Quality of Life and the Health Care System in New River Valley, Virginia: Residents' Perceptions and Experiences

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(ABSTRACT)

The present study involved the implementation of one component, *Community Health Status Assessment,* of a comprehensive, strategic planning tool, *Mobilizing for Action through Planning and Partnerships* (MAPP), to qualitatively uncover the perceptions of the quality of life and local health care system of 28 residents in New River Valley (NRV), Virginia. The current study represents the initial qualitative study utilizing MAPP in Virginia. Interviewees perceived an overall good quality of life (e.g., ample green space, safe neighborhoods), with an urgent need for health care reform, affordable insurance, and transportation, particularly for after-hours medical care. The current study also reviews the specific findings from the one-on-one interviews, and provides a step-by-step look at the MAPP process for potential users as applied to a real-world community, specifically, the NRV.

Dedication

“Wisdom is supreme; therefore get wisdom. Though it cost all you have, get understanding.”

Proverbs 4:7 (NIV)

I dedicate this dissertation to the residents of New River Valley, Virginia

First and foremost, all praise to God for His many blessings in my life over the past four and a half years, and for giving me the strength and motivation necessary to achieve one of my life’s goals. I would be *nowhere* in life without my Savior and faith in Almighty God!!!

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In loving memory of Dorcas Clisty Barrus--Her memory and love live on in my heart and thoughts daily—I love you, Gram!

Finally, I lovingly dedicate this doctoral degree to my children and future generations.

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I now enter the next chapter of my life, fully prepared with a range of experiences and skills to help others make positive changes in their health habits. Here's to a new generation of healthy Hokies--"Ut Prosim!"

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QUALITY OF LIFE AND THE HEALTH CARE SYSTEM IN NEW RIVER VALLEY, VIRGINIA: RESIDENTS' PERCEPTIONS AND EXPERIENCES

Chapter 1

Introduction

Defining the Rural Landscape

The rural American population reached 61,656,386 in 1990, comprising 24.8 percent of the total population, and residing on 97 percent of US land (Elder et al., 2001). Rural locales are divided into rural farms and rural nonfarms. Rural farms consist of places from which $1,000 or more of agricultural products were sold in 1989. Rural areas differ greatly based on their geography, climate, history, and how their inhabitants make a living. Furthermore, rural areas typically include a higher proportion of individuals who are younger than 15 and older than 64 years of age. The imbalance in age may be due to the migration of highly educated young adults to urban locales (e.g., Washington, DC) to obtain higher wage positions within the American workforce and corporate offices (Elder et al., 2001; Huttlinger et al., 2004). Rural America is generally correlated with a higher rate of poverty, substandard housing, increased prevalence of health problems, a lack of doctors or medical facilities, inadequate caregiving, inadequate or lack of transportation, and greater distrust toward the health care system. Furthermore, rural Americans are usually in poorer health than their city-dwelling counterparts for a number of reasons, which will be elaborated in Chapter Two.

Many times, those living in rural areas engage in harmful health behaviors, such as smoking, drinking, and have limited activity levels due to chronic conditions. Older rural Americans also are living with a larger number of medical problems that are often more severe in nature than elders living in urban locales. Therefore, when instituting health promotion programs

for rural-dwellers, it is important to carefully consider the above discrepancies among rural and urban residents and their unique needs. Professionals should strive to engage all citizens in health promotion activities and gain their trust to help residents become more aware of their health care needs (Haber, 2007).

Numerous definitions have been proposed for the concept of *rural*, including low population density, sparse settlement, and remote location from urban resources. The term *rural* often brings to mind activities such as farming, ranching, logging, and mining, as well as scenic mountain views, panoramic landscapes, and a quaint atmosphere (Leight, 2003). However, the US Bureau of the Census (2000) defines rural as consisting of all territory, population, and housing units outside an urbanized area or urban cluster (defined as block groups with a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile), and having less than 2,500 total residents. Furthermore, the Census Bureau classifies 61.7 million (25%) of the total population as rural (Berkowitz, 2004; Eberhardt & Pamuk, 2004; Elder et al., 2001; Leight, 2003; Letvak, 2002; Williams & Cutchin, 2002).

There are seven classes of nonmetropolitan US counties, including farming-dependent, manufacturing-dependent, mining-dependent, specialized government, persistent poverty, federal land, and retirement. Distinguishing rural areas from the larger topography and taking into consideration the role that mass media, transportation, and technology play in modernizing these areas assists in the development and implementation of health promotion programs that best suit rural communities. Additionally, sociodemographic variables such as age, education, and ethnicity should be considered in the design and planning of health behavior change strategies. More specifically, rural areas are typically less diverse when compared to urban areas; the one

exception being the large African-American population within cotton, peanut, and tobacco-growing southern regions (Elder et al., 2001).

Given the various dimensions of rural America, which includes a relationship to nature, community members, and family and community history, Elder and colleagues (2001) suggest a multilevel approach to health promotion. Rural-dwellers have a deeper relationship with nature and a greater sense of appreciation for its vast resources, given the lengthier periods of time rural residents work and recreate outdoors, as compared to urban-dwellers. Individuals in rural communities generally develop close support networks and display a mutual sense of trust, dependence, and reciprocity on which they rely for quality of life. Moreover, individuals residing in rural areas are linked to the larger community via personal and family history, with many older generation rural residents living and dying in the same area in which they were born. Therefore, health care and health education approaches must consider the various aspects of the individual, both within the family and within the community, among rural residents (Elder et al., 2001).

Southwest Virginia. Southwest Virginia, home to approximately 400,000 people, is the center of Appalachia, which encompasses the large geographic area in the eastern US that is associated with the Appalachian Mountains, a 200,000-mile region extending from southern New York to northern Mississippi. Appalachia includes all of West Virginia and parts of Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. Common characteristics of the area include a mountainous topography that is over 4,000 feet. The surrounding valleys are 2,000 feet or higher, making rural Appalachia very distinct from its urban counterparts. While these valleys are home to many extended families seeking peacefulness, solitude, and independence, there are

transportation challenges due to very limited – if available at all – public transportation services. Consequently, the Appalachian population is frequently isolated from mainstream health care services and faced with scarce state resources and a poorer economy, as compared to other parts of the state, such as Northern Virginia and Washington, D.C. (Huttlinger et al., 2004).

The location of focus of the present study is the New River Health District (New River Valley [NRV]), which encompasses the counties of Floyd, Giles, Pulaski, and Montgomery, and the city of Radford (New River Valley Planning District Commission, 2007). Therefore, the community health needs associated with the aforementioned areas vary and include mental health, substance and drug abuse and smoking, oral health, chronic illness (e.g., hypertension, diabetes, obesity, HIV/AIDS), gun safety, environmental health, and spiritual health. The health needs of Southwest Virginians are similar, yet unique to those of US citizens in general, as service availability and access to meet health needs is a challenge for many rural residents, particularly the under-/uninsured.

Mobilizing for Action through Planning and Partnerships (MAPP)

The principal investigator partnered with the director of the New River Health District, Dr. Jody H. Hershey, to conduct the present study across the NRV. The specific framework utilized for this study was MAPP, a comprehensive, multi-component, strategic planning tool developed by the National Association of County and City Health Officials (NACCHO) in 2001, with the goal to improve community health. The present study will implement one of the four components of MAPP to determine residents' perceptions of the quality of life and the local health care system in the NRV. MAPP is typically facilitated by local public health leaders as a means to assist communities with prioritizing public health issues and identifying resources for addressing needs and issues. Community ownership is key to the MAPP process, as community

participation results in collective brainstorming and effective solutions to the community's problems. Given that the community's strengths, needs, and desires drive the MAPP process, the tool provides a community-focused initiative. Hence, community participation from and collaboration among an array of public, private, and voluntary organizations, stakeholders, and individuals, including community residents, is crucial in positively affecting the public's overall health (NACCHO, 2001).

Purpose of the Study

The purpose of the present study was to uncover NRV residents' perceptions of the quality of life and local health care system. Huttlinger, Schaller-Ayers, and Lawson (2004) suggested that continued studies of the integration of perceptions of quality of life and health care systems in rural communities will be of great value to a comprehensive community health needs assessment. In addition, the present study was designed to implement the *Community Health Needs Assessment* component of MAPP, a comprehensive, multi-component, strategic planning tool, to qualitatively uncover residents' perceptions of the quality of life and local health care system in NRV, Virginia (for a complete description of MAPP, please see Chapter 2). The MAPP tool has been implemented across the US (e.g., Columbus, OH; Lee County, FL; Mendocino County, CA; Nashville, TN; Northern Kentucky; San Antonio, TX). However, the current qualitative study represents one of the initial implementation processes of the MAPP tool in Virginia. It is the principal investigator's hope that other communities across the country will implement the full MAPP tool to assist in determining and addressing communities' most pressing health care needs, including access to and availability of services targeting mental health, substance and drug abuse and smoking, oral health, chronic illness (e.g., hypertension, diabetes, obesity, HIV/AIDS), gun safety, environmental health, and spiritual health.

Research Questions

1. What are community residents' perceptions of quality of life in their respective community?
2. What are community residents' perceptions of the local health care system in their respective community?

Significance of the Study

As the first study reporting on the utilization of a component of MAPP in Virginia, this study will provide the New River Health District with essential information on the community's most pertinent health needs of under-/uninsured and insured residents in order to develop new health services and improve on existing services (Leight, 2003). Moreover, the results of this study are intended to inform best practices and guide other communities—both rural and urban—that desire to implement the MAPP process as part of their community health needs assessment.

Delimitations

For the current study, interviews were conducted with both under-/uninsured and insured community residents. Therefore, the findings are specifically applicable to the under-/uninsured and insured populations within the New River Valley Planning District (NRVPD). The NRVPD includes the Counties of Floyd, Giles, Montgomery, and Pulaski; the City of Radford; the Towns of Blacksburg, Christiansburg, Floyd, Narrows, Pearisburg, Pulaski, and Rich Creek (New River Valley Planning District Commission, 2008). However, the findings from the current study also can be applicable to targeted populations, such as the under-/uninsured, in rural communities where such populations seek services.

Limitations

The limitations of the current study are that the current study focused on one district in Southwest Virginia, that of the New River Valley. Therefore, a very different set of perceptions regarding quality of life and the local health care system may be indicated, given the differing characteristics among, for example, Northern Virginia/Washington, DC versus rural Southwest Virginia. Additionally, there is a large proportion of under-/uninsured individuals residing in Southwest Virginia, which may not be the norm for another locale in the state with a higher annual income overall. Consequently, an area with a higher annual income may experience a better quality of life, larger range of available health care services, improved access to such services, as well as affordable services or those covered by health insurance.

Summary

Individuals are generally living longer; consequently, there is a greater likelihood that they will need to access one or more health services in their lifetime. Oftentimes, the under-/uninsured have the greatest need for health services; however, they either are unaware of existing services, do not know how to access such services, or cannot afford to pay out-of pocket for the necessary services. Under-/uninsured residents' plight is made more complicated if they have dependent children or are providing care at home for an ailing loved one. The aforementioned scenarios have the potential to negatively affect one's quality of life in the community. This study focused on the perceptions of quality of life and the local health care system by residents of New River Valley, Virginia.

Chapter 2

Review of the Literature

Southwest Virginia, specifically, the New River Valley, encompasses the counties of Floyd, Giles, Pulaski, and Montgomery, and the city of Radford (New River Valley Planning District Commission, 2007). Therefore, the community health needs associated with the aforementioned locales vary and include mental health, substance and drug abuse and smoking, oral health, chronic illness (e.g., hypertension, diabetes, obesity), gun safety, environmental health, and spiritual health. The health needs of Southwest Virginians are similar yet unique to those of the US, as service availability and access to meet these health needs is a challenge for many rural residents, particularly the under-/uninsured.

The purpose of this chapter is to review the current literature concerning community health needs among rural residents. First, a review will be presented of the most recent literature pertaining to rural community health needs, including mental health, substance and drug abuse and smoking, oral health, chronic illness (e.g., hypertension, diabetes, obesity), gun safety, environmental health, and spiritual health. In each section, a brief comparison will be provided of rural residents' health needs and those of urban residents in terms of access to and availability of health care services, as well as suggested solutions for meeting residents' health needs. A discussion of the quality of life and health care system in a rural community also will be presented. Finally, an overview of the MAPP framework and the specific component that was implemented in the current study will be discussed.

Rural Americans' Health Needs

Mental Health Needs

Rural community dwellers face a variety of stressors that place them at considerable risk for mental health issues, including geographic isolation, limited resources, and the stigma attached to mental illness. Rural-dwelling individuals also are less likely to seek adequate mental health care given their unique stressors, greater fear of stigmatization, and cultural health beliefs (e.g., patient believes that allowing the doctor to cut on him/her will worsen the health condition), as compared to their urban-dwelling counterparts (Barry et al., 2000; Bjorklund & Pippard, 1999; Blank, Fox, Hargrove, & Turner, 1995; Cacioppo & Hawkley, 2003; Kane & Ennis, 1996; Letvak, 2002; Levin & Hanson, 2001). Moreover, rural mental health delivery faces unique barriers given the stigma among health providers, consumers, and employers; poor integration with general health services; language and cultural issues in treatment; and, substantial reliance on public sector funding (Levin & Hanson, 2001). Consequently, the development and integration of community supports as resources in rural systems of care deserves further research, the use of informal social support, and improving openness and increasing confidence regarding mental health issues need further emphasis (Barry et al., 2000; Bjorklund & Pippard, 1999; Blank, Fox, Hargrove, & Turner, 1995; Kane & Ennis, 1996; Letvak, 2002; Levin & Hanson, 2001).

Schizophrenia has a rural prevalence rate of half that found in urban areas. This underrepresentation of schizophrenia may be due to the fact that mental health issues are typically underreported in rural areas for a number of reasons (e.g., lack of access, fear of stigmatization, cultural health beliefs). Alternatively, bipolar disorder is reported as frequently in rural areas as in urban locales. Other mental disorders include anxiety disorders and antisocial

personality disorder, which occur at equal frequencies in rural and urban settings. However, psychiatric disorders are less frequently diagnosed in rural communities, which may be more attributable to differences in diagnosis and inadequate outpatient care, rather than decreases in psychiatric illness among rural residents. It also is important to note that rural psychiatric patients are less likely to seek care, and are more likely than their urban counterparts to receive mental health care through emergency room admissions. Additionally antidepressant drug use among rural populations falls below national trends, which points to an underutilization of psychiatric prescription drugs, a reduction in the number of diagnosed cases, or a reduced risk of depression (Dennis & Pallotta, 2001; Levin & Hanson, 2001).

