health System in 1988 at the Carilion Roanoke Community Hospital in administration. Perry was then employed by Carilion Health System as hospital administrator for the Wytheville Community Hospital (1990-1996).

Powledge, Darrell, MD

Solo practicing occupational medicine specialist and former Lewis-Gale Clinic practitioner. Powledge has been practicing occupational medicine in Roanoke, Virginia since the 1980s. Prior to his specialty, Powledge practiced emergency room medicine at Lewis-Gale Hospital.

Quioco, Heathcliff, MD

An independent practicing general surgeon in Rocky Mount, Virginia. Quioco has served as a member of the medical staff and as a board member at Carilion Franklin Memorial Hospital in the past. Quioco has been a practicing surgeon since 1975.

Richardson, Becky, RN

Head nurse at Carilion New River Valley Medical Center in outpatient Surgery Services. Richardson has been employed by Carilion Health System since 1979.

Robertson, Tom

Board chairman for Carilion Biomedical Institute, member of Carilion Health System board of directors for various Carilion Health System hospitals and Virginian community organizations. Former president and CEO of Carilion Health System (1986-January 2000). Robertson joined the Roanoke Hospital Association in 1969 as a comptroller.

Schleck, Elizabeth, FNP

Nurse practitioner at Carilion Family Medicine in Roanoke, Virginia. Schleck began her career as a RN in emergency room services. She decided to become a nurse practitioner to have more autonomy over patients' care and to be more connected to patients' follow-up care rather than just emergency services.

Sherman, Connie, RN

Nurse at Carilion New River Valley Medical Center in Progressive Caring Services. Sherman began her career in nursing at the Carilion Radford Community Hospital in the early 1970s.

Strong, Robert, MD

Carilion Family Medicine practitioner in Rocky Mount, Virginia and member of Carilion Franklin Memorial Hospital medical staff. Strong has been practicing in family medicine since 1977.

Thompson, Bud

Carilion Health System senior vice president for Administrative Services (1996-present). Thompson oversees sub-acute services; long-term care services, the Carilion Franklin Memorial Hospital Food and Nutrition Services, Carilion Bedford Memorial Hospital Carilion Consulting Services and Carilion Consolidated Labs. Thompson served as CEO of Carilion Franklin Memorial Hospital (1987-1995) and oversaw Carilion's consulting services (1995-1999). Thompson worked in administration with Hospital Corporation of America (1983-1987).

Thornhill, Hugh

Vice president of Carilion Health Care Corporation and board chairman of Carilion Health Care Corporation (1992-present).

Wilson, Jeff

Owner and manager of Wilson Insurance and Financial Services, Incorporated in Roanoke, Virginia.

Part B: Research Protocol

The Research Protocol outlines the objectives and method and procedures of the dissertation project and the necessity of the interviews. The Research Protocol was submitted to Virginia Tech's Institutional Review Board in June 1999 and received approval in September 1999. A copy of the Research Protocol follows.

RESEARCH PROTOCOL

**PROJECT TITLE: CARILION HEALTH SYSTEM: A HISTORY OF
MANAGED CARE**

DISSERTATION PROPOSAL

PRINCIPAL INVESTIGATOR: ANNETTE L. HUSTON

**LOCATION: CENTER FOR THE STUDY OF SCIENCE IN SOCIETY
VPI AND SU**

JUSTIFICATION OF PROJECT

The principal objective of this project is to conduct individual interviews that examine the roles played by physicians, medical administrators, boards of directors and executives as they transformed themselves from independent physicians, medical administrators of a single hospital, or board members of individual hospitals into participants and employees of the Carilion Health System, a regional managed care network. The major product of this project is a dissertation. With guidance from my dissertation committee, the work will provide a step-by-step account of how Carilion physicians, administrators, and boards of directors have experienced their participation and employment within a regional medical care system. A guiding hypothesis is that the transformation of solo physicians and hospitals into regional networks and alliances is linked to the establishment of federal programs of medical aid, the cost of medical technologies and the corporate industrialization of medicine in the late 20th century. By providing this account built upon data from transcriptions, document collection, and Carilion photographic images, this study will make a unique and much-needed contribution to our analytic understanding of the complexities and problems of medical care and medical networks in the United States at the close of the 20th century.

METHODS AND PROCEDURES

I will base my narrative account of the development of Carilion's Health System primarily upon data drawn from five groups. These groups include the following: physicians, hospital administrators, boards of directors and executives, Virginia government officials, and members of the American Medical Association. In the first group, the physicians will be chosen from three Carilion Physician Family Care facilities located in Franklin Co., VA, Montgomery Co., VA, and Roanoke, VA, and three physician groups not affiliated with Carilion in the same localities. Five physicians will be interviewed from each facility. The total number of subjects to be interviewed in this group is approximately thirty.

In the second group, administrators from three Carilion hospitals will be interviewed. The three hospitals chosen are: Franklin Memorial Hospital, Rocky Mount, VA., New River Valley Medical Center, Radford, VA., and Roanoke Memorial Hospital,

Roanoke, VA.. These hospitals are located in the same communities as the physician care facilities to be examined (Rocky Mount, VA, Montgomery County, VA, and Roanoke, VA). Four administrators from each hospital will be interviewed. The chief administrator will be interviewed for each hospital. The other three administrators will come from three different departments: trauma, nursing, and accounting. The same three departments will be interviewed in the three hospitals chosen. The total number of interviews for this group is approximately twelve.

The third group to be interviewed includes Carilion's board of directors from the Franklin Memorial Hospital, New River Valley Medical Center, Roanoke Memorial Hospital, the Carilion Health System's governing board of directors, and executives. I will interview three of the board members from each of the three hospitals, five of the Carilion governing board of directors and five executives. The total number to be interviewed is approximately nineteen.

The fourth group to be interviewed includes Virginia government representatives. I plan to interview six officials whose voting districts include Carilion facilities.

The fifth group to be interviewed includes members of the American Medical Association. I plan to interview three members of the American Medical Association.

Each subject will be interviewed only once and the length of the interview will be one hour or less. The subjects will be interviewed in their offices unless another location is more convenient for them.

The project involves an unstructured interview, but generally the questions or topics to be addressed include: what is your role in health care? If employed by Carilion, what is your role in the Carilion Health System? How did you come to have your job? How do you think Carilion developed as a regional managed care system and how do you envision Carilion's future in the industrialized world of medical care? Subjects are expected to answer these questions, and generally to talk about their experiences in their medical profession and as participants and/or employees of Carilion Health System.

RISKS AND BENEFITS

There are no risks or known benefits to the human subjects.

CONFIDENTIALITY/ANONYMITY

Taped interviews will be used in this study. Subjects will be identified by name only if the subject grants the investigator formal permission to use the text quoted. If a subject does not choose to be identified, the information he or she provides will have his or her name removed, and the subject will only be referred to as "one physician," "one board member," or "one hospital administrator" during any written reports of the research. The taped interviews will be used only for this research project. At no time will the investigator release the tapes to anyone without the subjects written consent. Tapes are necessary since the interview is intended to be unstructured to allow the participants to talk freely about their experiences with Carilion Health System.

The tapes produced during the individual interviews will be reviewed only by the researcher of this project and will be transcribed only by the investigator of this project. The tapes will be stored in a locked safe at the home of the investigator.

BIOGRAPHICAL SKETCH

The researcher holds Master degrees in both History and Business and is seeking a Ph.D. in the interdisciplinary field of Science and Technology Studies. The researcher has worked for fifteen years in the corporate sector in management and as a management analyst. The researcher's educational and career commitments to the study of medicine and business overlap those of the subjects to be interviewed. Annette Huston is a white female.

Ann La Berge, the faculty advisor for this project, holds a Ph.D. in history and is a tenured professor in the department of Science and Technology Studies. Her published works include numerous books and articles on the history of medicine and public health. Ann La Berge is a white female.

Besides a faculty advisor, the project also includes five other committee members whose expertise is distributed across a wide range of academic and professional communities and whose identities are most likely to inform this study. Their valuable participation, along with the faculty advisor, will provide the investigator with regular oversight and guidance and help prevent the researcher from making significant but non-obvious blunders in data collection, analysis, and presentation. The committee is comprised of four white males and one white female.

Part C: Informed Consent Form

The Informed Consent Form provides participants of the project with information about the project and its methods. The form requests the permission of participants and informs interviewees of the researcher's responsibilities and duties to each participant's involvement in the project. The form outlines the rights of participants in the investigative project as well. The Informed Consent Form was submitted to Virginia Tech's Institutional Review Board in June 1999 and received approval in September 1999. A copy of the Informed Consent Form follows.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants of Investigative Projects

Title of Study: Carilion Health System: A History of Managed Care

Principal Investigator: Annette L. Huston

I. Purpose of Research Project

You are invited to participate in this study whose purpose is to examine the network of managed care that Carilion Health System extends to southwestern Virginia. A second objective of this project is to chronicle how Carilion's regional managed care system developed and how its various components- hospitals, physician practices and boards of directors work together. The total number of subjects to be interviewed is approximately 70.

II. Procedures

The procedures to be used in this research are:

- 1) Tape-recorded individual physician interviews, which will include questions on issues such as strategies for joining, or not joining, a managed care system like Carilion and for choosing between competing health care systems; the significance of collaboration and teamwork among physicians and health systems; the transformation of the physician-patient relationship within networks of managed care; and for those physicians working within the Carilion Health System, whether or not to become employees of Carilion or remain as an independent practitioners and be managed by Carilion Health System.

- 2) Tape-recorded individual interviews of Carilion medical administrators, which will include questions on issues such as strategies for marketing a health care system and its various departments to a community, HMOs and employers; the steps initiated to bring community or privately owned hospitals into the Carilion managed care system; and the techniques utilized to manage diverse hospitals, physician care facilities and medical laboratories.

- 3) Tape-recorded individual interviews of Carilion's boards of directors and executives, which will include questions on issues such as strategies for developing Carilion's regional network of managed care, how competition among health care networks affects Carilion's decision-making process; and the funding and promotion of community programs outside the traditional network of medical care.

- 4) Tape-recorded individual interviews of Virginia government officials, which will include questions on issues such as strategies for state support and oversight for health care; the steps initiated to bring state legislation in regards to HMOs and other provider networks; and patients' rights under Virginia law.

- 5) Tape-recorded individual interviews of American Medical Association members, which will include questions on issues such as strategies for physician employment within regional health care systems; how the rise of health care networks has changed physicians' training and education; and what a possible physician union would mean.

III. Benefits of This Project

No guarantee of benefits has been made to encourage you to participate.

IV. Extent of Anonymity and Confidentiality

If the investigator wishes to quote a subject by name in a written report, the investigator will secure formal permission from the subject to use the text first. If a subject does not choose to be identified, the information he or she provides will have his or her name removed, and the subject will be referred to only as “one physician,” “one administrator,” or “one board member,” during any written reports of the research. The taped interviews will be used only for this research project. At no time will the investigator release the tapes to anyone without a subject’s written consent. The tapes produced during the individual interviews will be reviewed only by the researcher of this project and will be transcribed only by the investigator of this project. The tapes will be stored in a locked safe at the investigator’s home after the project is completed.

V. Compensation

There is no monetary compensation for participation in this project.

VI. Freedom to Withdraw

You are free to withdraw from this study at any time without further consequences to you.

VII. Approval of Research

This research project has been approved, as required, by the institutional Review Board for projects involving human subjects at Virginia Polytechnic Institute and State University.

VIII. Investigator’s Responsibilities

To affirm the seriousness with which the investigator takes the ethics of this project, this form will be signed in the presence of each subject by the investigator and a copy will be given to each subject at the time of the interview.

IX. Subject’s Responsibilities

I know of no reason I cannot participate in this study.

X. Subject’s Permission

I have read and understand the informed consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

I also understand that if I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

I understand that if I should have any questions about this research and its conduct, I should contact the investigator, Annette L. Huston (540-366-8276) or Ann La Berge (540-231-7076), faculty advisor, or H.T. Hurd (540-231-5281), Chair, University Institutional Review Board.

Subject's Signature and Date

Investigator's Signature and Date

Part D: Sample Letter Sent to Carilion and Non-Carilion Employees Requesting an Interview

Project participants were chosen based on the criteria that they functioned in some relationship to Carilion or in the same community as Carilion in the three localities chosen to investigate: Rocky Mount, Virginia; Roanoke, Virginia; and the New River Valley in Virginia. These three localities were chosen by a joint agreement between the researcher and Tom Robertson, president and CEO of Carilion Health System (1980-January 2001) in December 1999. The three communities were seen to best represent the three main different types of Carilion hospitals: 1) small, rural ones like Carilion Franklin Memorial Hospital, 2) the Carilion Health System hub hospital- Carilion Roanoke Memorial Hospital, and 3) Carilion's state-of-the-art medical facility- Carilion New River Valley Medical Center.

Each participant received a letter similar to the one that follows. The letter differs depending on whether a participant was a Carilion employee, non-Carilion employee or community resident in terms of how the project was defined. A copy of the letter sent to Carilion employees follows.

Annette L. Huston

November 7, 2000

Dear _____:

My name is Annette Huston and I am a Ph.D. student at Virginia Polytechnic Institute and State University in the Science and Technology Studies program. For the past year, I have been working on a dissertation that examines the history of managed care and the Carilion Health System. The title of my dissertation is "Carilion Health System: A History of Managed Care."

From my research, I believe Carilion Health System has an exciting story to tell. Carilion has become a regional system of health care delivery, growing out of a strong sense of local traditions and concern for southwestern Virginia's medical and health needs. Through strong leadership on the part of Mr. Robertson, and Carilion Health System's board of directors, Carilion has become a viable health care delivery system that impacts many societal relations in the Roanoke valley and surrounding areas.

I hope my project looks intriguing to you. I am currently interviewing Carilion's administrators, area hospital directors, and several physicians to recount Carilion's history with familiar voices and memories that will breathe life into my dissertation. I would like to interview you if possible. I know your time is limited, so the interview would be at your convenience and would last one hour or less.

I have discussed and received approval for my dissertation proposal with Mr. Tom Robertson. Also, I would like to assure you that my project has been approved by all the necessary groups at Virginia Tech. My faculty committee, my department head, and Virginia Tech's Institutional Review Board have granted permission for this work and have deemed the project a worthy enterprise. Above all else, I am seeking to write a quality history of Carilion Health System and a chapter in Virginia's own history.

I will follow up this letter with a phone call in one week to request an interview with you. I hope you will grant me an hour of your time. I would so very much enjoy speaking to you about your experiences with Carilion and health care. If you should have any questions or concerns about my dissertation before I telephone you, I can be reached at the address or phone number listed at the top of this letter. If you would like, my committee chairperson, Ann La Berge, and my department head, Valerie Hardcastle, are

both available to speak to you on my behalf as well. Dr. La Berge's number is (540) 231-7008 and Dr. Hardcastle's number is (540) 231-8488.

I look forward to sharing Carilion Health System's history with the academic community and other readers. I am qualified to lend both a professional and personal touch to this history of Carilion. I hold an M.A. in history, a MBA in business and I have completed all my Ph.D. course work in the history of medicine and science. I have taught courses at Virginia Tech in both the Humanities and History Departments, and I have worked in corporate management with a Roanoke based company for 14 years. Besides all this, I am a native to the area. I grew up in Franklin County and now reside in Roanoke County. I care about this locality, its people, medical issues and Carilion's role in health care. I am dedicated to educating others about health care in southwestern Virginia and I know Carilion Health System's commitment to Virginia's medical and health needs is an important story that I want to tell.