Meeting mental health care needs in rural communities is a national health imperative that warrants attention and often requires different strategies and solutions compared to urban areas due to limited and/or inaccessible resources, lack of transportation, and lack of specialized mental health services (Arcury, Preisser, Gesler, & Powers, 2005; Averill, 2004; Bjorklund & Pippard, 1999; Blank et al., 1995; Committee on the Future of Rural Health Care [CFRHC], 2005; Eberhardt & Pamuk, 2004; Huttlinger et al., 2004; Kane & Ennis, 1996; Letvak, 2002; Levin & Hanson, 2001; Roberts, Battaglia, & Epstein, 1999; Roux, 2001). An estimated 20-24% of rural US residents struggle with mental disorder, substance abuse, and/or comorbid conditions (Letvak, 2002; Roberts, Battaglia, & Epstein, 1999). Individuals in rural locales have reportedly significant health needs; however, unlike their urban counterparts, rural dwellers experience numerous obstacles to obtaining sufficient psychiatric services. These obstacles include lack of transportation, lack of provision of and/or access to services, high cost of services, and inability to obtain a referral for services (Arcury et al., 2005; Bjorklund & Pippard, 1999; Blank et al.,

1995; Huttlinger et al., 2004; Kane & Ennis, 1996; Letvak, 2002; Levin & Hanson, 2001; Roberts, Battaglia, & Epstein, 1999).

Rural mental health care delivery also is affected by ethical dilemmas, including overlapping relationships, conflicting roles, and gray therapeutic boundaries between caregivers, patients, and families; challenges in preserving patient confidentiality; cultural dimensions of mental health care; *generalist* care and multidisciplinary team issues; limited resources for consultation regarding clinical ethics; and, increased stresses experienced by rural caregivers. Due to isolation and poor resources, rural clinicians are often relegated to provide services that lack optimal supports and safeguards for patients. Therefore, rural clinicians sometimes deem it necessary to ration care, provide care outside their expertise, deal with noncompliant patients due to accessibility challenges, respond to complaints regarding colleagues' impairments, and make crucial decisions regarding reproductive, end-of-life, and quality of life issues without consulting specialists (Averill, 2003; Borders et al., 2004; Levin & Hanson, 2001; Roberts, Battaglia, & Epstein, 1999; Williams & Cutchin, 2002). Moreover, views of mental illness in rural communities are typically more negative and the stigma attached to a mental illness is generally greater than in urban areas. This stigmatization plays a major role in preventing individuals from seeking mental health care (Barry, Doherty, Hope, Sixsmith, & Kelleher, 2000; Blank et al., 1995; Dennis & Pallotta, 2001; Kane & Ennis, 1996; Letvak, 2002; Levin & Hanson, 2001; Rost, Fortney, Fischer, & Smith, 2002).

The limited health care resources in rural locales pose a challenge with ensuring ethical conduct within mental health service provision. Consequently, providing mental health care for rural patients encompasses a range of additional challenges, such as the potential for patients to inflict self-harm and violence, addressing the heightened social stigma typically tied to mental

disorders, protecting patients from abuse or exploitation, and struggling to best meet the needs of individuals with impaired decision-making capacity via improved care planning. The above challenges within isolated, rural settings can be addressed through educating patients on the standards of care and working as a team to identify potential problems stemming from overlapping interactions. Involving patient input and feedback are crucial in determining effective solutions to challenges in service delivery (Averill, 2003; Kane & Ennis, 1996; Levin & Hanson, 2001; Roberts, Battaglia, & Epstein, 1999; Williams & Cutchin, 2002).

Substance Abuse, Alcoholism, and Smoking

In rural areas, substance abuse is often a taboo topic, such as social drinking, which also is an unwelcome topic due to the focus on values and a traditional cultural belief system within the rural community (Letvak, 2002; Wagenfeld, Murray, Mohatt, & DeBruyn, 1997). Wu and Ringwalt (2005) highlight the important role of racial, ethnic, and gender disparities in the use of substance abuse services among uninsured young adults, noting that publicly insured individuals are more likely than privately insured individuals to depend on alcohol or drugs to cope with stressful life circumstances. Additionally, a majority of individuals with alcohol or drug use disorders do not receive substance abuse services, particularly young uninsured women, Hispanics, and African Americans, perhaps due to the stigma attached to receiving treatment or fear of potential negative consequences for doing so (Davis & Magilvy, 2000; Wells, Klap, Koike, & Sherbourne, 2001; Wu, Kouzis, & Schlenger, 2003; Wu & Ringwalt, 2005).

Substance abuse rates among rural residents are comparable to those of urban residents. More specifically, marijuana use is reportedly lower in rural areas, which suggests that sensitivity toward peer opinions in rural communities has influenced the lower usage rates. However, marijuana also has been reported to be the most easily obtainable and least risky

substance among rural marijuana users. Cocaine, opiate, and amphetamine use is uncommon among the rural pregnant population, which may be attributed to strict social norms, while there is no difference in anabolic steroid and cigarette use among rural and urban residents. Barriers pertaining to substance abuse treatment in rural communities include a lack of rehabilitation services, reduced availability of services, reduced access to treatment centers, lack of utilization of treatment, the inability to afford services, and the unacceptability of services. Likewise, even when treatment is readily available, rural-dwellers may be reluctant to take advantage of such services, and recruitment of substance abuse professionals poses a special challenge in rural communities. In general, rural substance abusers face a greater number of challenges in seeking necessary treatment than do their urban counterparts (Dennis & Pallotta, 2001; Rebhun & Hansen, 2001).

Substance abuse, particularly alcohol abuse, is as prevalent in rural as in urban areas. Dennis and Pallotta (2001) reported that rural alcohol abusers use fewer alcohol treatment services than urban-dwellers. This difference could be due, in part, to the lack of availability of resources, access to resources, a greater reliance on family for help, or social, religious, and cultural norms in rural communities. Furthermore, religious beliefs and the role of the church or fear of putting one's privacy in jeopardy may discourage rural alcohol abusers from seeking necessary treatment. The rural work ethic, which focuses on independence, self-sufficiency, and being able to work and function in productive roles, also plays an important role in the underutilization of alcohol abuse treatment services. It is evident that many differences exist between rural and urban alcohol abusers, a topic that needs further research (Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Rebhun & Hansen, 2001; Roux, 2001).

Cigarette smoking, the single most preventable cause of death and disease, leads to 438,000 deaths in the United States each year and results in approximately $167 billion in health care-related costs and lost productivity due to premature deaths (Centers for Disease Control [CDC], 2007). Smoking involves numerous health risk factors for chronic diseases, including diabetes, Parkinson's disease, cervical cancer, osteoporosis, childhood asthma, coronary heart disease, stroke, and lung cancer (Dennis & Pallotta, 2001). The longer young adults, in particular, smoke, the more likely they are to develop irreversible health effects. Therefore, the benefit of smoking cessation is greater the earlier in life that a person quits. Individuals who quit prior to the age of 35 years typically have a life expectancy similar to that of individuals who never smoked (CDC, 2007).

There are a number of factors that contribute to smoking reported in the literature. For instance, among prenatal smokers, high school graduation, extraversion, self-esteem problems, intimate support, and marital relationship and family support have been important determinants for smoking, and higher education, in particular, is a significant contributor to successful cessation of prenatal smoking (Song & Fish, 2006). In general, smokers tend to be poor, less educated, blue-collar class employees, use smoking to self-medicate (i.e., deal with life stressors), have higher nicotine dependence, and have the least information on the health risks associated with smoking, fewest available resources, and the least access to cessation services than their non-smoking counterparts. Individuals with low SES have a greater vulnerability related to psychosocial factors (e.g., risky health behavior), such as cigarette smoking, and may be more vulnerable to disadvantaged environments because they may be less knowledgeable about the harmful effects of smoking, have fewer resources to stop smoking, and experience more stressors in their daily lives than high SES individuals. Alternatively, a higher

socioeconomic status (SES) is associated with higher smoking cessation rates (Birch et al., 2005; Chuang, Cubbin, Ahn, & Winkleby, 2007; Harwood, Salsberry, Ferketich, & Wewers, 2007).

Low neighborhood SES and convenience store availability (Birch et al., 2005; Chuang et al., 2007) and smoking and second-hand smoke exposure in vehicles (Martin et al., 2006) are associated with higher levels of individual smoking. Moreover, among African-American and White adolescents, who are more susceptible to smoking behavior than boys, significant predictors of smoking include coping by taking drugs, attempted suicide, grades, frequency of using alcohol, frequency of using marijuana, hours spent in club activities, hours spent in sports, parent quality, perceived availability of cigarettes, and SES. Likewise, rural adolescents and adolescents residing in the south have higher levels of smoking than those in urban areas (Huebner et al., 2006). Therefore, it is important that smoking cessation programs take into consideration socioeconomic determinants of smoking (e.g., race/ethnicity, age, and socioeconomic status), physical environments of neighborhoods, cultural norms, and the strength of existing and potential tobacco-control programs and policies (CDC, 2007; Chuang et al., 2007).

The CDC (2007) reported that the majority of current smokers (58.6%) between the ages of 18 and 35 years indicated that they had attempted to quit smoking during the past year, and the median proportion of ever smokers aged 18-35 years who had quit smoking was 34%. Moreover, in 2006, the median prevalence of current cigarette smoking among U.S. adults was 20.2%. Smoking prevalence was highest in Kentucky (28.6%), West Virginia (25.7%), Oklahoma (25.1%), and Mississippi (25.1%), and was lowest in Utah (9.8%). For men, the median smoking prevalence was 22.2% and 18.5% for women, with a similar variation (25.3%) among individuals aged 18-35 years. Also in 2006, the majority of current daily smokers

between the ages of 18 and 35 years had tried to quit during the past year, and one-third of individuals aged 18-35 years who had ever smoked reported that they did not currently smoke. The states with the highest percentages of ever smokers who had quit within the 18-35 age group were Utah (47.9%) and Minnesota (43.7%). The low smoking prevalence in Utah, for example, may be due to the stronger social and cultural norms against tobacco use compared with other portions of the U.S (CDC, 2007). Similarly, Harms-Hassoun (2005) reported that approximately 20% of Medicaid beneficiaries in Iowa who utilize comprehensive cessation benefits are expected to quit. Iowa's Medicaid program spends $301 million due to smoking and tobacco use annually. As mentioned previously, smoking rates are much higher among low-income groups than among higher-income groups; therefore, Medicaid programs take the brunt of the tobacco burden. For instance, in 2000, 23% of the general population smoked, as compared with 36% of Medicaid recipients.

Smoking cessation is considered the gold standard of cost-effective interventions in that successful cessation reduces overall medical costs in the short-term, and reduces the number of future hospitalizations due to chronic diseases and complications with heart disease, cancer, stroke, and pulmonary disease. The average smoker incurs $1,041 additional annual health care expenses over a period of five years, versus a smoker who quits, with smokers also experiencing 30-45% more hospital admissions than quitters over a five- to six-year period (Harms-Hassoun, 2007). Potential public health and policy interventions that are physical environment-/neighborhood-based include restricting tobacco advertising and promotions within and around convenience stores, restricting pro-tobacco incentives to store owners/managers from the tobacco industry; limiting the physical access of tobacco products (e.g., locked cabinets to which store personnel only have access); requiring the prominent display of health warning messages;

enforcing underage laws; increasing the costs of tobacco sold in convenience stores (Chuang, Cubbin, Ahn, & Winkleby, 2007), laws for smoke-free cars, and legal restrictions on smoking in cars when children under 18 years of age are present (Martin et al., 2006).

Effective and comprehensive smoking prevention programs should be expanded to reduce smoking initiation among young adults and to encourage early cessation, including sustained mass media campaigns, increasing the price of tobacco products, providing brief counseling by health care professionals during every clinic visit, reducing out-of-pocket costs of smoking-cessation treatments, and offering telephone quitlines. Young adults, like older adults, typically try to quit smoking on their own. Typically, adolescents and young adults attempt to quit with assistance from a nurse, doctor, dentist, counseling (e.g., individual, group, telephone), and/or over-the-counter or prescription medications (CDC, 2007). It also is interesting to note that in the event that rural adolescents are turning to smoking and other drugs to deal with pressure or depression, there is a crucial need for improved availability of school-based mental health services in rural areas (Huebner, 2006). Therefore, strategies that increase the use of effective smoking cessation treatments among young adult smokers are warranted (CDC, 2007).

Health Risk Behaviors Among Adolescents

Tobacco use, drug use, birth control pill use, and lack of involvement in physical activity have significantly increased among high school students. Other youth risk behaviors include suicide attempts, lifetime cigarette use, and promiscuous sexual activity. Common health concerns among rural adolescents include fatigue, frequent headaches, weight problems, and depression, and common health risk behaviors include alcohol and tobacco use and minimal concern for venereal disease and AIDS. Adolescents residing in rural communities may face economic depression in the agricultural economy and increases in life stresses, which puts them

at particularly high risk for poor health perception, which further influences decision making and involvement in risk-taking behaviors. Furthermore, rural adolescents are more accepting of alcohol abuse, more likely to suggest violence as an intervention, and less accepting of depression than are urban adolescents. However, despite these rural versus urban differences, the most common health concerns and risk behaviors appear to be universal despite categorization of locales (Dennis & Pallotta, 2001; Rebhun & Hansen, 2001).

Oral Health Needs

Despite technological advances in oral health care, there are increasing disparities in the oral health status for several population subgroups, including low-income individuals, rural community-dwellers, racial or ethnic minorities, non-English speaking, children, older adults, and those who are developmentally disabled or have major medical problems (Carter et al., 2003; Huttlinger et al., 2004; Kent, Chandler, & Barnes, 2000; Mertz & O'Neil, 2002; Vargas, Ronzio, & Hayes, 2003). Underserved populations face numerous barriers to care, and these individuals are at a great disadvantage for poorer health outcomes than their insured counterparts. As with many societal issues, socioeconomic status is a major indicator in determining use of services and health outcomes, despite race and gender, with the insured having a higher likelihood of regularly visiting a dentist than the uninsured. To make matters worse, there is limited public financing for oral health care services separate from private, fee-for-service dental practice (Huttlinger et al., 2004; Isman, 2001; Mertz & O'Neil, 2002).