I appreciate your serious attention to my dissertation. I look forward to meeting you soon.

Sincerely yours,

Annette L. Huston

Part E: Questionnaires

Each participant interview involved an hour or longer meeting with a taped conversation. Questionnaires were devised for each participant, but specific groups: physicians, nurses, hospital board members, and system executives were asked similar questions. The following questionnaires provide examples of the types of questions participants were asked.

Questionnaire For Physicians

1. Why did you want to become a physician?
2. When and where did you begin your experiences with health care?
3. What type of physician are you? How would you describe your practice? Why did you choose that type of practice?
4. What is an average day at your office like?
5. How many patients do you see in a day? How long is a typical patient visit? What do you call your patients? How do your patients usually refer to you?
6. Are you an employee of Carilion Health Care Corporation? How does being part of the Carilion Health Care Corporation benefit you?
7. How many hours do you work in a week? How does your workweek break down into time spent with: 1) patients, 2) paperwork, 3) business issues for the office, 4) staff concerns, 5) other?
8. Are there variations in physicians' practices?
9. Is your practice part of a network of health care? What is a network of care?
10. How has health care and family medicine changed in the last 30 years?
11. Do you see patients with more medically-related concerns or preventive concerns?
12. How has managed care changed health care? How do you define managed care? Why is managed care the most prevalent form of health care delivery currently?
13. What are health care systems?
14. Why since 1990 have many family practices become part of health care systems?
15. What roles do the following play in the delivery of health care for you: technology, physicians, patients, HMOs, regulations, ethics, and finance?
16. How has technology changed a physician's delivery of health care service in the past 25 years?
17. Do you think the supply of physicians in this area is adequate?

18. Why do family practices and primary care physicians advertise? How does your practice market itself to the community it serves?
19. How much time do you spend re-educating yourself about medicine? Where do find most of your information?
20. How do you envision the future of health care? Family medicine? Managed care? What would you change about the practice of medicine if possible?

Questionnaire for Carilion Health Plans, Inc. Executives

1. How did you come to be involved with Carilion Health Plans? What is your background in the health care field?
2. What does Carilion Health Plans do? Is the corporation a result of the threat of capitation and other risk sharing strategies that arose within the managed care environment in the early 1990s? What is capitation? Risk sharing strategies?
3. Who started Carilion Health plans- Carilion Health System or the physicians joining Carilion Health Care Corp.? What were the goals and strategies of the corporation? Of the system? Of the physicians?
4. How are the physicians in the Carilion Health Care Corp. involved in Carilion Health Plans today? (In 1997, Carilion Health System offered physicians who see health plan customers a chance to buy half the insurance company. In 1999, 253 physicians owned 40% of the company and Carilion Health System owned 60%).
5. How is the Carilion Health System linked to Carilion Health Plans?
6. If you had to describe day-to-day operations for Carilion Health Plans, how would you characterize the work of Carilion Health Plans?
7. How does the internal organization of Carilion Health Plans map out? 62 employees?
 - a) Board of directors? (16 members, seven of which are Carilion Health System. Who are the other members?).
 - b) Administration staff- CEO, and...?
 - c) District managers?
 - d) Physicians?
 - e) Office staff?
8. How do you market Carilion Health Plans? What is your target market? How do you research to establish market goals?
9. Does Carilion Health Plans contract only with employers? How are Carilion Health Plans contracts negotiated with employers? Are employers purchasing HMOs?
10. Does Carilion Health Plans negotiate with employers first, then physicians? Does Carilion Health Plans negotiate with both Carilion and non-Carilion physicians?
11. How do the HMOs or PPOs work for your participating physicians? For employers? For the patients?

12. How are physicians compensated by Carilion Health System? How much is by capitation, discount fee for service or incentives? (Bonuses for referrals, patient satisfaction surveys, and/or other criteria?).
13. Will the Electronic Patient Information System that the Carilion Health Care Corp. is using be of any value to your operation? Will it provide information of practice variations that can account for physicians' incentives?
14. According to a Roanoke Times article on August 1st, 2000, the Carilion Health Plans has not yet made a profit or paid a dividend. How do the Carilion Health System and the physician's (stockholders) feel about that? Why do you think the company has not made a profit yet?
15. Define managed care. Why do you think it is the most prevalent form of health care delivery today in the United States?
16. Will the new merger of Carilion Health System with the University of Virginia and Virginia Tech to create a biotechnology center affect the business of Carilion Health Plans?
17. What do you see the future of Carilion Health Plans to be? Do you see an increase in managed care penetration? How do you see Carilion Health Plans role changing vis a vis the Carilion Health System and with Carilion Health Care Corp.?

Questionnaire for The Carilion Franklin Memorial Hospital Administrator

1. When did you begin your experiences with health care?
2. What positions have you held with Carilion Health System?
3. What are the duties of a hospital Director? What are the duties of a Carilion Vice President and the duties of an overseer of environmental services and food and nutrition services for the Carilion Health System?
4. How has the role of the hospital changed in the last 25-30 years?
5. How would you describe the Carilion Franklin Memorial Hospital (CFMH) before and after its affiliation with Carilion Health System? Do hospitals in health care systems function the same as hospitals not in such systems?
6. In 1975, Franklin Memorial Hospital had a management contract with Roanoke Hospital Association and in 1988 the hospital became a full affiliate of Carilion Health System, but still remained a non-profit, community-owned and board governed facility. What changed?
7. Why do hospitals join health care systems?
8. How does the CFMH fit in the Carilion Health System? Who owns the CFMH now?
9. What types of care/treatments are offered at CFMH? Does CFMH offer the same or different types of care than other Carilion hospitals? Are all the hospitals in the Carilion Health System the same?
10. What are the most important functions of a hospital? Are all hospitals similar? Are there models used to organize hospitals? How does Carilion organize and manage its CFMH?
11. Who do physicians report to at CFMH? What is the chain of command for patient concerns, dietary and nutritional needs, laboratories and surgeries? How do physicians receive admitting privileges at CFMH?
12. The hospital has undergone quite a few expansions and renovations since its opening in 1952. Can you comment on some of these, and describe how and when a hospital needs renovations such as the new medical building Carilion is constructing for the Franklin Memorial Hospital?
13. What is the mission and goals for CFMH? Who decides these directives?

14. How has health care, medical care, and the delivery of these types of care changed in the last 30 years?
15. How has managed care changed health care? How do you define managed care? Why is managed care the most prevalent form of health care delivery currently?
16. How did health care systems arise? What do they do?
17. What roles do the following play in the delivery of health care for the CFMH: technology, physicians, HMO's, patients, government regulations, ethics, finance, and Medicare?
18. How has technology changed a hospital's delivery of health care services since 1965?
19. How did Medicare and Medicaid change the delivery of health care in hospitals?
20. How does CFMH market itself to the communities it serves? Why do hospitals like the CFMH advertise?
21. What roles should a hospital play in a community? How does the Carilion Community Health Fund work? I know it is used to support not-for-profit community health initiatives, but where does the money come from and who decides which community projects to fund?
22. How do you envision the future of health care at CFMH and Carilion Health System?

Appendix Three

PhyCor's Management of the Lewis-Gale Clinic: 1996-2000

This appendix provides an examination of PhyCor, a national physician management company as a comparison to Carilion's physician management company, the Carilion Health Care Corporation (CHC). PhyCor and CHC both manage physician practices but in different ways, such as how much autonomy physicians maintain over their practices and physicians' income.

The bewildering variety of physician owned and/or managed companies and the numerous physician associations that sprung up in the 1980-1990s across America, swept through southwest Virginia in the 1990s like a tidal wave, changing how physicians had practiced and how their offices had been organized for most of the 20th century. For the Lewis-Gale Clinic, the tumultuous era crested in 1996 when it began a partnership with PhyCor, a Nashville, Tennessee, based physician management company. The story of Lewis-Gale's union with PhyCor is significant for three reasons: First, it exemplifies the merger of most physician groups during the 1990s into large physician-managed companies. Next, Lewis-Gale's history delineates the troubles and the ultimate downfall of PhyCor and most other physician management companies. Thirdly, the Lewis-Gale saga provides an interesting twist to the fate of most physician practices managed by physician practice management companies.

Dr. Sparrell Simmons Gale, the son of a Norfolk and Western Railways' employee surgeon and Dr. J.N. Lewis, founded the Lewis-Gale Clinic in 1909. The two also established and owned the first Lewis-Gale Hospital in Roanoke, Virginia. Physicians affiliated with the Lewis-Gale Hospital helped Gale and Lewis form the Lewis-Gale Clinic, a partnership which held stock in the hospital. The Lewis-Gale Hospital and the clinic have been closely tied for much of their history (Moorman, 1974).

According to William Flannagan, CEO of the Roanoke Hospital Association, the Lewis-Gale Hospital employed the clinic's doctors until 1963 when the hospital merged its hospital assets with the Jefferson Hospital in Roanoke, Virginia. Even after the merger of the two hospitals, the Lewis-Gale Hospital and the clinic shared joint facilities, some equipment and medical staff (Flannagan, 2000). In 1994 when the Lewis-Gale Hospital aligned itself with the Hospital Corporation of America (HCA), the clinic and the hospital continued their close association (Kelly, 6/28/96).

Lewis-Gale Clinic's close ties with the hospital had much to do with the clinic's decision to sell their assets to PhyCor, a large national physician management company, which itself had ties to Columbia/HCA. Former executives of HCA founded PhyCor as the nation's first physician practice management company in 1988. While Columbia/HCA concentrated on hospital business management, PhyCor's strategy was to focus on managing physician's practices. Basically, PhyCor's goal was to run clinics' business departments so doctors could focus on patients. A PhyCor spokesperson, Howard Jewell, said the idea behind PhyCor was "of marrying, if you will, the best of business with the best of medicine" (cited in Sturgeon, 5/6/00a, p. 6A). For the doctors at Lewis-Gale Clinic, PhyCor's slogan sounded like a good treatment for what ailed the clinic in 1996 (Kelly, 6/28/96).

The Lewis-Gale Clinic successfully ran its own business affairs for much of its history. The clinic's administrative employees scheduled appointments, took payments and managed the facility, while the physicians "took out appendixes, straightened broken noses and prescribed antibiotics" (cited in Sturgeon, 5/6/00a, p. 6A). Staff doctors owned the business and split the profits. And by the 1990s, the profits were diminishing quickly

because of uncollected debt. According to Larry Patton, president of the Lewis-Gale Clinic board, by 1996, Lewis-Gale Clinic's physicians determined the clinic needed business management expertise for three reasons: 1) to procure financial management, 2) to fill unused office space, and 3) to compete with the proposed Carilion Health Plan's HMO (Patton, 2000).

Patton recalled, in 1990, the clinic invested in a business office system that physicians thought would simplify patient files and billing, but instead, the system hampered collections. Although medical providers seldom get paid in full, Lewis-Gale Clinic doctors received less than the standard 62% to 64% of billings. Their collection rate averaged about 59%. In terms of money, this percentage difference meant three to five million dollars a year were left uncollected by the clinic because of an inadequate office management system (Patton, 2000). Besides its uncollected revenue, the Lewis-Gale Clinic had too much office space it could not rent. In the early 1990s, preparing for the future, the clinic built additional office space to attract more physicians. By 1996, the clinic had 75,000 to 100,000 square feet of unused office space, which brought expenses, but not income, to the facility. Given the clinic's financial outlays for renovations that left building space empty and the exorbitant expense of an office business system that wasn't working, the board felt financial deterioration of the clinic was a possibility. Even if complete financial ruin did not occur, the board recognized the clinic faced hard times and less income for the clinic owner-physicians (Patton, 2000).

According to Darrell Powledge, a former Lewis-Gale Clinic occupational physician, along with panicking over in-house finances, the Lewis-Gale Clinic board faced a new problem. Both Carilion Health Plans and Lewis-Gale Hospital announced in

1996 that they would introduce their own HMOs. The Lewis-Gale Clinic board recognized their facility would have difficulty competing against the established Lewis-Gale Hospital and the fast growing Carilion network unless it secured in-house capital and office systems to financially underpin the clinic. The Lewis-Gale Clinic's board admitted, however, they did not possess the expertise or the finances to do an HMO unless they secured a large capital partner (Powledge, 2000).

Patton explained that the clinic's board, which held the ultimate authority, considered selling the clinic's assets to potential buyers like Columbia/HCA. Columbia/HCA, a hospital corporation, appeared a good suitor. Besides being able to provide clout and money, Columbia/HCA owned the Lewis-Gale Medical Center, adjacent to the clinic. Since the ties that bound the clinic to the medical center were strong, this merger seemed to be a logical partnership (Patton, 2000). At the same time the clinic's board discussed a possible affiliation with Columbia/HCA, the clinic's board received overtures from another suitor who could also bring clout and money – PhyCor. PhyCor was one of the fastest-growing corporations that ran clinics' businesses in the United States (Patton, 2000).

Patton noted that the Lewis-Gale Clinic board spent a great deal of time trying to decide whether a physician management company or a hospital alliance would be more profitable for the facility. The clinic's physicians all agreed some type of partnership was necessary to ensure the competitiveness of the clinic in an arena where large health care networks, like Carilion, were seizing control of the local marketplace. By the summer of 1996, although the clinic faced the problems of inadequate office systems and underused buildings, the Lewis-Gale Clinic was being eagerly sought after by both Columbia and

PhyCor because the clinic housed Virginia's largest physician practice group (Patton, 2000). The clinic included 135 doctors and a total of 1,079 employees in June 1996, \$45 million worth of real estate at its Salem location and its 12 satellite clinics, and had an estimated 100,000 established patients (Kelly, 6/28/96). Patton commented that ultimately, the clinic's board rejected Columbia/HCA's offer because they believed more financial control would remain in the hands of physicians if the clinic sold its assets to PhyCor than if the clinic partnered with the Columbia/HCA hospital system (Patton, 2000).

On November 1, 1996, the physician-owned Lewis-Gale Clinic sold its assets for \$47 million to PhyCor and negotiated with PhyCor a 40-year management contract (Kelly, 6/28/96). Patton mentioned that according to the management contract, clinic doctors would receive 84% of all profits, and PhyCor would take the other sixteen-percent (Patton, 2000). Powledge recalled that in addition, PhyCor created a reserve with some of the initial money it paid for the clinic to supplement physicians' salaries during PhyCor's first three years of managing the clinic. PhyCor projected it would take them three years to transform the Lewis-Gale Clinic into a regional network. The reserve would offset the percentages of clinic profits PhyCor took the first three years as it grew the clinic into a regional network (Powledge, 2000). Commenting about the merger of the clinic with PhyCor, Dr. John Priddy, a family practitioner and former Lewis-Gale Clinic doctor said, "The merger was as if we had discovered a rich uncle with our interests at heart who would be able to inject some cash and there would be a mutually beneficial relationship where they could assist us in improving our efficiency and we could improve our and their profit margin" (cited in Sturgeon, 5/6/00a, p. 6A).