Growing concern for the nation's oral health include access to care for underserved minority groups; oral diseases such as oral cancer, periodontal disease, dental caries, tooth loss and edentulism; tobacco use; chronic facial pain; craniofacial birth defects (e.g., cleft lip/cleft palate) and trauma; and, the emerging health needs of an increasing aging population (Borders,

Aday, & Xu, 2004; Glasser et al., 2003; Huttlinger et al., 2004; Isman, 2001; Mertz & O'Neil, 2002; Vargas, Yellowitz, & Hayes, 2003). Access to oral health services is poor, particularly for low-income adults, as many low-wage employers do not offer a dental benefit or is offered at too high a cost for such a premium. In sparsely populated, rural states, such as Appalachia, the issues of access and coverage are compounded by a shortage and inconvenient geographic location of dentists and other oral health providers, as well as the absence of a dental school or professional training program (Beetstra, Derksen, Ro, Powell, Fry, & Kaufman, 2002; Huttlinger et al., 2004; Isman, 2001). Mertz and O'Neil (2002) reported that a large portion of the general US population does not have access to dental care via a private practice dentist. Nevertheless, there is a poorly defined and underdeveloped dental *safety net*, which is small compared with the medical safety net, and many safety-net providers lack sufficient financing and staffing. Consequently, a growing number of people, particularly children, are unable to obtain regular dental care through the dental public health system, of which many dentists are not a part (Carter et al., 2003; Huttlinger et al., 2004; Mertz & O'Neil, 2002; Vargas et al., 2003).

Mertz and O'Neil (2002) reported that 63.7 percent of patients were covered by private insurance in 1998, 5.7 percent were covered by public insurance, and 30.6 percent were uninsured. In 1998, $53.8 billion in private funds was spent on dental services, nearly half of which were out-of-pocket payments. Additionally, the proportion of individuals without dental insurance (67.6 percent) is higher among older adults than among any other age group (Vargas et al., 2003). In that Medicare does not cover dental care and that Medicaid dental benefits are not available across the US, including older adults who have coverage but are on a fixed-income, there is a large portion of out-of-pocket payments, which further deters individuals from seeking dental care (Huttlinger et al., 2004; Mertz & O'Neil, 2002; Vargas et al., 2003). Moreover, the

lack of dentists participating in Medicaid continues to pose a major barrier to access for many low-income populations. Community health centers that serve 8.6 million people, including 2.8 million Medicaid beneficiaries, were able to provide only 1.2 million patients with basic dental care in 1998, which is less than 13 percent of total clients. Unless efforts are made to reform current dental coverage, retiring baby boomers, in particular, will be left without the means to finance their dental care (Mertz & O'Neil, 2002).

Oral health needs are significant in rural states and require creative and collaborative solutions to alleviate such needs and to reduce ethnic disparities in access to oral health care. Beetstra and colleagues (2002) purported that *health commons* are one means to meet oral health needs in rural America. These sites are enhanced, community-based, primary care safety net practices that offer medical, behavioral, social, public, and oral health services. Additionally, health commons offer a comprehensive approach to meeting community health needs, including attention to enhancing dental service capability; broadening the skills of local providers such as prenatal, primary, preventive, and emergency care physicians and dental hygienists; expanding the availability of dental providers (e.g., including dental care in regular immunization appointments); creating interdisciplinary teams in community-based sites; and, developing comprehensive oral health policy (Beetstra et al., 2002). There also has been a movement to implement temporary licensure programs to recruit new practitioners to health profession shortage areas, where the proportion of dentists to patients is below the national average. Through the addition of oral health services to the health commons primary care model, as well as collaboration among community leaders, safety net providers, legislators, insurers, and medical, dental, and public health providers, uninsured and underserved individuals gain

increased access (Ayanian et al., 2000; Beetstra et al., 2002; Berkowitz, 2004; Glasser et al., 2003; Jensen & Royeen, 2002; Leight, 2003; Mertz & O'Neil, 2002; Ricketts, 2000).

Other proposals for alternative organizational structures include public dental clinics, dental vans and mobile dental services, sliding scale services, school-based or school-linked services, teledentistry/telemedicine, population-targeted programs that include education and awareness, case management that encompasses screening, treatment, and follow-up, an integration of oral and primary/chronic health care services, multidisciplinary efforts, expanded practice for hygienists and dental assistants, new dental school strategies, and a focus on program evaluation that encompasses cost-effectiveness and patient outcomes (Bashshur, Reardon, & Shannon, 2000; Huttlinger et al., 2004; Isman, 2001; Mertz & O'Neil, 2002; Ricketts, 2000; Vargas et al., 2003).

Child, Adolescent, and Maternal Health

There is a major difference in cultures, health risks, and health care delivery systems among children and mothers residing in rural areas compared to their urban counterparts (Abbott & Olness, 2001). Despite these differences, however, there are geographic barriers to child and maternal health services that are conveyed in health-related statistics. Children, in particular, constitute a more heterogeneous group than in the past, and they significantly contribute to the rural economy, given their active role in the manual labor portion of agriculture. Due to increasing technology and mobility, less than two percent of the nation's population resides on farms, including a smaller portion of children in the population living on farms. Moreover, farm operators are decreasing in numbers, are more likely to be female, to be of another ethnic background, and to have a primary occupation other than farming. The number of children on farms also is influenced by the number of migrant farmworkers, who may also have children

themselves. The current rural population is approximately 24.8 percent of the entire US population (Abbott & Olness, 2001). Distance to medical and health services separates the rural from urban population in the US, and distance to care within rural communities varies significantly. Therefore, given the great disparity within rural communities, health care services and delivery systems require that they be tailored to the specific demographic, social, political, historical, and environmental characteristics of the rural service area (Abbott & Olness, 2001).

Access to and availability of health care services. Abbott and Olness (2001) discussed that children residing in rural areas typically experience limited access to care for certain medical conditions due to the lack of specialized medical staff, facilities, and medical equipment in rural clinics and hospitals. There have been modern advances in the development of regional services to make specialized medical services more readily available for children and adults. Children are frequently transported to regional centers to receive neonatal or intensive care for injuries, which is associated with expense, inconvenience, and additional stress for family members. Moreover, there is excess morbidity associated with inter-hospital or inter-rural transfer. An increasingly low inter-rural transfer rate may be due to the failure of family practitioners to recognize a difference in competency between themselves and rural pediatricians, unwillingness on the part of rural pediatricians to accept transfers from outside their service areas, or financial or legal issues associated with transport patients. Consequently, family practitioners considering rural practice should receive training in general inpatient pediatrics, and pediatricians in rural practice should be prepared for a high volume of inpatient care. Clinical and educational partnerships between urban regional centers and rural providers are crucial (Abbott & Olness, 2001; Melzer, Grossman, Hart, & Rosenblatt, 1997).

Children in migrant farmworker families constitute the most deprived in terms of access to health care services. Utilization of medical services is typically intermittent and the frequent transition to a new worksite leads to the unlikelihood that these children will have a regular medical facility to visit. If the children entered the US after 1996, they are eligible for Medicaid only after five years of residence in the States, and while Medicaid-ineligible legal and illegal immigrants have coverage for emergency services, they are not covered for preventive services such as well-child care. Moreover, the children of migrant workers may lack access to immunizations and are more likely to experience nutritional problems, dental problems, and infectious disease compared to rural children from more amenable environments. Consequently, the training of lay community outreach workers and the development of information tracking systems are important. Emergency room resources and use for children and adolescents also vary among rural versus urban locales. It has been reported that emergency care personnel in rural areas lack experience in the management of acutely ill and injured children, with higher death rates from trauma among children in rural settings (Abbott & Olness, 2001).

McManus, Newacheck, and Weader (1990) reported that nonmetropolitan adolescents made fewer physician visits and often postponed physician care compared to metropolitan adolescents. Despite the fact that rural adolescents were from families with higher rates of poverty, they were 20 percent less likely to be publicly insured. States considering partnerships with private insurers to implement the state-based Children's Health Insurance Program could lower premium costs by collecting data on previously uninsured children (Abbott & Olness, 2001).

Environmental hazards and injuries. There are a number of environmental hazards, physical injuries, residential fire hazards, drug use, and disease risks among rural children,

particularly those who reside and/or work on farms. Abbott and Olness (2001) reported that many farm-related activities produce dust from soil, hay, or grain, and children may inhale allergens or microbial agents such as coccidioidomycosis and blastomycosis. Additionally, farm children are exposed to a number of animals, such as dogs, cats, cattle, pigs, and sheep, all of which have the potential to spread allergens of infectious diseases, including campylobacter jejuni diarrhea, rabies, brucellosis, cryptosporidiosis, Escherichia coli 0157:H7 diarrhea, leptospirosis, and cat scratch fever. Children on farms also have the potential for exposure to clostridium species (e.g., gas gangrene) and to tetanus spores, are at greater risk of being exposed to Lyme disease, borrelia (i.e., relapsing fever), and Rocky Mountain Spotted Fever, and are at risk of being exposed to toxic gases in silos or near manure sites. Moreover, compared to their urban counterparts, children living on farms are more likely to be exposed to herbicides, insecticides, and allergens. Another potential hazard for children on farms is lead poisoning, which can cause learning disabilities, behavior problems, and neurological damage. This risk is compounded by the fact that many doctors do not view exposure to lead as entirely harmful or are unaware of the federal regulations for lead testing and exposure, and the fact that poor children typically do not see a doctor until they are sick and display severe symptoms. It is important to consider both local and regional differences when formulating screening recommendations and regulations, and to continually reevaluate federal regulations (Abbott & Olness, 2001).

Physical injuries, such as machinery accidents and unintentional firearm accidents, are also rampant among children either working or living on farms, despite efforts to educate parents on such injuries and intervention efforts for more supervision of children and adolescents. Furthermore, in terms of firearm accidents, compared to urban residents, children in rural

communities typically witness greater use of firearms among family members. Abbott and Olness (2001) reported that access to care and pre-hospital support have significantly contributed to minimizing the pediatric death and trauma rates in the US. Furthermore, greater access to quality care and training of pre-hospital providers in life support are warranted in the planning of trauma systems in rural communities. Additionally, Rausch, Sanddal, Sanddal, & Esposito (1998) reported that the leading cause of injury is motor vehicle crashes, followed by drowning, unintentional firearm injuries, deaths from house fires, homicides, and suicides. Deaths from suicide and firearms have increased, and violent deaths from injuries caused by firearms also are increasing. As a result, greater efforts for public health education and injury control strategies in rural communities are suggested. Another issue of concern in rural areas is fire hazards. Oftentimes, fatal fires are due to smoking, and individuals residing in mobile homes and trailer courts, particularly intoxicated individuals, are at increased risk of death from fire. Mobile homes, homes lacking adequate plumbing, and negligence on the part of adults are linked to death (Abbott & Olness, 2001).

Drugs and HIV. Abbott and Olness (2001) reported that drug use among rural adolescents is problematic, as it is in any geographic location. It is important to note, however, that the strong sense of community in rural neighborhoods plays a role in deterring drug misuse and abuse among rural adolescents. Consideration of the cultural identity of the community residents should be carefully measured prior to planning health promotion and drug awareness programs among parents of young children and adolescents. Health literacy is a related component that should be considered in community program planning. Participation in drug treatment may be helpful, and social support for the individual being treated is crucial, as is consideration of the impact on the individual's children and family members. Additionally, learning assessments for

parents and children, as well as consideration of specific learning abilities, should be incorporated into alcohol and drug intervention programs and educational curricula (Abbott & Olness, 2001).

HIV, another important issue, is understudied in rural America. Abbott and Olness (2001) reported that individuals at greatest risk include migrant and seasonal farmworkers, alcohol abusers, prostitutes, black women, and users of intravenous drugs and crack cocaine, as HIV is linked to frequent drug use. Rural-dwellers are less likely to receive regular prenatal care and HIV testing. Consequently, infants are at greatest risk for being born with HIV infection, which may be unrecognized initially. The stigmatization of having HIV also is a source of stress for many rural community members.

Rural-based disasters. Abbott and Olness (2001) reported that non-natural and natural disasters, such as floods, technological (e.g., radioactive, chemical spills), or conflict, economic collapse or inability to adequately respond to disasters, and population displacement are all realities for rural community dwellers. Compared to urban children, rural-dwelling children lack access to treatment for medical and psychological effects of disasters, which can include tornadoes, blizzards, forest fires, floods, hurricanes, earthquakes, avalanches, and chemical disasters related to train derailments or grain bin explosions. Such disasters undoubtedly have lifelong effects on families, particularly children and adolescents. Infants, preschool children, pregnant and lactating women, older adults, and handicapped individuals are at significant risk for dehydration, malnutrition, fatigue, and infections from lack of sanitation during a disaster. Likewise, if breast-feeding mothers are victims of a disaster, it is vital to provide adequate fluids, food, and a comfortable environment to allow for regular breast-feeding with their infants.

Shelter and protection from the elements also are important for children, as are protection from exploitation, abuse, and negative influences of some adults, particularly for those children who lack protection from family or a guardian. Symptoms of emotional trauma among children can vary greatly depending on age, and may not manifest themselves at all. Sometimes, children may regress developmentally, lose control of their bladders and/or bowels, or act more hyperactive, inattentive, aggressive, or withdrawn. Therefore, child health professionals should be actively involved in disaster situations in an effort to prevent posttraumatic stress symptoms. Additionally, monitoring can be performed by family members, caretakers, teachers, food servers, and other adults who deal directly with children during a disaster situation. Other intervention methods include developing predictable schedules as soon as possible, such as those for meals, bathing, and daily activities; resuming school programs as soon as possible; offering organized games, religious services, music, and recreation programs for children and adolescents; providing food, sleep routines, clothing, and toys that are familiar to young children; and, supporting parents as much as possible, particularly if depression symptoms are present or suspected (Abbott & Olness, 2001).

Public health recommendations. Abbott and Olness (2001) discussed the success of a rural pediatric emergency medical and trauma services project in increasing the knowledge and confidence of emergency care personnel in the management of acutely ill and injured children. The active involvement of well-trained medical personnel is crucial in the health promotion and recovery efforts in any community. Emphasis on identifying children who lack access to health care due to distance, financial disadvantage, or cultural factors is warranted, as is ensuring that these children receive the appropriate care, such as health education, immunizations, well-child visits, primary care, and emergency services in rural locales. Furthermore, secondary and tertiary

care must be readily available to both children and adolescents when necessary, particularly to those families who cannot access the private care system. Local health departments have an important role in assisting communities with achieving appropriate care for children, such as providing community members with a reliable infrastructure, the first to receive reports of communicable disease and should share the reports with residents, serving as a connecting link between statewide organizations and local agencies, and providing basic child health care in an economic and efficient manner. With the increasing dependence of rural community members on the public health system, there remains an increasing need for health care delivery via public clinics and novel health care systems. Many model health programs focus on the special needs of rural children in the provision of preventive care, such as home visits to rural children.