Powledge remembered that both the clinic doctors and PhyCor executives expected great things from their relationship. PhyCor anticipated it would gain additional prestige in southwest Virginia by developing a regional network of physician practices and dramatically increasing its profit percentages in Virginia. The clinic physicians, acting on what the board told them, assumed PhyCor would aid them in recruiting even more doctors to the large multispecialty practice and that PhyCor would provide a statewide network for the clinic doctors, along with other medical providers, to ensure the clinic's vitality against Carilion Health System. The clinic's doctors believed PhyCor would help them establish a network stretching from Roanoke into the Covington and Clifton Forge areas (Powledge, 2000). Also, the clinic's doctors were enthusiastic that PhyCor promised to raise funds for the clinic's expansion of services and to improve its office information efficiency. In total, the Lewis-Gale Clinic joined with PhyCor in 1996 to create a more cost-conscious climate while delivering expanded quality care. In 1999, three and one half years later, the clinic was still waiting to achieve these goals and the mutually promising relationship between PhyCor and the Lewis-Gale Clinic appeared unlikely to ever materialize.¹

By 1999, the PhyCor reserves for physician salaries had run out and the clinic's doctors began to feel the full impact of the clinic's financial troubles in their paychecks. By early 1999, clinic physicians started questioning the clinic board's decision for joining PhyCor. Physicians had originally joined the multispecialty clinic so they could practice medicine and leave the administrative business concerns to administration, said Dr. Powledge. Powledge went on to state that what happened from 1996-1999 was clinic doctors had to become even more involved in administrative problems. Powledge claims

the clinic physicians trusted the board to make good decisions for the entirety of the clinic's physicians. In 1996, the physicians had entrusted the clinic's board to find out about PhyCor's track record. The physicians thought the clinic's board had investigated thoroughly some of PhyCor's holdings at other clinics. In 1996, the board did investigate PhyCor and they informed the clinic's physicians that PhyCor was meeting its projections at its other managed sites. So the clinic's physicians had been content to leave the process of selling the clinic to PhyCor in the hands of its board. Powledge notes it was like "the blind leading the blind" however, in hindsight (Powledge, 2000).

Powledge recalled even though the money his office practice collected went up 35%, his salary declined by 25% between 1996-1999 (Powledge, 2000). Tensions stirred over this and other issues among the clinic physicians. Besides the fact that the clinic's collections had not improved significantly, PhyCor's projected increase for the clinic to have a larger share of the local medical market and its attempt at a statewide network of doctors had not materialized. The clinic's doctors recognized that their partnership with PhyCor was not what they expected and "needed a quick fix or else doctors feared losing even more income" (cited in Sturgeon, 5/6/00a, p. 6A).

One clinic doctor, John Priddy said: "Pre-PhyCor, when there was stress in this clinic, we buckled under, locked arms and would face it together" (cited in Sturgeon, 5/6/00a, p. 6A). Powledge recalled that the shared commitment by the clinic doctors vanished once PhyCor committed itself to preserving the incomes of the physicians who earned the most at the expense of the rest of the clinic doctors, especially the family practitioners. Powledge contended that if the clinic's financial burdens had been shouldered equally, the clinic's relationship with PhyCor may have worked. Given the

distrust, mis-management and false hopes PhyCor and the clinic had accumulated in just three and one half years, the relationship between the clinic and PhyCor began to unravel (Powledge, 2000).

In early 1999, Jon Ness, the Lewis-Gale Clinic administrator hired by PhyCor, admitted the relationship of the clinic to PhyCor was not working for the clinic or for PhyCor (Sturgeon, 5/6/00b). Patton mentioned that by May 1, 1999, clinic doctors informed PhyCor that their expectations of increased market share, better collections, and higher average salaries had not been met and they demanded a reduction in PhyCor's management fees from 16% of the clinic's profits to a lower figure (Patton, 2000). PhyCor's agreement to reduced management fees appeased some of the clinic's doctors. Physicians' salaries and the clinic's overall finances improved somewhat, but many physicians remained disgruntled, noted Powledge. Some physicians wanted to sever the clinic's relationship with PhyCor entirely. Others disagreed strongly, but were unsure how to proceed. The clinic physicians knew whatever they did would entail a high cost to their practices and the clinic overall. Lewis-Gale physicians' contracts with PhyCor stipulated that if a doctor terminated the contract, she could not practice within a 50-mile radius of the clinic unless the doctor bought back her practice from PhyCor. Some physicians had been paid \$200,000 for practice assets and were hard pressed to refinance that kind of money to purchase back their practices from PhyCor (Powledge, 2000).²

The issue of what the clinic should do created a rift in the 91-year-old clinic that seemed irreparable. While the clinic continued its business as usual, Ness, the clinic administrator, described the clinic's problem with PhyCor as a "medical Bosnia" (cited in Sturgeon, 5/6/00a, p. 6A). Powledge recalls that Ness proposed four visions of the

clinic's future to the physicians and asked them to vote on the proposals in December 1999. 71% of the doctors voted to reengineer the clinic with the guidance of PhyCor for at least two more years. This plan included purchasing new office management systems and other equipment investments for the clinic. Of the other 29%, some voted to scale back the clinic to a billing office, and some physicians wanted all ties with PhyCor severed (Powledge, 2000).

In the first five weeks of the year 2000, the impact of what came to be known as the clinic's Christmas Vote was evident – 35 physicians resigned from the clinic along with 250 other clinic employees (Powledge, 2000).³ By April 2000, 11 former Lewis-Gale Clinic primary care doctors had gone into business for themselves and had taken over operations at four former Lewis-Gale satellite offices with Lewis-Gale Clinic's agreement.⁴ The clinic at this point did not have to worry so much about long-term profits and office systems; instead, day-to-day operations became difficult. No one, especially patients, was sure which doctors' offices were still operational.

Dr. Powledge comments that patients of the clinic were hurt the most by the turmoil. Once doctors quit the clinic, patients received a letter notifying them that their doctor had left, with information that explained how the patient could choose another Lewis-Gale Clinic doctor. PhyCor's letter intentionally did not inform the patient of their doctor's new address or telephone number even when the clinic administration had that information (Powledge, 2000). PhyCor's Lewis-Gale Clinic administrators maintained they acted in the proper way to avoid helping the competition (Holton, 2/3/00).

Powledge explains that physicians who chose to leave the clinic and repay PhyCor money for their practice assets were not allowed to take their patients list with

them. The clinic physicians insisted to PhyCor their patient files should be considered a practice asset (Powledge, 2000). As Dr. Rodney Poffenberger, an urologist who resigned and repurchased his practice back from PhyCor, said:

I wanted to talk to my patients and send them a letter about my resignation, but I couldn't. I also wasn't allowed to take my patient list with me when I left, so I have had to wait until I run into certain patients or wait until they contact me to let them know where I am (cited in Holton, 2/11/00, p. 8A).

Dr. Powledge resigned and purchased back his practice assets from PhyCor in December 1999. In his termination with PhyCor, Dr. Powledge agreed he would give ninety days notice to PhyCor. March 10, 2000 would have been his last day, but PhyCor itself voided the contract and terminated him in February 2000 (Holton, 2/12/00). Dr. Powledge was left without his patient list and without a place to practice, since his new leased medical office space was not going to be ready until March 2000 (Powledge, 2000). PhyCor terminated Dr. Powledge earlier than the agreed upon 90 days because PhyCor found a replacement doctor for Dr. Powledge. Unfortunately for the clinic, after just one week at the Lewis-Gale Clinic, Dr. Kaye Allen, Dr. Powledge's replacement herself resigned, due to the way PhyCor was treating the physicians (Holton, 2/23/00). Dr. Powledge currently is in a curious situation. While most physicians are now finding themselves in health care organizations, Dr. Powledge is for the first time in his career of twenty-some years finding himself as an independent practitioner.