Health education involves the community to a large extent and includes individuals within the community to help identify health education goals and assist in the achievement of these goals. Common health education topics focused on safety include, sexual abuse, safety, violence, guns, discipline, TV, protection against infectious diseases, substance abuse, protection from environmental toxins, and dental hygiene. It is important for any health education program to be tailored to the age and lifestyle of the children and integrated with each visit to a primary care provider, particularly given the high degree of respect for physicians among rural-dwellers. Other health education efforts include educational videotapes in the waiting room, brochures, and advice from other members of the office staff. Public health nurses also have a unique role given their knowledge and commitment to the field of health education and health promotion (Abbott & Olness, 2001).

Abbott and Olness (2001) purported that immunizations are an important component to health promotion and health education, and warrant further research and publicity in

communities. Children are required to receive vaccines by the age of 18 months for protection against diphtheria, tetanus, whooping cough, bacterial meningitis, polio, hepatitis B, chicken pox, measles, mumps, and rubella. Additional consideration of immigrant patients and their children also is warranted. Similarly, well-child visits should include a general physical assessment, developmental testing, behavioral problem observation, screening for lead poisoning in suspected areas, screening for sickle cell disease in nonwhite populations, keeping immunizations current, tuberculosis screening for immigrant children, school-based fluoridation programs, and health education. Primary care in rural areas involves nurse practitioners, physician assistants, family practitioners, and pediatricians, all of whom have an important role in identifying and managing children whose parents may not deem their condition as necessitating specialized care. Moreover, training programs focusing on pediatric patients are crucial, as trauma teams, for example, are important in transporting injured children to the hospital. Previously discussed in this literature review is the utility of telemedicine in pediatric cardiology, psychotherapy for children and adolescents, and for those children too physically remote from specialized care services (e.g., neonatal disease/injury). An additional important consideration is that of transportation to these specialized care services for rural families that lack the necessary means of travel (Abbott & Olness, 2001).

Chronic Disease and Sentinel Events

Regardless of the common belief that rural populations have healthy lifestyles with advantages over their urban counterparts, many rural communities reported higher rates of chronic disease at the end of the 20th century than did urban communities. This difference may be attributed to the fact that rural communities as a whole are typically slower than urban populations to adopt unhealthy lifestyles, yet slow to also adopt healthy behaviors. Additionally,

rural areas often have low use of preventive health services even if such services are available and accessible to the public. Similar to the mental and oral health needs of rural communities, individuals with chronic disease face barriers unique to their urban counterparts, such as long distances to health care services, fewer individuals with health insurance, and few specialty clinics. The lack of health care providers and far distances within rural communities also present barriers to preventive health services for chronic disease (Arcury et al., 2005; Borders et al., 2004; Cacioppo & Hawkley, 2003; Davis & Magilvy, 2000; Dennis & Pallotta, 2001; Scariati & Williams, 2007). Additionally, rural health care providers face barriers due to heavy patient loads, travel time, and lack of accessible continuing medical education. Therefore, the increasing rates of chronic disease in rural areas may not only reflect behavioral changes, but a lack of access to health care services as well (Borders et al., 2004; Davis & Magilvy, 2000; Dennis & Pallotta, 2001; Glasser et al., 2003; Lee et al., 2003).

Despite a lack of extensive and conclusive research, rural health has been examined through the careful study of farmers, nonmetropolitan health centers, populations not adjacent to a metro area, and populations with less than 20,000 residents (Dennis & Pallotta, 2001). Health risks specific to rural areas include agricultural exposure to organic and inorganic airborne dusts and gases, microbes, fertilizers, insecticides, herbicides, fungicides, and diesel exhaust fumes, as well as physical and mechanical hazards, stress, and behavioral factors. With an increasing aging population, it is important to understand how long-term illnesses are affecting immediate and will affect future generations. The major perceived health problems among rural-dwellers are respiratory disorders, cancer, neurologic problems, injuries, skin diseases, hearing loss, and stress. Risk factors for chronic diseases include genetic, environmental, behavioral, social, and personal lifestyle. It has become increasingly important to examine risk factors for chronic

disease with the increase in stress, sedentary lifestyles, high-density population living, poor diet, crime, drugs, gangs, poverty, and pollution, which typically play a role in chronic diseases (Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Sampson, 2003; Scariati & Williams, 2007).

Cardiovascular disease. Pertaining to a variety of diseases, such as coronary heart disease, cerebrovascular disease, hypertension, stroke, and rheumatic heart disease, cardiovascular disease (CVD) involves several modifiable risk factors, such as high blood pressure, high cholesterol, cigarette smoking, physical inactivity, diabetes, and obesity. There was a reported excess of coronary disease in rural areas in the 1970s and 1980s, which may reflect lower socioeconomic levels as income in rural and farming communities decreased, or the increasing popularity of high-fat and high-calorie dietary intake, based on the traditional southern or country dietary patterns (Averill, 2003). Consequently, interventions for coronary heart disease in rural areas should address individual factors pertaining to smoking, diet, and obesity, in addition to community issues related to access to health care (Averill, 2003; Dennis & Pallotta, 2001; Leight, 2003).

Cancer. Research on the differences in cancer rates among rural versus urban communities has been inconclusive (Ayanian et al., 2000). Non-Hodgkin's lymphoma, leukemia, and female hormone-related, cervical, colorectal, bladder, prostate, lung, stomach, and brain cancers are the most common forms of cancer in rural areas, which may stem from environmental effects of pesticides, chemical solvents, and excessive sunlight with increased cases of melanoma among females. Agricultural communities commonly have higher levels of exposure to such pollutants as herbicides, insecticides, and fungicides that have potentially carcinogenic effects in humans and animals. The seemingly unexplained cancer rates among

rural dwellers may reflect differences in lifestyle factors (e.g., smoking, diet), and differences in mortality rates related to cancer may be due to poor access to care or differences in diagnosis and reporting patterns as compared to urban-dwellers. Treatment patterns for different forms of cancer, such as surgery to treat breast cancer and prostate specific antigen (PSA) screening, vary in rural areas as compared to urban locales. Therefore, further research on the variations in treatment and reasons for these variations is necessary to help understand how mortality rates are affected. It is important to note that even with the reduction in barriers based on socioeconomic status and access to health care, chronic conditions will not be immediately alleviated, nor will associated mortality rates decrease. However, additional research that will lead to a better understanding of economic barriers related to rural health and ways to eradicate these barriers are needed. Further research on cost-effective interventions specific to rural health, such as video interventions in waiting areas of community health centers, also is warranted (Ayanian et al., 2000; Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Ricketts, 2000).

Lung & respiratory diseases. Unlike other chronic diseases, lung and respiratory conditions are considered to be byproducts of toxic environmental factors rather than one's lifestyle alone (Arcury et al., 2005). Environmental factors include organic dusts, allergens, animal proteins, and other irritants that can lead to various airway diseases and complications. Common chronic conditions involving the lungs and respiratory system, particularly in rural areas, include chronic bronchitis, asthma, chronic obstructive pulmonary disease, hypersensitivity, pneumonitis, organic-dust toxic syndrome, and lung function changes. Again, barriers produced by poverty, geographic location, less health insurance, and poor access to health care providers are evident in the treatment of lung and respiratory diseases among rural populations. These barriers are evidenced in the higher asthma mortality rate in rural areas with

far distances to health care services compared to urban areas. Therefore, research on prevention and medical management of respiratory diseases in rural communities are needed (Arcury et al., 2005; Dennis & Pallotta, 2001).

Musculoskeletal disease. Reported as the most common cause of physical disabilities in the US, with more than 100 musculoskeletal diseases in existence, such disease among rural residents is typically seen in diagnoses of arthritis, particularly rheumatoid arthritis, as well as osteoarthritis and osteoporosis (Dennis & Pallotta, 2001). On the one hand, risk factors for osteoarthritis include injuries, obesity, and repetitive usage. On the other hand, osteoporosis pertains to immobility, thin body build, heavy alcohol use, long-term corticosteroid use, lack of estrogen replacement, smoking, physical inactivity, and low calcium intake. The aforementioned risk factors are primarily lifestyle factors, many of which can be modified, and account for the differences seen in rural versus urban populations. An understanding of the effect of musculoskeletal diseases among rural-dwellers depends upon a better understanding of the lifestyle factors related to such diseases and how these factors are manifested among rural populations (Dennis & Pallotta, 2001).

Neurologic disorders. Chronic neurologic disorders common among rural populations include Alzheimer's disease, Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis (Lou Gehrig's disease), Guillain-Barre syndrome, epilepsy, and migraine headache. These conditions are often attributed to the toxicological effects of pesticides, solvents, and other chemicals commonly utilized by farmers. Specifically, Parkinson's disease, Alzheimer's disease, and chronic encephalopathy have been attributed to rural residence due to exposure to agricultural chemicals, rather than genetics or lifestyle factors. Additionally, work in leather, manufacturing plastics, or exposure to heavy metals, organic solvents, and electrical shock have

been found to be predominant risk factors for amyotrophic lateral sclerosis, while genetic susceptibility, childhood virus, Caucasian descent, and residing away from the equator are common risk factors for the development of multiple sclerosis. In terms of Guillain-Barre syndrome, viral infections and residing in areas that lack running water (i.e., rural) are typical risk factors for the disease. Alternatively, epilepsy and migraine headaches do not have a higher prevalence in rural compared to urban areas, as these diseases' risk factors are more related to lifestyle factors, infections, and other disease occurrences, which are common in both rural and urban areas. Given the great distances that specialists are required to travel in rural areas, treatment is often inadequate or unavailable to those most in need. With further research, associations of rural residence and farming, among other rural-based occupations, may lead to a primary link between rural health and chronic neurologic diseases (Dennis & Pallotta, 2001).

Obesity and physical inactivity. Dennis and Pallotta (2001) reported that there are higher obesity rates among rural-dwellers, which also play a role in hypertension, diabetes, cholesterol, among other chronic conditions. Specifically, a link has been suggested between obesity and colorectal cancer, and coronary heart disease has been associated with obesity, as well as breast cancer with post-menopausal obesity. A moderate association also was reported between osteoarthritis and obesity, carpal tunnel syndrome and obesity, and thin body frame and osteoporosis, with the strongest link between obesity and diabetes. Physical inactivity has been associated with stroke, breast cancer, coronary heart disease, colorectal cancer, diabetes, and osteoporosis. Additional research on rural dietary and physical activity habits is needed to determine the effects of health behaviors – or lack thereof – on rural health (Dennis & Pallotta, 2001; Huttlinger, Schaller-Ayers, & Lawson, 2004; Leight, 2003).

Other chronic diseases. Rates of other common chronic disease among rural communities, such as hypertension, diabetes, and high cholesterol, may be on the rise due to a higher proportion of obese residents (CFRHC, 2005). Rural residents have reportedly higher age-adjusted rates for arthritis, cataracts, hearing impairment, orthopedic impairments, ulcers, diabetes, kidney problems, bladder disorders, hypertension, and emphysema, as compared to urban residents. This difference in chronic disease states may be due to rural-based environmental exposures, lower socioeconomic status, and reduced access to quality medical and rehabilitative care, as well as rural residents' higher rates of limitations in activity due to chronic conditions and a lower percentage of residents who perceive their health as excellent compared to their urban counterparts (CFRHC, 2005; Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Huttlinger et al., 2004; Ricketts, 2000). Moreover, there are differences evident in rural versus urban lifestyle factors, such as obesity, diet, exercise, and tobacco smoking that are related to chronic diseases in rural locations. The differences in chronic disease prevalence rates among rural, as compared to urban, residents can be attributed to rural life stress and lower education levels, which have the potential to lead to alcohol and drug abuse, child and spouse abuse, among other high health risk behaviors. Further research is warranted in the area of current trends in lifestyle factors, such as obesity and smoking behaviors, which can assist in planning for future rural health care needs (Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Huttlinger et al., 2004; May, Mendelson, & Ferketich, 1995; Scariati & Williams, 2007).

Infectious Diseases

Rural environments, particularly those located in the southern regions of the US, face a number of infectious diseases, many of which are typically remote from their urban counterparts. Individuals residing in rural communities are more likely to maintain occupations such as

agriculture and migrant work, or have hobbies consisting of hunting and trapping that increase the likelihood of exposure to microbes transmitted by animals and insects. Additionally, rural-dwellers are more often exposed to untreated or contaminated water associated with poverty or underdeveloped water and sanitation systems. Many physicians and other health care professionals train in urban or suburban settings and have minimal experience with infectious diseases associated with rural areas. It is important that a complete evaluation of rural patients includes a history of exposure to animals, insects, and water. Classic diseases such as plague and anthrax, as well as more novel conditions, such as *Hantavirus sp.* (Wells et al., 1997), are related to rural locales. Other common diseases in rural areas include zoonoses (Krauss et al., 2003), tick-borne diseases (Armitage & Sinclair, 2001), rabies (Finnegan et al., 2002), Rocky Mountain Spotted Fever (Masters, Olson, Weiner, & Paddock, 2003), Hepatitis A (Armitage & Sinclair, 2001), and HIV and AIDS (Cohn et al., 2001).

Gun Safety

Not only are rural residents faced with sometimes unavoidable infectious diseases, but environmental hazards, including accidental gun deaths, are very common in rural America. Approximately 40 million Americans regularly use rifles, shotguns, and handguns for hunting and target shooting. When these firearms are not being used, they should be safely and securely stored (National Shooting Sports Foundation [NSSF], 2007). The NSSF (2007) reported that firearms accidents in the home have significantly decreased over the last 20 years. Despite a lack of extensive empirical-based research, gun safety remains a critical issue, particularly in southern states such as Virginia, which currently has no formal gun laws in place. Based on the previous NRV health needs assessment conducted in 2000, gun safety, particularly the locking and securing of firearms in family homes, was a major finding and remains an imminent issue. This

is particularly true for families with small children, and special firearm safety procedures also should be considered by individuals who keep firearms in the home for personal safety reasons.