Powledge notes that doctors who remained at the Lewis-Gale Clinic watched as letters were sent out to patients of doctors who left the clinic and they, too, became alarmed and concerned for their patients' welfare. Patients grew more and more dissatisfied and distrustful of the clinic as the events unfolded. Day-by-day in the winter

and spring of 2000, Roanoke and surrounding area patients of the clinic had to read local newspapers to stay informed if their physician was still practicing at the clinic or had moved elsewhere. For some patients, their physicians were easy to locate because they affiliated with the Lewis-Gale Medical Center (Powledge, 2000).

In 2000, the family doctors who left the Lewis-Gale Clinic and started the competing business at four former Lewis-Gale Clinic satellite locations formed a partnership with Columbia/HCA, the owner of the Lewis-Gale Medical Center. The partnership stipulated the doctors become paid employees of Columbia/HCA. The physicians were willing to cooperate because they had no equity. They had spent most of their money to buy-back their practices from PhyCor, to financially settle with PhyCor a non-compete contract, and to restart the four new clinic locations. If the physicians had not financially settled for their non-compete clauses with PhyCor, PhyCor would have prevented them from running a practice that competed with the clinic.⁵

The new partnership of the family physicians and the hospital's parent company, Columbia/HCA, strained the existing relationship between the Lewis-Gale Medical Center and the Lewis-Gale Clinic. Prior to the partnership, clinic doctors referred most of their patients to the Lewis-Gale Hospital. With the new partnership, PhyCor acknowledged the clinic was already losing business since the doctors had pulled out of the clinic, and PhyCor did not want to give the hospital any more of its business (Patton, 2000). Although the clinic and the hospital had been physically attached, but legally separate since 1973, they found themselves suddenly even stranger entities – a partnership of some clinic doctors and the hospital and a clinic whose administration didn't want the hospital to get more of their business (Sturgeon, 6/22/00).

By April 1999, the resignations of 43 of the clinic's physicians and the start-up of some of their practices in partnership with the Lewis-Gale Medical Center and physicians' start-up practices elsewhere, crippled the clinic. Lewis-Gale Clinic board president Dr. Larry Patton decided bold steps needed to be taken to avoid the exodus of all the clinic's remaining physicians and the closing of the clinic's doors. The board voted in May 1999 to sever the PhyCor relationship. Patton speaking on behalf of the clinic physicians said to PhyCor, "We will take our clinic back to manage ourselves" (Patton, 2000).

The clinic's board asked PhyCor at what price it would sell the clinic. When PhyCor's response was a figure too high for the clinic doctors to pay, the clinic's closure seemed a real possibility. Patton recalls that he went back to PhyCor a second time to declare that PhyCor would be responsible for the clinic's 380,000 square feet of real estate if the physicians just closed up the clinic. PhyCor then changed its offer. Although the price has never been made public, the clinic doctors negotiated a payback price that they could afford (Patton, 2000). The Lewis-Gale Clinic became independent once again on May 5, 2000. Although at the time of its break-up from PhyCor, the clinic was still considered the largest multispecialty practice in Virginia, it had lost one-third of its 135 doctors and one-fifth of its 850 other employees since associating with PhyCor (Sturgeon, 5/6/00b).

Patton believes that the break-up of the Lewis-Gale Clinic with PhyCor offers a compelling twist to the journey PhyCor and other physician-management companies have taken, health care facilities in general, and the Lewis-Gale Clinic in particular. PhyCor, like many physician management companies in the 1990s, was more concerned with

buying clinics than with managing their day-to-day business operations. Physician management companies, like most parties in the managed care business, failed to realize profits due to increased government and insurance industry efforts to pay less of health care costs. The most important reason PhyCor and other similar companies have not been as successful as projected is because of the lost momentum for managed care. Patients and doctors have objected vigorously to insurance companies getting involved in medical decisions, and as a result, managed care has not gained the stronghold in Virginia medical billing that was envisioned (Patton, 2000). Patton stated, “We (Lewis-Gale and PhyCor) thought we would bring managed care into the market. However, it never came to pass and there was no vision to replace it” (cited in Sturgeon, 5/6/00a, p. 6A).

Without a new vision to replace managed care, PhyCor has faced difficult times as a physician-management company. Currently, most physician practice management companies are desperately trying to hold on to their corporate holdings by restructuring. Some other physician-management companies have faced or are facing bankruptcy. In 1999, many physician practice management companies saw their stock prices almost completely devalued. PhyCor itself had sales of \$1.52 billion in 1999, but lost \$444 million. Since its financial devastation, PhyCor has sold or cut its ties with 30 of the 60 practices it was affiliated with as recently as 1998. When PhyCor took over management of the Lewis-Gale Clinic in 1996, PhyCor’s stock was selling for about \$52 per share and it owned about 60 clinics nationwide. In January 2000, the company announced plans to sell off another 17 of its facilities due to physician resignations at its managed clinics. PhyCor’s stock in November 2000 was trading at or about \$2 per share (PhyCor website, 2000).

Besides the Lewis-Gale Clinic, mass doctor resignations have occurred at other PhyCor clinics nationwide. Resigning doctors have complained that under PhyCor's management, they have seen their salaries decrease. Doctors report that PhyCor takes anywhere from 12% to 16% of their earnings to cover management costs, and then fails to deliver on group savings or lowered overhead expenses (Holton, 2/1/00).

Currently, PhyCor is undergoing a massive corporate restructuring to increase its stock value. When PhyCor reaches the end of its overhaul, many health care analysts wonder if the physician practice management firm will have any physicians to manage? The organization still wants to run the business end of multispecialty clinics, taking care of administrative duties for a cut of the profits. But where PhyCor historically bought the operating assets of clinics and operated them under long-term service agreements, its restructuring strategy will no longer allow the purchase of clinics' assets nor the employment of their personnel. PhyCor is currently developing and managing independent practice associations of physicians who contract with health care entities for their services. At the close of 2000, PhyCor operated about 40 clinics with about 2,500 physicians in about 20 states and managed independent practice associations with more than 24,000 physicians in 25 states.⁶

To understand why physician management companies like PhyCor have proven unsuccessful is not so difficult according to some analysts. Hobart Collins of the Medical Group Management Association, a trade organization for group-practice administrators, notes that overall, the rise of physician management companies like PhyCor has been "an effort to apply a health care business model that worked in the hospital industry and is still working [there] and apply it to the world of physician group practices and for a

whole bunch of reasons, it didn't work" (cited in Sturgeon, 5/6/00a, p. 6A). The health care business model has been applied successfully to hospitals, because hospitals have maintained internal management structures and external checks and balances (the local hospital board of trustees, administration, medical staff, Joint Commission of Accreditation, and the community). Physician practices do not have these oversight management systems in place. Also, in hospitals, especially non-profit ones, there is no direct link from services, revenue and income; instead, all these are connected by government funds, hospital reserves, community funds, generated hospital revenue, and services.

In physician practices, the line from services rendered to physician income is much simpler. Physicians offer the services they can afford using the equipment they are able to purchase. Normally, they do not receive government or community funding to shore up their facilities or to purchase state-of-the-art equipment. When new equipment purchases are necessary, the physicians themselves had to purchase the technology or do without. The introduction of the physician management company offered a means to marry business with medicine. It was a marriage of convenience, in some ways, to provide the physicians with capital to make office improvements and to purchase medical technology while still doing what they wanted...practicing medicine. Unfortunately, the physician-practice management companies like PhyCor failed to provide the business acumen they touted (Sturgeon, 5/6/00a).