In an effort to keep children and families safe and to reduce the incidence of firearm accidents and deaths, *Project ChildSafe* has been established as the nation's largest firearm safety education program sponsored by NSSF (2007). Project ChildSafe aims to remind gun owners to properly store *unloaded* firearms in a locked cabinet or some other location safe within the home, practice safe firearm storage options in the home, store ammunition in a locked location separate from firearms and out of the reach of children, and ensure that firearms in the home are not accessible to anyone, especially curious children and young adults. Additionally, gun owners are encouraged to obtain Project Childsafe safety kits (e.g., cable-style gun locking device, lock installment instructions, safety booklet) from participating law enforcement partners in their state. However, only four counties in Virginia (i.e., Albemarle, Buchanan, Galax, and Lexington) participate in the program (NSSF, 2007). Therefore, efforts are encouraged to establish additional law enforcement partnerships with counties throughout the state of Virginia and across the nation.

Environmental Health Needs

An issue as important in urban communities as in rural locales is that of environmental health needs, which deserves further attention in the literature. Environmental health includes clean air and water supplies, neighborhood structure (e.g., inadequate or dilapidated housing), walking and bike trails (Brownson et al., 2000), adequate transportation, and protection from agricultural pollutants and chemicals (e.g., pesticides, fertilizers), and rodent/pest control. Additionally, environmental health refers to the built environment, which includes human-built homes, schools, workplaces, parks, industrial areas, farms, roads, and highways (Srinivasan,

O'Fallon, & Dearry, 2003). Environmental health is a broad topic that involves the study of the effects on human health of the physical and social environment, including issues related to urban and rural development, appropriate uses of land, pesticide use, public transportation systems, industrial development, and social capital (Srinivasan et al., 2003).

Health needs associated with rural populations tend to involve occupational risks and by-products of the local economy. For instance, farming communities are at risk of contaminated water supplies due to the pesticides and toxic chemicals used in farming. Additional occupational risks include farming machinery accidents, mining accidents, and manufacturing accidents. Teens employed on farms commonly report injuries such as insect stings, cuts, burns, and falls. Furthermore, a number of the industries involving natural resources, such as farming, food manufacturing, and forestry, are considered some of the most dangerous jobs in the US, producing the second highest rate of occupational injuries and illnesses. However, it is important to note that younger generations and individuals who migrate to rural locales for personal reasons do not hold traditional rural occupations, and are faced with nontraditional and oftentimes non-farming health risk factors (Elder et al., 2001).

A great deal of recent focus on the built environment pertains to the challenges of providing adequate transportation via roads, highways, infrastructure, public transportation; crime stemming from inadequate housing; air pollution due to increased traffic and chemical farming techniques; unhealthy indoor environments, including hospitals and vehicles; the lack of sidewalks; and, the dissipating natural environment (Srinivasan et al., 2003). It is important to note that daily exposure to and living in the above situations either positively or adversely affects physical activity (e.g., lack of sidewalks inhibits walking) and chronic conditions such as asthma, respiratory disease, obesity, cardiovascular disease, lung cancer mortality, and mental health,

most of which are attributed to a combination of genetics and the built environment. Healthy, sustainable communities are those where natural historic resources are preserved, jobs are available, sprawl is contained, neighborhoods are safe, education is readily available and continuous, transportation and health care are accessible to all, and all citizens have the opportunity to improve their quality of life (Srinivasan et al., 2003).

Currently, there are numerous national recommendations to create and maintain green infrastructures through the use of natural daylight, solar collectors, passive cooling, and nontoxic materials; harvesting rainwater; installing operable windows; creating pedestrian and bike pathways; and, placing plants, water, art, light, and natural air in buildings. These recommendations translate into enhanced health and occupational benefits and, hence, a healthier economy overall. An examination of the consequences of environmental health requires collaboration and a multidisciplinary research approach to environmental health that include public health researchers, health professionals, architects, builders, planners, transportation officials, as well as community members (Srinivasan et al., 2003).

Spiritual Health Needs

Another area that has been largely neglected in the recent literature is spiritual health needs in the rural community, specifically those of the Appalachian population and how spiritual health ties into general health needs. Simpson and King (1999) reported that health-related activities play a major role in religious activities in central Appalachia, where religion-health partnerships are a reasonable outlet to support health promotion activities and the reduction of health disparities within the diverse Appalachian population. By examining cultural implications of regional traditions of mountain religion, effective partnerships that support the health of central Appalachian populations can be established (Simpson & King, 1999).

Spirituality and religion are typically identified as separate entities (Anandarajah & Hight, 2001). Consequently, spirituality is a multidimensional term that includes cognitive or philosophic aspects such as the search for meaning, purpose, and truth in life, and the beliefs and values by which an individual lives, as well as experiential and emotional aspects such as feelings of hope, love, connection, inner peace, comfort, and support. There is a focus on an individual's inner resources, the ability to give and receive spiritual love, and the types of relationships and connections that exist with self, the community, the environment and nature, and the transcendent (i.e., power greater than one's self, value system, God, cosmic consciousness). The more behavioral aspects of spirituality include the manner in which an individual externally displays individual spiritual beliefs and inner spiritual state (e.g., prayer, meditation) (Anandarajah & Hight, 2001).

There have been numerous studies reporting on the new focus on spirituality in medical care and physician practice, purporting that many patients believe spirituality plays an important role in their lives, that there is a positive correlation between a patient's spirituality or religious commitment and health outcomes (e.g., greater longevity, coping skills, health-related quality of life; reduced anxiety, depression, and suicide), and that patients would like physicians to consider these factors in their medical care (e.g., Anandarajah & Hight, 2001; Chatters, 2000; Chatters, Levin, & Ellison, 1998; Koenig, 2001; Mueller, Plevak, & Rummans, 2001; Parker et al., 2002; Simpson & King, 1999). For instance, Anandarajah and Hight (2001) and Miller and Thoresen (2003) suggest that a spiritual assessment in conjunction with a general physician appointment is a practical means by which to incorporate a patient's spirituality into medical practice, and should include determination of spiritual needs and resources, evaluation of the

impact of beliefs on medical outcomes and decisions, discovery of barriers to using spiritual resources, and encouragement of healthy spiritual practices.

HOPE, the acronym for Anandarajah and Hight's (2001) proposed assessment tool, refers to sources of hope, strength, comfort, meaning, peace, love, and connection (H); the role of organized religion for the patient (O); personal spirituality and practices (P); and, effects on medical care and end-of-life decisions. Likewise, Mueller, Plevak, and Rummans (2001) suggested that physicians should take a spiritual history. Similar to a social history, a spiritual history emphasizes both the positives and negatives of spiritual effects on health, to determine whether religious or spiritual beliefs are used to cope, are evoking religious struggles, are likely to influence medical decisions, or are responsible for other special needs with which trained clergy may assist (Mueller, Plevak, & Rummans, 2001).

Consideration of spirituality is important, given the positive relationship between religious commitment and mental and physical health and well-being, and spirituality's role in the prevention of illness such as depression, substance abuse, and physical illness, coping with illness, recovery from illness (Anandarajah & Hight, 2001; Miller & Thoresen, 2003; Mueller, Plevak, & Rummans, 2001), as well as daily stressors and discrete adverse life events (e.g., bereavement, ethnic discrimination) (Chatter, 2000). Therefore, collaborations and faith-based coalitions among public health professionals, clergy, and community members are crucial in effectively incorporating non-denominational spirituality that is free from racial disparities in the public health sector (Chatters, 2000; Chatters et al., 1998; Parker et al., 2002; Simpson & King, 1999; Sutherland, Hale, & Harris, 1995).

Acknowledging a sense of spirituality in one's life helps him/her cope with life's most challenging circumstances, such as chronic illness. The resurgence in interest in connection of

spirituality, public health, and well-being must encompass recent theoretical, conceptual, methodological, and analytic refinements in determining the nature of religious phenomena and the linkages between spirituality and health (Chatters, 2000; Koenig, 2001). The increasingly aging society, with its increasing health care costs, will be well served to examine creative methods to address the impending health care crisis in conjunction with the religious community and health care industry (Parker et al., 2002).

Koenig (2001) reported that currently, the National Institutes of Health has hosted several spirituality and health-focused conferences and is funding research efforts to understand the effects of religion on health. Additionally, all major US Department of Health and Human Services divisions have been granted a presidential mandate to encourage active research on faith-based community organizations that offer mental health and substance abuse services and the removal of barriers to those services. Future unbiased research will reveal knowledge of the relationships between spirituality, health factors, and health outcomes, and will advance public health practice with both individuals and groups (Chatters, 2000; Chatters et al., 1998; Koenig, 2001; Miller & Thoresen, 2003; Sutherland et al., 1995).

Rural Residents' Quality of Life

Perceptions regarding the quality of life in a community should be examined carefully, as factors such as age, socioeconomic status, gender, and ethnicity may affect one's perceptions. Additionally, each community resident has a different set of priorities that constitute quality of life and has the potential to negatively affect one's perceptions of the quality of life in the community. For instance, one's prioritization of convenience in terms of shopping centers, post offices, and other daily or weekly necessities may be drastically different from those residents with priorities in the areas of education, older adult communities, or transportation. The cost of

living in the community may also affect one's perceptions of the quality of life, particularly if the individual is in the lower economic strata and earns $20,000 or less per year, or if he/she spends beyond his/her yearly budget due to prescription drug costs, for example. Furthermore, many older adults and others must purchase prescription drugs, and if they are under-/uninsured and required to pay out of pocket, their finances are adversely affected, which in turn, affects their actual and/or perceived quality of life.

One's overall satisfaction with and attachment to the neighborhood, as well as support within the community, plays a role in his/her perceptions of quality of life, life satisfaction, and community satisfaction (Cummins, 2001; Sirgy & Cornwell, 2002; Theodori, 2001; Whitener & McGranahan, 2003). Moreover, one's overall perceptions of quality of life may affect his/her relationships with family members and/or neighbors, with more negative perceptions leading to unconstructive relationships. Quality relationships with others foster good mental health, which can lead to more positive perceptions of quality of life. Alternatively, the negative quality of relationships can affect one's perceptions of others in the community, further leading to a diminished quality of life and negative mental health status (Cummins, 2001; Sirgy & Cornwell, 2002; Theodori, 2001; Whitener & McGranahan, 2003).

Residents who do not feel connected to the community will typically report a lesser quality of life and lower individual well-being than those who are actively involved in the community through volunteer opportunities, close relationships with neighbors, and civic and recreational activities (Theodori, 2001). However, overall, residents of small towns typically report a higher quality of life and satisfaction with the community than do their counterparts from suburban areas or cities (Prezza & Costantini, 1998). Feeling safe in the community is another factor that may affect one's perceptions of the quality of life in the community (Fried,

1982). Lack of safety or the perception that the community is unsafe has the potential to negatively affect one's quality of life. One's feelings of a lack of safety in the community may be dependent upon the particular vicinity in which one resides (e.g., the good side of town versus the bad side), or the effectiveness of the local police department (e.g., sufficient police protection).

One's overall health status may also affect his/her perceptions of quality of life (Donatelle, 2008). Interestingly, Albrecht and Devlieger (1999) reported that individuals with serious or persistent disabilities experience a good or excellent quality of life despite their disabilities or ailments. However, it is important to point out that a high quality of life despite illness may be due to the fact that at least some of these individuals possess extensive health insurance and can easily access the health care system. Of course, not all residents with disabilities or illness will report a high quality of life; however, illness as it relates to one's quality of life should be carefully considered (Dennis, Williams, Giangreco, & Cloninger, 1993). Furthermore, an increasing focus on disease prevention that improves quality of life has the potential to motivate individuals to change health risk behaviors earlier in life and ensure a maximum number of healthy years (Donatelle, 2008).

The Rural Health care System

A major factor that likely affects residents' perceptions of the community health care system is the extent of use by the residents and their family members. Those residents with extensive use of the local health care system typically have more experience on which to base their perceptions. Alternatively, some residents may not have had a need to access the health care system on a regular basis, or did not have the proper insurance to access necessary health care services. Such residents will either report neutral (i.e., neither positive nor negative) perceptions

given their lack of extensive experience with the health care system, or negative perceptions based on their overall experiences with the health care system. Another factor that affects residents' perceptions of the local health care system is the amount of health care services and programs that are offered in their community (Rahtz & Sirgy, 2000) and consumer satisfaction with individual community services (Sirgy, Rahtz, Cicic, & Underwood, 2000).

Support for preventive health services in rural areas is oftentimes lacking. Privacy, or lack thereof, is a barrier to prevention programming and service delivery, particularly in rural communities that are typically value-focused. Furthermore, special attention must be paid to the geographical distance between rural residents, as well as low population density, when planning and implementing prevention services. Coordination among mental health and substance abuse services and primary health care service delivery is typically poor in rural locales. A shortage of professional resources, specialists, inadequate distribution of services, and professional orientation for service providers limit collaboration among care providers (Averill, 2003; Ayanian et al., 2000; CFRHC, 2005; Davis, 2004; Eberhardt & Pamuk, 2004; Glasser et al., 2003; Huttlinger et al., 2004; Jensen & Royeen, 2002; Levin & Hanson, 2001; May et al., 1995; Ricketts, 2000; Roux, 2001; Wagenfeld et al., 1997). Consequently, further research and evaluation are warranted, particularly in identifying the most efficient organizational and treatment approaches to mental health and primary health care service delivery in underserved rural areas, including the implementation of free clinics (Averill, 2003; Ayanian et al., 2000; CFRHC, 2005; Davis, 2004; Eberhardt & Pamuk, 2004; Glasser et al., 2003; Levin & Hanson, 2001; Roux, 2001; Scariati & Williams, 2007; Springett, 2001; Wagenfeld et al., 1997).

Health care reform, including prescription drug coverage, remains at the top of political agendas and managed care systems. There also is an increasing emphasis on acute intervention,

lack of attention to disease prevention and health promotion, disintegration of care, high costs, barriers to access of care, an increasing uninsured/underinsured population, and lack of accountability for health outcomes (Ayanian, Weissman, Schneider, Ginsburg, & Zaslavsky, 2000; Ayanian, Zaslavsky, Weissman, Schneider, & Ginsburg, 2003; Cacioppo & Hawkley, 2003; CFRHC, 2005; Davis & Magilvy, 2000; Huttlinger et al., 2004; Springett, 2001). Moreover, lack of health insurance is not a temporary challenge for many nonelderly, uninsured Americans and warrants continued attention (Ayanian et al., 2000; Ayanian et al., 2003; Wu & Ringwalt, 2005).

In regard to mental health services in rural communities, Druss and Rosenheck (1998) reported that individuals with mental disorders often face substantial barriers to obtaining and maintaining health insurance and necessary health care. Oftentimes, individuals diagnosed with a mental disorder will experience difficulty in obtaining health insurance due to denial for a preexisting condition, and be more likely to remain in their current employment for fear of losing their health benefits. Individuals with mental disorders also are more likely to delay seeking care or unable to obtain necessary medical care as compared to their insured counterparts without mental disorder. Moreover, even individuals with insurance may face substantial out-of-pocket expenses in terms of copayments and services not covered by their insurance (Druss & Rosenheck, 1998). Likewise, among individuals in need of substance abuse treatment, those who are uninsured are less likely than those who are insured to report satisfaction with care, to maintain their treatment(s), and to receive residential program treatment that provides continuing support throughout the abstinence and recovery processes (Ayanian et al., 2000; Wu & Ringwalt, 2005). In order to effectively meet these varying needs, Cacioppo and Hawkley (2003) suggest a national health care plan that focuses on preventive medicine, recognizes stress-related disorders

as a mental health need, and supports the maintenance of social capital across the life span (Sampson, 2003).

Regardless of insurance status, individuals who report mental disorders, substance abuse problems, or chronic illness often experience significant barriers to receiving necessary medical care, such as low education levels, language barriers, fear of stigma or discrimination, or financial difficulties (Druss & Rosenheck, 1998; Roberts et al., 1999; Wu et al., 2003). Restricted provider panels, with or without a utilization review, may prevent many individuals from obtaining necessary specialty care even when they are insured and have a primary care provider (Ayanian et al., 2000; Casey, Klingner, & Moscovice, 2002; Druss & Rosenheck, 1998; Hartley, Britain, & Sulzbacher, 2002; Huttlinger et al., 2004; Ng, Bardwell, & Camacho, 2002; Wu & Ringwalt, 2005). Additionally, public-sector managed care is often characterized by insufficient access to necessary care, limited choices of plans and providers, and a lack of continuity of care for individuals with severe mental disorders (Wu et al., 2003). Therefore, a sound solution must incorporate more than the provision of insurance benefits or access to general medical providers.

Equity in access to publicly-funded programs is a fundamental principle underlying a fair health care system and warrants further attention, particularly for individuals with reported mental disorders, substance abuse problems, and socially and economically disadvantaged subgroups. Expanding public insurance coverage to the young and uninsured, or restructuring the support provided through these services, will aim to improve access to substance abuse and mental health services among individuals in need of such services (Ayanian et al., 2000; Ayanian et al., 2003; Davis, 2004; Druss & Rosenheck, 1998; Wu & Ringwalt, 2005). Furthermore, new policies are necessary to improve access to and quality of alcoholism, drug abuse, mental health

treatment, and other medical care across ethnic minorities and diverse populations, both insured and uninsured, as well as programs that aim to fully meet individual needs (Ricketts, 2000; Wells et al., 2001). In that universal health care coverage is a major objective, greater efforts and collaboration among policymakers and health care professionals are necessary to increase community support for programs and policies that expand health care access and health insurance coverage to all citizens (Ayanian et al., 2000; Berkowitz, 2004; Davis, 2004; Glasser et al., 2003; Jensen & Royeen, 2002; Leight, 2003; Ricketts, 2000; Wu et al., 2003).

Theories and Models of Health Assessment

There are a number of applicable health assessment and health promotion theories and models. However, given the diverse needs of rural populations and the fact that many theories are based on individual autonomy and purpose of urban populations, many theories fail to encompass the needs and characteristics of smaller, more traditional rural communities. Additionally, many theories call for detailed, thorough individual measurement, which makes them less efficient for use with populations not accustomed to sophisticated instrumentation, with low literacy levels, or programs with limited or no resources for measurement activities. Nevertheless, individual-tailored theories form the foundation of comprehensive and successful health behavior programs and evaluation methods. Furthermore, theories provide a conceptual framework that encompasses psychosocial, social network, and community change theories and models (Elder et al., 2001). The following, although not a comprehensive list, provides a discussion of the theories and frameworks most pertinent to the study of community health needs assessment.

Communication-Persuasion Model (CPM)

Another stage-based model, McGuire's communication-persuasion model, focuses on how communication can effect change in individual attitudes and behaviors. CPM involves a type of input-output matrix to depict stages (outputs) leading to behavior change, and how progress via these stages is assisted by various forms of communication (inputs). On the one hand, the inputs involve qualities of the communicated message that can be manipulated and controlled by health promotion campaign designers, and describes the who, what, where, when, how, and why of the message. On the other hand, outputs refer to the information-processing steps that are required to be evoked in the individual receiver of the message (Elder et al., 2001).

The components that are involved in the communication process include the source, message, channel, receiver, and the destination. The source refers to the communicator of the message. Persuasive impact may be influenced by factors such as age, gender, ethnicity, credibility, and socioeconomic status. Message involves the information that is communicated and factors such as delivery style, content organization, length, and repetition. Channel refers to the mode of communication, including face-to-face, print (e.g., newspaper, brochures), broadcast, and electronic media (e.g., computer, Internet). Characteristics of the receiver include age, education, intelligence, and demographic variables that are and should be considered when designing a public health campaign. The final component, destination, includes the target behaviors and issues, such as long-term versus short-term change and specific versus general behaviors. Alternatively, outputs involve the temporal process and stages of change, from the initial communication to long-term maintenance of change. There are a total of 12 output steps, including exposure, attention, liking, comprehension, skill acquisition, attitude, change, memory storage, information search and retrieval from memory, decision based on retrieval, behaving in

accordance with decision, reinforcement, and consolidation, all of which are necessary for successful communication and must occur in the specified order (Elder et al., 2001).

CPM has been used in the program design and evaluation of changes related to practical health communication and public health messages, such as via mass media, face-to-face exchanges, words, pictures, music, or other audiovisual or symbolic methods (Elder et al., 2001). The success – or lack thereof – a communication program is based on the following factors: (1) how much access the target audience has to the information (e.g., does the majority of the target audience own a television?); (2) whether people were actually exposed to the media advertisement (e.g., were posters visible to all patrons in area community centers?); (3) whether the target audience acquired sufficient knowledge and skills to perform the target behavior (e.g., how much exposure is sufficient for the campaign to promote behavior change?) (4) whether the target audience actually has the opportunity to perform the behavior (e.g., new skills should be appropriately taught, or clinics from which to obtain free flu shots should be available to all residents); and, (5) whether short-term adoption can be reinforced through succeeding communication approaches. Likewise, social marketing is the application of communication and marketing concepts to the design, implementation, and management of health and safety promotion programs, for example. Social marketing has been applied to programs that create awareness of a health issue, problem, or solution; create demand for health services or support for individual or community action; teach skills; and, prompt and reinforce the maintenance and generalization of beneficial behavior change. Furthermore, social marketing can be applied to CPM's output variables, particularly obtaining people's attention and promoting knowledge regarding a specific health issue (Elder et al., 2001).

Social Ecology Model (SEM)

Community and ecological models are important to consider within communal, rural areas, particularly because there is a focus on the interpersonal level, as opposed to solely focusing on health at the individual level. SEM purports that individual behavior stems from the overall social context of his/her life, and argues that any effort toward health promotion must target behavior change at multiple levels and foster a health-promoting attitude among community members to make appropriate health-related decisions on a regular basis. An example of utilizing SEM in a community setting would be constructing weight management clinics within obese communities to improve individuals' and communities' overall health. However, an individual's desire to change his/her behavior may be hindered by such factors as economic, social, and cultural limitations. Therefore, SEM suggests the combination of individually-focused efforts for change with modifications to the physical and social environments (Elder et al., 2001; Sallis & Owen, 2002).

Bronfenbrenner, a highly proclaimed social ecology theorist, identified three levels within SEM: (1) microsystem, which includes interpersonal relationships in the home, at school, and in the workplace; (2) mesosystem, which describes interactions between the aforementioned settings; (3) exosystem, which refers to large social systems, such as the impact of economics and politics. Likewise, four sets of environmental factors have been applied to the area of health promotion, including physical settings (i.e., natural environment), organizational (i.e., size and function of the organization), human aggregate (i.e., sociodemographic or sociocultural characteristics of the population), and social climate (i.e., aspects of the environment that indicate current amount of social support). Given the above factors, it is increasingly important that public health practitioners and researchers include the unhealthy aspects of rural

environments. Health behavior change over the long haul is most probable in an environment that fosters a shared sense of responsibility among its inhabitants (Elder et al., 2001; Sallis & Owen, 2002).

Social Marketing

Although not a theoretical model on its own, per se, media advocacy considers both health communication and applied behavior analysis theories and models of community change. Media advocacy integrates social marketing and health communication with policy changes and positive and negative reinforcement to reduce or remove knowledge gaps in the community, specifically targeting tobacco, alcohol, weapons, and other manufacturers that only increase the nation’s morbidity and mortality rates (Elder et al., 2001; Finnegan & Viswanath, 2002; Glanz, 2002). Today’s media promotes health as an individual responsibility, rather than a shared responsibility among all levels of society, particularly celebrity diet commercials that heavily promote the concept of instant results and deemphasize any risks with using the product in question. In order to have a more societal responsibility for health, the government should actively structure environments to reinforce healthy behaviors and downplay the glamorization of unhealthy behaviors (e.g., alcohol commercials). However, the general public must voice its concerns and opinions in order to effect the necessary change (Elder et al., 2001).

Community-Oriented Primary Care (COPC)

A model that has been increasingly cited in the literature is COPC, which can be applied to children, adolescents, middle-aged and older adults. Glasser and colleagues (2003) discussed the use of COPC in community service-learning projects that link education to medical health and merge clinical practice with population-based medicine. Such projects include community engagement, needs assessment and problem definition, resource identification, program

development and implementation, and program evaluation. With a focus on meeting the *Healthy People 2010* objectives and the target population's needs, COPC offers collaboration between an academic medical center and rural community agencies, such as local health departments, area primary care providers, public school system, and rural citizens themselves. Furthermore, COPC maintains an interdisciplinary framework for health professions education, research, evaluation, policy development, and community outreach. Examples of COPC projects that have proven successful in rural communities include farm safety meetings, antismoking programs, health education on high cholesterol geared toward county public health nurses, and banning efforts against the use of tobacco by minors in public places. Specific issues that have been addressed via the planning and conducting of COPC projects include barriers to care, health screening, health promotion/prevention, behavioral risk reduction, understanding the nutritional practices of low-income populations, increasing immunization access and adherence in rural communities, and developing teen pregnancy prevention programs. Further research on the value of continued partnerships between academia and rural communities is warranted (Glasser et al., 2003).

Community As Partner (CAP) Model

A model, previously discussed in the present review of the literature, which has been utilized by community health nurses and is appropriate for rural communities, is the CAP model. The model calls for community members to play an active role in identifying, prioritizing, and solving problems. According to CAP, findings from a survey would be presented to community members and agencies in order to assist them in setting priorities for health care in their communities. Following the setting of priorities, ad hoc committees or agencies would establish realistic goals and objectives to address the identified problems. Moreover, CAP encourages the

active involvement of community members in community health priorities, goals, and strategies (Anderson & McFarland, 2000; Huttlinger et al., 2004).

Vulnerable Populations Conceptual Model

Another model that has been successfully applied to rural populations, albeit lacking extensive research, is the vulnerable populations conceptual model, to rural health, particularly with women and children, ethnic groups, gay men and lesbians, immigrants, the homeless, HIV-infected individuals, drug-dependent individuals, and older adults. This particular model focuses on social groups that are highly susceptible to adverse health outcomes, such as premature mortality, comparative morbidity, decreased functional status, and diminished quality of life. The vulnerable populations framework purports that there are interrelationships among resource availability (e.g., personal traits, ties between people, environmental factors, associated factors such as crime, social status, social capital, human capital), relative risk, and health status. More specifically, resource availability refers to socioeconomic and environmental resources, such as income, jobs, education, housing, availability of health care, quality of health care, and patterns of family and community life. Relative risk concerns the likelihood of exposure to risk factors, such as through lifestyle behaviors, personal choices, and stressful events, as well as premature mortality, comparative morbidity (i.e., dependent upon one's risk of poor health at any given time in his/her life), decreased functional and mental status, decreased ability to work, limitations in activity, and diminished quality of life. Health status refers to morbidity and mortality, and encompasses physical, mental, and social well-being, including the quality and quantity of social contacts and relationships with others (Leight, 2003).

Leight (2003) proposed that the vulnerable populations conceptual model is particularly relevant for rural populations in that the presence or lack of both material and nonmaterial

resources available to rural residents vary greatly due to existing social arrangements. For instance, illness in a susceptible community may deplete the amount of already limited resources, further increasing the relative risk of poor physical, psychological, or social health of community members. Future research is required to continue to inform research, practice, and policy on the opportunities and resources necessary to achieve and maintain health in rural communities. Specifically, future research is warranted on the effect of community interventions on rural health outcomes and to understand the experience of being a member of a vulnerable population, as well as the development of multiorganizational collaboration that aims for primary (e.g., deter high-risk behaviors such as seatbelt safety courses), secondary (e.g., screening and early detection such as mobile mammography), and tertiary (e.g., minimizing impact of chronic illness such as cardiac rehabilitation programs) levels of prevention (Leight, 2003).

Population-Based Approaches

Population health refers to the factors that influence the well-being of individuals and groups, such as the social and cultural environment, physical environment, biology or genetic endowments, behavioral factors, personal qualities, and spiritual factors (Huttlinger et al., 2004). Lynn and colleagues (2007) proposed the bridges to health model, which divides the population into eight specific groups, including people in good health; in maternal/infant situations; with an acute illness; with stable chronic conditions; with a serious, stable disability; with failing health near death; with advanced organ system failure; and, with long-term frailty. Examples of such groups include the nursing home population, hospitalized population, home health care population, and a public health office-based care population. However, it is important to note that individuals of any age, from young to old, can fit into any given category based on their health needs and priorities, and can transition from one group to another at any given time. Each

of those groups has its own definitions of optimal health, as well as individual priorities among services. Viewing health care in terms of individual group needs as a “bridge to health” can assist in the planning of patient-centered, timely, and equitable resources, care arrangements, and service delivery in order to adequately meet each individual’s health needs in the most efficient manner possible.