In terms of the Lewis-Gale Clinic and PhyCor, the relationship of the clinic to the company clinic not only failed, but also took an unanticipated turn. For many clinics, failed relationships with their physician management companies meant closed physician

practices. On May 1, 2000, the Nalle Clinic, an 80-year-old clinic in Charlotte, North Carolina, another PhyCor owned clinic with a history similar to that of the Lewis-Gale Clinic, shut down. The clinic's closing meant 175,000 patients were left searching for care. The Nalle Clinic's closing is typical. Clinics usually joined physician management companies in the first place because they needed financial backing. If the physician management company then failed to provide needed financial assistance, the clinic went under. Not so with the Lewis-Gale Clinic.

Patton recalled that the Lewis-Gale Clinic doctors and its board of directors knew that for all the financial woes of its accounts receivable, the clinic was financially stable. The clinic's board agreed that the facility was operational as long as it broke away from PhyCor quickly and did not lose any more staff and customers (patients). At the end of February 2000, with 35 doctors and 250 workers gone and many other physicians and employees threatening to leave, clinic administrators feared a decision by PhyCor to close could happen if the board did not break free of PhyCor's management. The remaining doctors recognized that if PhyCor were gone, the clinic's doctors would not have to antagonize each other over PhyCor's performance. In other words, they could get on with the business of the clinic – medical practice. The board, therefore, decided to sever its ties with PhyCor. The negotiated break-up with PhyCor cost the doctors a great deal in terms of future revenues because the remaining clinic physicians took out a loan to buy the business back. Although the amount of the loan was not disclosed, the loan will take years to pay back and will reduce clinic profits, according to Lewis-Gale Clinic board president, Dr. Larry Patton (Patton, 2000).

According to Patton, Lewis-Gale Clinic administrators and board members still believe the goals they hoped to achieve with PhyCor are attainable, without the influence of a physician management company. Currently, the clinic's mission is to become a "medical mall" offering all types of medical specialties under one roof. The Lewis-Gale Clinic medical mall will provide one-stop shopping for medical services in southwest Virginia. Whether the clinic will accomplish its mission, only the future will tell. However, given its 91-year history in the Roanoke and Salem communities, its learning experience at the feet of one of the largest physician management companies – PhyCor, and its renewed commitment to the doctors after the break-up with PhyCor, the clinic has much experience on which to draw (Patton, 2000).

Notes

¹ Some Lewis-Gale physicians had trouble with PhyCor's management earlier than the 1999 breakdown concerning finances. See Holton, 3/29/97 and 4/5/99.

² A few articles in the Roanoke Times describe how difficult it was for Lewis-Gale Clinic physicians during the break-up with PhyCor. See Holton, 1/29/00, 2/3/00 and 2/17/00.

³ See Holton, 1/8/00, 1/12/00, 1/27/00 and 2/1/00, and Sturgeon, 9/13/00.

⁴ Family Practitioners leaving the Lewis-Gale Clinic decided to reopen four clinics under a new name: Primary Care Associates. Two of the four clinics were in Salem, one in Floyd, and the other in Fincastle, Virginia. See Stewart, 4/1/00 and Sturgeon, 4/4/00.

⁵ Since 2000, PhyCor and some Lewis-Gale physicians have done legal battle over the non-compete clauses in their contracts. PhyCor's non-compete clauses stipulated a doctor could not compete against the clinic for 18 months after leaving without paying a right-to-compete fee. The right-to-compete fee capped at \$244,000, based on a doctor's clinic pay and other factors. The Lewis-Gale Clinic deemed the right-to-compete fee as fair because it served to buffer the clinic against lost business and reimbursed the clinic for its investments in equipment and support and use of its name by the physicians while they worked there. See Sturgeon, 1/12/01.

⁶ For a look at PhyCor's current financial information and organization overview, see <http://www.phycor.com>

Appendix Four
Examination of the Organizational Structures of the Carilion Health Care Corporation and the Carilion Health Plans

Part A:
Organizational Structure for the Carilion Health Care Corporation

In 1996, after the Blue Ridge Primary Care Group purchase, Carilion Health Care Corporation (CHC) formed a board composed of both physicians and administrative representatives. The newly formed CHC board of directors consisted of eight elected doctors and four Carilion administrators representing five regions. The regions included: 1) Southwest Roanoke, 2) Southeast Roanoke, 3) Shenendoah north of Lexington on I-81, 4) South – North Carolina border properties including, Hillsville, Galax, Wytheville, and 5) the New River Valley market. CHC delineated the five regions for its physician practice groupings to allow more operational ease in managing the sites.

CHC selects two physician board members from each of its five operating regions, however; only one physician comes from the two Roanoke regions. Hugh Thornhill, CEO of CHC, claims having two physicians from each region makes for good geographic representation of Carilion’s communities on the board. Of the four Carilion Health System (CHS) administrative representatives on the board, three of them are doctors, as well. As Dr. Nuckolls, the Medical Director of CHC, said, “It is a doctor-oriented board” (Nuckolls, 2000). The board members serve either two or four-year terms and they can be re-elected twice. Thornhill noted that CHC did not stop with physician integration to its board after the Blue Ridge Group joined in 1996. Instead, CHC instituted both a financial and clinical chain of command to oversee the day-to-day management of its practices and the quality of care within the practices. Thornhill, who

has been managing CHC since 1994, became the CEO of CHC and assumed responsibility for the financial operations of the organization with the board makeover in 1996. Dr. James Nuckolls, one of the Blue Ridge Primary Care Group's founders, became the medical director for the CHC. CHC created the medical director position to administer the clinical side of the organization's day-to-day business. CHC's CEO is next in command after the company's board. The CEO reports directly to the board. The medical director is next in the command after the CEO. Thornhill describes CHC's CEO and medical director position as organizational peers (Thornhill, 2000). The CEO is responsible for the administrative side of operations, while the medical director attends to CHC's clinical operations. Combined, the efforts of the CEO and the medical director define CHC's dual business of managing physicians' practices. "CHC manages medicine and money in physicians' practices," says Thornhill (Thornhill, 2000). The dual roles of managing medicine and money play out in CHC's remaining corporate structures, as well.

Under the CEO's control are five regional practice managers who each have eight to twelve practices that they are responsible for financially. Alongside this authority line, CHC's medical director oversees five regional medical directors who are responsible for the quality of care within their region's individual physician practices. Each regional medical director, like the regional practice managers, has eight to twelve practices under their management. These regional medical directors are full-time practicing physicians themselves. The CHC's regional medical directors are responsible for clinical issues and patient concerns and each of the practices within their region.

Prior to the acquisition of the Blue Ridge Primary Care Group, most all the CHC infrastructure related to operational concerns. After the acquisition, the clinical side assumed a more important role and will continue to assume a much larger role, according to both CHC's CEO and medical director, as the CHC moves forward with its management of care relying on Carilion's Electronic Medical Records System (EMRS) (Thornhill, 2000). Besides this corporate structure, there are some sidebars to the CHC organizational structure. CHC has a financial division which reports to the CEO and a clinical administration team composed of nurses who conduct employee training, EMR training, and who deal with OCEANA concerns. The clinical administration team reports to the medical director of CHC.

When one looks managerially into the CHC organization, one discovers a team of regional medical directors and practice managers that deal with physicians and their staffs in a particular region. Each practice site has an on location manager. Below the site manager, one finds physicians. Underneath the physicians, one finds their staffs consisting of nursing, lab, billing, receptionists and other employees.

CHC typically performs its operations according to the following schedule. The CHC board generally meets once a month. All the CHC physicians meet two to three times a year as a group. The regional managers visit each office site in their region once a month when they deliver to the practices their monthly meeting performance reports. According to Dr. J. Francis Amos, a Carilion physician in Rocky Mount, for some very stable practices this visit may be bi-monthly (Amos, 2000). Thornhill notes that few practices see their regional manager and medical director more often than others based on several reasons, mostly relating to practice problems such as: 1) relocations, 2)

consolidations, 3) recruitment needs, 4) office site management issues, and 5) installation of office technology (Thornhill, 2000).