Another population-based approach to health care, specific to Appalachia, was proposed by Huttlinger and colleagues (2004), the Community As Partner Model (CAPM), which can be used by communities to help structure interventions aimed at screening for depression, managing prescription medications, and identification of low-cost and free preventive, dental, vision care, and specialty services for individuals with chronic respiratory and cardiac disease, for example. CAPM is an important model to consider in rural settings, as Southwest Virginia has a primary care provider-to-population ratio that is significantly lower than that designated to be considered a health profession shortage area, as well as a population that has a higher morbidity rate than the rest of the state and poorer perception of health. Two additional pertinent needs among rural-dwellers are affordable health insurance and low-cost prescription drugs, as rural dwellers tend to share their prescription drugs with household members to eliminate excessive out-of-pocket costs, follow-up fees, uncooperative physicians, and due to a lack of medical or prescription coverage. These needs, as well as the consideration of Appalachian culture, are important in the development of policy for this unique area of the US (Huttlinger et al., 2004).

Related to the concept of population health, summary measures of population health, including health-adjusted life expectancy, are being used more frequently for the purposes of monitoring the health status of regions and to evaluate public health interventions that indicate the health status of a population. McDowell, Spasoff, and Kristjansson (2004) proposed a more

detailed approach to measuring population health that includes health indicators, which are classified based on their application (i.e., descriptive, prognostic, explanatory), according to the conception of population (i.e., as an aggregate), and according to the underlying model of health, all of which include indicators of a population's health. A more broad approach to population health should include outcome variables, such as morbidity and mortality indexes, as well as direct measures of health processes within the population in question.

Population measures may include scales such as disability indexes to describe current health status, and are used in surveys or as diagnostic tools for individuals, and in determining needs for care or disease burden in groups. Prognostic measures determine future health status, such as screening tests or indicators of risk and prognosis on an individual basis, as well as general demographic projections of disease burden at the population level and sustainability potential. Population-based measures also can be used to retrospectively explain why some individuals are healthy and others are not, such as individual environmental exposures, genetic factors, personality, and social determinants of health status (e.g., income inequality). Evaluation is another method that can determine current health status that is sensitive to small changes in health utilizing continuous numerical scales, while recording intervention outcomes at the individual level and monitoring the program's or policies' impact at the societal level. These measures are further categorized as aggregate (e.g., data combined from individuals and summarized regionally/nationally, such as rates of lung cancer), environmental (e.g., external factors, such as air or water quality, and global indexes (e.g., policies for equity in access to care), as well as according to contrasting models of health, including biomechanical, holistic, and dynamic (McDowell et al., 2004).

Social Theory

Another important model, social theory, has been applied to rural health research and practice, specifically, population and public health. The theory considers the determinants of health and local citizens' mobilization for social change and develops public health programs based on the aforementioned factors, and examines how individuals live their lives in their social conditions. By incorporating social theory into current public health practice, issues that are commonly referred to as social problems are reinterpreted within a health framework. For example, illicit drug use programs now utilize a harm-reduction model that involves access to psychosocial rehabilitation services and low-threshold drug treatment in supervised injection sites (Potvin et al., 2005).

One's health is affected not only by physical conditions in which he/she lives, but also by the different social strata, such as socioeconomic factors, race/ethnicity, gender, and stages of life. Another influence on health and disease states is social organization, which is defined by relationships created among and between various strata. An ideal social-change program in public health seeks to establish partnerships with all involved parties in a community, which are concerned with specific health issues within the community and whose goals and purposes depend on context, knowledge, and broad partnerships and interactions with other agents of change and action. Hence, the characteristics of public health programs to adapt, innovate, and propose pertinent, effective, and transformative actions in response to local dilemmas are able to be utilized effectively in innovative programs and evaluation activities among public health practitioners, educators, policymakers, and researchers (Potvin et al., 2005).

Community Readiness

A new model, community readiness, has been proposed in the literature and focuses on a community's readiness to address a specific issue. The model purports nine different stages, including no awareness, denial, vague awareness, preplanning, preparation, initiation, stabilization, confirmation-expansion, and professionalism. The intervention that is put in place is dependent on a community's level of readiness, where those communities in the earlier stages require more information than their later-stage counterparts regarding specifically how the behavior fits into the social environment. Furthermore, community readiness seeks to understand the community's readiness to support changes in the environment to promote positive behavior change (Elder et al., 2001).

Adaptability of Theoretical Models to Rural Communities

Several theoretical models have been applied to a number of issues within rural communities, and consider the unique needs and characteristics of rural communities. For instance, the theory of reasoned action (TRA) has been applied to seatbelt safety among urban versus rural women, where differences have been reported in the attitudes and subjective norms of intenders and nonintenders to use seatbelts. Additionally, TRA has been utilized in the prediction of adolescents' behavioral intention in the safe operation of farm equipment, with the strongest predictor being one's subjective norm. Likewise, the theory of planned behavior has been used to examine factors that determine influences on parents' decisions to expose their children to various hazards on family farms, where behavioral beliefs have been reported as stronger predictors of behavioral intentions, as opposed to subjective norms or perceived control. The stages of change model has been used in the areas of dietary change, smoking,

mammography, and exercise; however, there is a dearth of research that evaluates the efficacy of stage-based interventions for promoting health in rural communities (Elder et al., 2001).

As one might expect, family systems theory has been very applicable to rural populations, given their close family ties and reliance on extended kin members. While roles within the family can have an impact on health behaviors, community organizing holds promise in offering community-based alternatives to health care and collaboration among agencies that are typically lacking in necessary resources in rural communities (Biel, 2002; Elder et al., 2001; Leight, 2003). Likewise, the social ecology framework is applicable to rural communities in that rural-dwellers feel a unique connection to the land, to family, and to the community/surrounding environment itself, which is particularly prevalent in rural Appalachia. Unlike their urban counterparts, whom are fairly concentrated within the community, rural-dwellers must rely more on the use of mass media to promote health among residents. However, it should be noted that residents who are of lower socioeconomic status may not own a television, radio, or other mass media outlet and, therefore, alternative means of contacting such individuals should be addressed. Additionally, McGuire’s theory is appropriate for use with risky rural behaviors, such as safe operation of farm equipment (Elder et al., 2001).

Mobilizing for Action through Planning and Partnerships (MAPP)

Overview

Originally developed by the National Association of County & City Health Officials (NACCHO) in 2001, one component of MAPP, a community-wide strategic planning tool and framework for improving community health, was implemented in the present study to determine NRV residents’ perceptions of the quality of life and local health care system. MAPP is typically facilitated by public health leaders as a means to assist communities with prioritizing public

health issues and identify resources for addressing needs and issues. Community ownership is key to the MAPP process, as community participation results in collective cognition and effective solutions to the community's problems. Given that the community's strengths, needs, and desires drive the MAPP process, the framework provides a community-focused initiative. Hence, community participation from and collaboration among an array of public, private, and voluntary organizations and individuals, including community residents, is crucial in positively affecting the public's overall health (NACCHO, 2001). Below is a discussion of the MAPP components, including the *Community Health Status Assessment,* which was implemented in the current qualitative study.

MAPP is comprised of four individual assessments: (1) organize for success/partnership development; (2) community themes and strengths assessment; (3) local public health system assessment; and, (4) community health status assessment. Additionally, four components complete the process, including a forces of change assessment, identification of strategic issues, formulating of goals and strategies, and the action cycle. Each assessment and final component influences the next in a cyclical manner and is discussed below in further detail.

Organize for Success/Partnership Development

In order to initiate the MAPP process, leadership organizations in the community organize themselves and prepare to implement MAPP in their community. Community-wide strategic planning requires regular participation from and involvement among partners, stakeholders, and the community residents who are recruited for the process. Careful preparation is key to this phase in order to produce a planning process that builds commitment, engages participants, uses participants' time well, and results in a plan that can be implemented successfully. The aforementioned activities are important to setting a community on the path

toward a successful community health improvement process utilizing the MAPP framework. The two major activities during this phase are to organize for success, which is when a decision is made to undertake MAPP and the planning process is outlined, and a partnership development, when participants, including the MAPP Committee, are identified and recruited (NACCHO, 2001).

NACCHO (2001) purports six main steps in this first phase of MAPP. In Step 1, the committee must determine the necessity of undertaking the MAPP process, which will help better focus planning efforts and assist in the recruitment and involvement of participants. Additionally, participants should consider the benefits they hope to achieve from the process and the obstacles that may present themselves during the process. For Step 2, participants from local public health system partners, other community organizations, and community residents are identified and recruited. It is important to make clear for the participants their expectations, time commitments, and the way in which to best organize the group. Likewise, there should be subcommittees that are formed to work on various activities in conjunction with the MAPP Committee, such is the case with PATH. Step 3 calls for designing the planning process by answering three questions: “What will the process entail?” “How long will it take?” “What results are we seeking and how will we know when we are finished?” and, “Who will do the work?” Consequently, all of the MAPP phases should be continually reviewed and utilized to develop a timeline and plan to most efficiently meet the community’s needs.

Step 4 in the first MAPP phase involves assessing resource needs, such as meeting space, refreshments, report production and printing, and costs associated with information gathering and data collection, and securing participant commitment. Oftentimes, resource needs can be met via in-kind donations from organizations involved in the MAPP process. In Step 5, a readiness

assessment is conducted based on the information that is revealed in the previous four steps. Hence, the readiness assessment should indicate that all of the necessary elements are in place for the MAPP process to begin. Finally, Step 6 involves managing the process, including paying attention to the numerous details affecting a community planning process, and developing a project proposal, master calendars, and meeting agendas, as well as clarification of assignments and outlining the administration of the work (NACCHO, 2001).

Visioning Process

The second phase of the MAPP process is the visioning phase, which involves a shared vision and common values to provide a framework for pursuing long-term community goals to achieving the ideal healthy community. A vision statement provides focus, purpose, and direction to the MAPP process to ensure that all participants share the same vision for their community. Visioning is performed at the beginning of the MAPP process, which provides a sense of enthusiasm for the process, sets the stage for planning, and provides a common framework for the proceeding phases. During this particular phase, community leaders, organization members, stakeholders, and community members answer the following key questions: (1) “What does a healthy community look like?” (2) “What are the characteristics of a healthy community?” (3) “What would we like our community to look like in 5-10 years?” These questions can be tailored to meet a specific community’s needs to enforce community ownership or more broadly formulated (NACCHO, 2001).

There are five individual steps to the visioning phase of MAPP. In Step 1, the MAPP Committee reviews other community efforts that may have involved a visioning phase. If there was a previous visioning phase involved, it is crucial to connect that vision with the MAPP process. Step 2 involves one of two possible ways to delineate the vision: A community

visioning activity, which can involve 40-100 participants, and is useful for engaging and mobilizing the overall community. However, the pitfalls of community visioning is that it is often difficult to manage and may require many human and physical resources. The second way to delineate a vision, the advisory committee/key leadership visioning, is when participants include members of the MAPP Committee and other community leaders, to develop a common vision. Although an advisory committee is generally easier to manage and requires fewer resources than a community visioning activity, there is not a broad range of involvement among community members. In either approach, a small group is responsible for preparing the visioning sessions, identifying and working with the facilitator, recording the results of the sessions, and drafting the vision statement (NACCHO, 2001).

Next, in Step 3, the visioning process is conducted with a broad group of community members, such as community leaders, agency directors/administrators, and others, through brainstorming and open discussions. During Step 4, a small, previously selected group of individuals will formulate the vision statement based on what is revealed in the visioning session. The vision statement should represent the ideal future that is determined during the visioning process, and a related values statement should emphasize supportive behaviors that contribute to ultimately achieving the vision. Finally, for Step 5, throughout the remaining steps of the MAPP process, the vision statement should be the directing force. In order to keep the vision and values statements at the forefront of the process, it is helpful to include reading the statements at meetings or including them on informational materials. Furthermore, it is important to note that the vision and values statements can be revised during the planning process (NACCHO, 2001).

Community Themes and Strengths Assessment

The first of four assessments to provide insight into any challenges and opportunities in the community, this assessment provides an understanding of the issues that residents feel are important by answering questions such as, “What is important to our community?” “How is quality of life defined and perceived in our community?” and, “What assets do we have that can be used to improve community health?” During this phase, community thoughts, concerns, and opinions are utilized to determine the issues that are most important to the community. Feedback regarding quality of life in the community and community assets also is gathered, which reveals crucial information from the residents’ perspectives. Benefits derived from this phase are that a sense of ownership in (i.e., their concerns are an integral part of the process) and responsibility for the outcomes of the MAPP process entail more of a vested interest on the part of the participants and community members. The residents’ thoughts on the community provide the foundation for determining key issues and solutions to the community’s current issues, which can offer insight into other assessment findings and lead to greater sustainability and enthusiasm throughout the process (NACCHO, 2001).

There are four main steps related to the community themes and strengths assessment. In Step 1, a subcommittee is established to direct this particular phase of MAPP. The subcommittee is responsible for determining the most effective approaches for gathering community perspectives, such as via community meetings, community dialogue sessions, focus groups, walking or windshield surveys, individual discussions/interviews, or surveys. The subcommittee is responsible for selecting a variety of approaches in order to most effectively reach the broader community population, including low-income and uninsured residents. For Step 2, the subcommittee identifies groups or individuals whose voices are not being heard in the

community, and determine how, when, and where the meetings are held with appropriate publicity to encourage community participation. During Step 3, the subcommittee maintains a working list of ideas, comments, quotes, and themes as the activities are implemented, and should note possible solutions to identified problems or novel ideas for providing public health services, all of which are compiled into a master list. Finally, in Step 4, the established timeline for focus groups and surveys continues to be followed, while also encouraging ongoing dialogue among community members. These same community members will continue their involvement throughout the remaining phases of the MAPP process (NACCHO, 2001).

Local Public Health System Assessment (LPHSA)

The LPHSA focuses on all organizations and entities within the community that contribute to the public's health. More specifically, the LPHSA answers the questions, "What are the components, activities, competencies, and capacities of our local public health system?" and, "How are the Essential Services being provided to our community?" The LPHSA uses what is called the 10 Essential Public Health Services as the framework for assessing the local public health system. The 10 Essential Services include: (1) Monitor health status to identify community health problems; (2) Diagnose and investigate health problems and health hazards in the community; (3) Inform, educate, and empower people about health issues; (4) Mobilize community partnerships to identify and solve health problems; (5) Develop policies and plans that support individual and community health efforts; (6) Enforce laws and regulations that protect health and ensure safety; (7) Link people to needed personal health services and assure the provision of health care when otherwise unavailable; (8) Assure a competent public health and personal health care workforce; (9) Evaluate effectiveness, accessibility, and quality of

personal and population-based health services; and, (10) Research for new insights and innovative solutions to health problems (NACCHO, 2001).