Thornhill explains that at minimum CHC physicians meet with a CHC manager and talk about site issues at an organizational level once a month. Dr. Elizabeth Carmichael, a Carilion physician in Blue Ridge, describes how CHC has a web page accessible to its physicians where board minutes are posted and other pertinent information like operation statistics. Within each Carilion practice, the physicians meet as a group once a month, generally. They hold operating meetings about how to run the practice and go over the monthly financial and operating statements and the performance reviews they receive from CHC (Carmichael, 2000).

While Thornhill contends most practices see their regional managers enough, they do not see him [CEO] as often as they should. “But it is difficult to see all the sites even once a year,” says Thornhill (Thornhill, 2000). There are currently over 60 practices at 45 sites. Thornhill claims that he would have to see almost four practices or sites a month to see them all in a year, and that would be just a social visit, not a visit to problem-solve, acknowledged Thornhill. Thornhill claims it is difficult to find the time for even social visits to the practices (Thornhill, 2000).

Part B:
Organizational Structure of the Carilion Health Plans

A brief description of the size and organizational structure of Carilion Health Plans, Inc. (CHP) follows. According to Carolyn Chrisman, CEO of CHP, a 15-member board of directors governs the CHP. Seven of these members come from the Carilion Health System. Of these seven, most are hospital affiliated. The other eight members of the board are physicians who represent the community of physicians. Four of these are primary care physicians and four are specialists. Each board member serves a two-year term and can serve two to three consecutive terms. Under the board, CHP has a chief executive officer (CEO) who manages day-to-day operations for the company. Below the CEO are a chief medical officer, responsible for clinical issues and a chief operations officer, who is responsible for financial operations (Chrisman, 2000).

Chrisman said that CHP employs a total of 62 employees. The majority of CHP's 62 employees are in its utilization management (UM) department. This department consists mostly nurses who do preauthorizations, referrals and case management. Case management is a growing area of operations for CHP. In case management, CHP's nursing staff monitor Carilion's chronic diseased or very sick patients. CHP has found that case management provides very sick patients with valuable education, resources and guidance. Chrisman explained:

We find out that once a doctor calls a patient and says you have something and once he tells you, that you don't hear the rest of what he says... Therefore, you need someone else you can talk to and so we have case managers here who, once we know that these people need

some help, we call them and you can call your case manager any time for advice (Chrisman, 2000).

The next largest area of operations for CHP involves claims. The claims employees process plan-holder data. CHP also has a member-service division and a provider-relations group. The member-service division manages the financial information of plan members. The provider-relations employees go directly to the sites of primary care physician providers and visit with their staffs once every three months to discuss plan involvement. The provider-relations group meets with CHP's contracted specialists twice a year. CHP's physician-providers (a seven to eight member team) also generate a newsletter to send to physicians and perform physician credentialing for CHP (Chrisman, 2000).

The sales staff of CHP is composed of only three sales representatives. Two of those do group-service plans. Once a sales representative sells a plan to a group, the group is turned over to CHP's group-service underwriting division. Group-service employees go out every month and visit the human resource people of Carilion's employer purchased HMOs and ask "where are the problems, what are the issues they have with their purchased Carilion plans," says Chrisman (Chrisman, 2000).

Chrisman notes that there is also a CHP group that strictly regulates contracting and compliance of plans. The compliance group is an important arm of CHP given the intense federal, state and local regulation for insurance companies. The compliance group tracks rates and makes sure CHP follows all Virginia Bureau of Insurance guidelines (Chrisman, 2000).

CHP has a quality management team which works to ensure the clinical proficiency and quality of CHP in its adherence to care for specific disease populations

like diabetics. This group works in close connection with the UM team to monitor patient populations. Chrisman believes that CHP's quality management team will work closely with Carilion's Electronic Medical Records System in the future to see how well Carilion is caring for chronic, diseased populations (Chrisman, 2000).

An average day for CHP is an interesting one for a company involved specifically in managing health care. Chrisman comments, "If one thinks about it, CHP does not provide any actual care and they have no doctors' offices. Managed care organizations like CHP are about data storage and retrieval. CHP is in essence, a huge data warehouse" (Chrisman, 2000). CHP collects claims data for all of its plans-holders from all over the nation and amalgamates that data in the CHP's warehouses. CHP's first job is to take that data and use it to pay claims as they receive them, but CHP has other uses for that data, as well. Its information management group disseminates the data back out into the health care marketplace of providers with evaluations of how a doctor is performing and can perhaps be better managed. Chrisman stated:

Our day-to-day business operations are much more business-like than probably any other part of Carilion. We met a lot as a group to try and figure out what the data is telling us about something; where do we have network holes, where do we have utilization management problems that we need to resolve. So we have very much problem-solving, resolution oriented kinds of meetings (Chrisman, 2000).

Of all the uses for CHP's data, Chrisman said the clinical side is the most important one for CHP. Chrisman noted, "We may look at the number from a financial point of view, but we also look at the numbers from a quality, clinical point of view" (Chrisman, 2000).

Chrisman insisted CHP tries very hard to work as a triumvirate-type of organization with its chief operations officer, chief medical officer and chief executive officer to promote clinical effectiveness. The chief executive officer makes very few

strategic decisions alone. Generally, the three officers sit down together and make decisions. Chrisman notes that it is actually very fascinating to her to sit down together with CHP's two other executive officers, both of who are physicians and discuss what is going to work best for the health plans. Chrisman states, "Physicians and businesspersons combined represent a new type of decision making body for health care that lies at the heart of what managed care is supposedly about – medicine and business" (Chrisman, 2000). Chrisman argues such an arrangement sets up dynamics that generally are not found in most managed care plans companies. Speaking of Dr. Sam Butler, CHP's Chief Operating Officer (COO) and an urologist specialist, Chrisman said:

I like the way he thinks. He really has a great ability to bring clinical and administrative together, which is why he has areas like claims, member services and provider relations. He is looking at them and saying as a member that is a really horrible way to have to do something, let's make it easier, how to make it better and he has tremendous system's perspective. For him, it's very intuitive. He is a really neat match [for the CHP position] because he has got the areas that are very data-intense in terms of how you get the data in the system and how you work with it, but he also has provider relations so he has got to deal with the physicians when they get mad at us (Chrisman, 2000).

If physicians, customers or patients have issues concerning CHP's delivery of its plans, services or quality of care, these are generally resolved by the company's medical director or the member service group. CHP's medical director is responsible for resolving most conflicts arising from physician reimbursement dissatisfaction or UM disagreements within CHP. If a physician ends up with a formal grievance that cannot be resolved through conversation with the medical director or with the CEO, then the Carilion Health System has a physician advisory committee that can be convened to

decide the grievance. To date, the committee has never been used by CHP to decide a formal grievance (Chrisman, 2000).

Chrisman claims that if a group or a member has a complaint, they call member-services to resolve conflicts. If member-services cannot resolve the issue to a group or member's satisfaction, there are at least three different other means that CHP provides to resolve a complaint. If it is an insured product and the group or member escalate the issue through all three levels of CHP and they do not feel the issue has been settled appropriately, the group or member may seek an ombudsman's services outside CHP at the State of Virginia level. The ombudsmen will only hear certain issues, however. The value of the issue, defined in terms of the dollar value of the claim, has to be over \$500. If an issue receives ombudsman arbitration, CHP is bound by the ombudsmen's decision. Up to the present, CHP has not had any of its decisions challenged and presented to third-party arbitration, notes Chrisman (Chrisman, 2000).

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