An assigned committee will identify opportunities for collaboration, gaps in service provision, and overlapping activities based on the 10 Essential Services as applied to the respective local public health system. Next, the committee completes the standardized performance measures instrument, which provides two to four indicators or activities under each Essential Service. Responding to the questions related to each indicator gives participants an idea of the activities, capacities, and performance of the local public health system. Finally, participants discuss the results and categorize them into a list of 10-15 challenges and opportunities that the local public health system can then plan to address (NACCHO, 2001).

Community Health Status Assessment (CHSA)

The CHSA answers the questions, "How healthy are our residents?" and, "What does the health status of our community look like?" This assessment will provide the MAPP committee with an understanding of the community's health status and ensure that the community's priorities consider specific health status issues, such as low immunization rates. There are 11 broad-based categories for which the CHSA provides a list of core indicators, which include demographic characteristics; socioeconomic characteristics; health resource availability; quality of life; behavioral risk factors; environmental health indicators; social and mental health; maternal and child health; death, illness, and injury; infectious disease; and, sentinel events. Key players on the CHSA subcommittee should include individuals with access to data and data collection, analysis, and interpretation skills. Next, data pertaining to the MAPP core indicators should be collected, including trend and national comparison data, and should be initiated early in the MAPP process (NACCHO, 2001).

Other high-priority indicators specific to community interest in a particular area may include demographics in the area or information found in the core indicators, such as a need to examine cancer rates more closely. Then individuals with skills in analyzing and interpreting the data should note disparities among age, gender, racial, and other population subgroups in order to develop a community health profile that includes visual aids, such as charts and graphs. The subcommittee then establishes a system for monitoring selected indicators in order to ensure that baseline data is provided upon which future trends can be identified and compared. Finally, the CHSA should result in a list of challenges and opportunities related to the community's health status, and findings should be reviewed to identify challenges (e.g., low seatbelt use) and opportunities (e.g., increased yearly breast exams). A final list of 10-15 community health status issues will be examined in the Identify Strategic Issues phase of MAPP (NACCHO, 2001).

Forces of Change Assessment

Legislation, technology, and other issues affecting the manner in which the community and its public health system operate are the main foci of this assessment. More specifically, this assessment considers the trends in the community, such as migration into or out of the area; factors, such as a community's large ethnic population; and, one-time events, such as a hospital or factory closure. The following questions are answered during the Forces of Change Assessment: "What is occurring or might occur that affects the health of our community or the local public health system?" and "What specific threats or opportunities are generated by these occurrences?" A small group should be assigned to oversee the assessment and develop a comprehensive list of new forces. Then for each force, participants identify threats and opportunities for the community and the local public health system associated with each force.

The final list is then put on hold until the Identify Strategic Issues phase (described next) (NACCHO, 2001).

Identifying Strategic Issues. After listing challenges and opportunities determined from each of the four assessments, it is important to identify strategic issues. Participants identify linkages between the MAPP assessments during this phase in order to determine the crucial issues that must be addressed for the community to achieve its vision. After reviewing the shared vision, common values, and results of the four MAPP Assessments, participants pose the question, "What factors identified in the assessments must be addressed in order to achieve the vision?" Participants should then attempt to identify where results overlap, and each potential strategic issue should be phrased as a question (NACCHO, 2001).

The next step involves participants discussing each issue until they understand why it is strategic and separate from other problems. Participants must understand the issues in order to make decisions about how to address them by asking, "What are the consequences of not addressing this?" Posing this question will determine whether or not action is required, as failure to address strategic issues could be detrimental to the community. Participants then examine all of the issues and narrow them to no more than 12 strategic issues. Finally, a numerical list of the strategic issues to be addressed first should be composed, as well as a timeline for addressing the list of issues (NACCHO, 2001).

Formulate Goals and Strategies. Following the identification of the strategic issues, participants then formulate goals (what is to be achieved?) and strategies (what action is needed?) for addressing each issue. Small groups of participants first determine how the strategic issues are linked to the vision, and then identify specific strategies for achieving goals and fulfilling the community vision. It is important to note that several strategies should be listed and

build upon strengths and opportunities, with consideration of the threats associated with the strategic issues. Next, obstacles to implementing the goals and strategies, such as insufficient resources, lack of community support, legal or policy issues, and technological difficulties should be considered. Participants then discuss the resources necessary to implement each strategy alternative, such as activities, timelines, participation, and resources. Then the participants will select the best strategy alternatives to be adopted and presented in a draft planning report to be presented to the community (NACCHO, 2001).

Action Cycle

During this final phase of MAPP, participants plan, implement, and evaluate, which build upon one another in a continuous and interactive manner to ensure continued success. In the first step, organizing for action, a subcommittee of key players in the MAPP process is assigned to oversee the implementation and evaluation of activities. Next, participants develop measurable outcome objectives for the identified strategies, and agree on accountability or responsibility for each objective. Outcome objectives are then discussed in terms of specific action plans to be carried out by participants (e.g., organization-specific or group of organizations), including specific activities, timeframes, and necessary resources. Next, participants group activities and coordinate the use of limited community resources. Each MAPP participant is responsible for implementing at least one strategy, and decides if other organizations or individuals should be involved to more effectively implement the strategies (NACCHO, 2001).

An evaluation of the entire MAPP process and each strategy should then be conducted, with consideration of which stakeholders should be involved. Evaluation design is the next step and includes the questions that the evaluation will answer, the process for answering these questions, the methodology to be used in collecting answers, a plan for carrying out the

evaluation activities, and a strategy for reporting the results of the evaluation. Then MAPP participants collect data to answer the evaluation questions, and the evaluation team decides what the data indicate, such as whether the activity did what it set out to do, its effectiveness, and provides a justification for the team's conclusions. Finally, the evaluation results, which can be used to create new strategies and activities and pinpoint successes and positive results, are used and shared with others (NACCHO, 2001).

Summary

The current study was designed to implement one component, the *Community Health Status Assessment,* of a comprehensive framework, MAPP, to qualitatively uncover the perceptions of quality of life and the local health care system among insured and under-/uninsured residents of four communities within New River Valley, Virginia. The MAPP tool has been implemented across the US (e.g., Columbus, OH; Lee County, FL; Mendocino County, CA; Nashville, TN; Northern Kentucky; San Antonio, TX); however, the current qualitative study represents one of the initial implementations of the MAPP tool in Virginia. The principal investigator's hope is that other communities across the country will implement the full MAPP tool to assist in determining and addressing communities' most pressing health needs.

Chapter 3

Method

Introduction

A qualitative approach was elected to address the following concerns:

1. What are community residents' perceptions of the quality of life in their respective community?
2. What are community residents' perceptions of the local health care system in their respective community?

Research Design

The principal investigator partnered with the director of the New River Health District, Jody H. Hershey, MD, MPH, to conduct a quality of life and local health care system assessment across New River Valley (NRV), Virginia. Grounded theory, a qualitative research methodology, was utilized to reveal the actual perceptions of participants interviewed regarding the quality of life and local health care system in their respective communities. Glaser and Strauss (1967) introduced grounded theory as a systematic method to uncover significance from data. Grounded theory also provides the researcher with strategies to build theories within un- or under-explored areas (Byrne, 2001). The *Mobilizing for Action through Planning and Partnerships* (MAPP) framework suggests incorporating a range of methods to assess the community's health needs, including face-to-face interviews, focus groups, and windshield surveys, which constitute the *Community Health Status Assessment (CHSA)* component of MAPP. However, for the purposes of this dissertation, the focus of the study was narrowed to collect qualitative data via face-to-face interviews utilizing a series of open-ended questions (see Appendix B). The entire process was anonymous and voluntary, and no identifying information was requested at any time during

the interviews. A volunteer team of eight retired seniors (aged 60-72), described in further detail below, assisted in conducting the face-to-face interviews at local Free Clinics, senior centers, churches, and community agencies (e.g., Retired and Senior Volunteer Program [RSVP], New River Community Action [NRCA], Virginia Insurance Counseling and Assistance Program [VICAP], Radford City Department of Social Services). The interviews were open to any volunteer interviewees; however, the principal investigator had a primary interest in hearing from populations with barriers to the health care system, particularly the under-/uninsured.

The research design for this study utilized the principal investigator and volunteer team as the main instruments of data collection, and the interviewees were the primary sources of data. Merriam (1998) emphasized that qualitative research primarily employs an inductive research strategy, which builds concepts, hypotheses, or theories, rather than testing existing theories. Following Merriam's expertise, the principal investigator collected data from community citizens' own words and by observing the participants to support the findings of the study. In conjunction with grounded theory, the principal investigator framed the study via the *Community Health Status Assessment (CHSA)* component of MAPP.

Retired Senior Volunteer Team. A team of eight retired senior adults (aged 60-72), who were active in the community with the Virginia Interfaith Council (VIC), RSVP, and VICAP, were recruited via word-of-mouth by the pastor of the Blacksburg United Methodist Church, Reverend Bill Finley, who also was an active volunteer in the community. The volunteer team members possessed diverse career experiences, including chemical engineering, environmental engineering, Capitol Hill lobbying, university campus ministry, and middle school educator. Each volunteer team member also offered a variety of research skills beneficial to the current research project, including face-to-face interview skills, writing skills, community contacts, and

data analysis. Although their input was welcomed throughout the entire study, the main task of the volunteer team was to conduct the face-to-face interviews with residents of the four NRV communities (i.e., Blacksburg, Christiansburg, Floyd, and Giles).

Pilot Study. On July 19-21, 2007, the principal investigator partnered with VIC and the Virginia Interfaith Center for Public Policy (VICPP), as well as with the volunteer team, to host a health care listening tour across the NRV. The health care listening tour served as a pilot effort to the current study and is discussed in further detail below.

Site Selection, Population, and Sample

The actual sites to conduct the face-to-face interviews were determined by input from the New River Health District director. The principal investigator desired to reach the under-/uninsured population, as well as insured individuals with health service access issues. In previous studies (e.g., Arcury et al., 2005; Ayanian et al., 2000; Beem, Machala, Holman, Wraalstad, & Bybee, 2004; Berndt, Hevner, & Studnicki, 2003; Borders et al., 2004; CFRHC, 2005; Davis, 2004; Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Glasser et al., 2003; Huttlinger et al., 2004; Jensen & Royeen, 2002; Lee, Giuse, & Sathe, 2003; Roux, 2001; Scariati & Williams, 2007), scholars found that the under-/uninsured population was most often served by government-subsidized public health agencies and non-profit organizations. Therefore, the most appropriate locations in which to conduct interviews included local Free Clinics, senior centers, community agencies serving low-income individuals (e.g., NRCA, VICAP, RSVP), and African-American churches for each of the four interview groups. The four interview groups were categorized according to the locality in which the interviewees resided. For instance, an interviewee may reside in Floyd; however, he/she utilizes the services at the Giles Free Clinic. A nonprobability sampling technique, convenience sampling, was utilized, in which the volunteer

team members arbitrarily selected interviewees upon their visit to each site location. Scholars (e.g., Merriam, 1998; Patton, 1990) suggested that qualitative research is better served by nonprobability sampling, also known as purposeful sampling. The selected interviewees were those voluntarily willing to answer the interviewer's open-ended questions after being presented with a brief overview of the study's purpose and nature of the questions.

Sample. The sample for the current study was recruited via convenience sampling at local Free Clinics, senior centers, community agencies serving low-income individuals (e.g., NRCA, VICAP, RSVP), and African-American churches. Participants were from various economic strata, education levels, employment status, physical and mental health, sex, age, and race within NRV, Virginia.

Data Collection. Merriam (1998) stated that data collection in qualitative research involves three strategies: interviewing, observing, and analyzing documents. However, usually one or two methods of data collection predominates the others. For this study, the primary procedure for data collection was personal interviews. The face-to-face interview guide was developed with help from Heidi Deutsch of the National Association for County and City Health Officials (NACCHO) in Washington, DC, who has ample MAPP expertise and experience, which reduced bias on behalf of the principal investigator. The interview guide pertained to perceived quality of life in the community, safety in the community, greenspace (e.g., availability of parks and walking trails), perceived shared sense of community connectedness/capacity, and perceptions of the local health care system. Given the special needs (e.g., physical/mental disabilities, low education level) of the interviewees, the participation of the volunteer team was of great value, particularly when interviewees had low literacy or low comprehension levels and could not answer some of the questions without assistance.

Merriam (1998) suggested that the semistructured format allows for the interview to be guided by a list of questions or issues to be explored, where questions may be asked or answered out of order. Therefore, to allow for the interviewees' feelings, emotions, and perceptions of the community's quality of life and local health care system to be revealed, the questions were designed in a semistructured format with open-ended questions.

Interviews

First, a pilot study involved a health care listening tour with residents from each of the four interview groups (i.e., Blacksburg, Christiansburg, Floyd, and Giles). The pilot study utilized the interview guide and was conducted under the same conditions and in a similar environment as the final study. Furthermore, the pilot study served as an exploratory tool to test the interview instrument and gave the principal investigator and volunteer team experience in interviewing and transcribing cases.

After finalizing the interview guide based on the pilot effort, the volunteer team collected data from residents from each of the four interview groups at locations that included local Free Clinics, senior centers, community agencies serving low-income individuals (e.g., NRCA, VICAP, RSVP), and African-American churches. Each interview was manually recorded on paper or laptop by members of the volunteer team. Interviews were held at each site location with random participants and averaged 20-30 minutes in duration. The length of the interview sessions was anticipated to be approximately 30-45 minutes, and was based on the average length of the pilot interviews. However, the interviewees in the current study were free to talk beyond the allotted 30-45 minutes if they wished to do so. Seidman (1998) recommended that there is nothing exquisite about a specific length for an interview. Nevertheless, the time should

be decided upon well before the interview process, and the interview should move at a pace that is congruent with the time allotted.

The volunteer team conducted an interview with each resident on their perceptions of the quality of life in the community and the local health care system, which represented the study's purpose and research questions. Interviewees were encouraged to elaborate on their perceptions and experiences pertaining to the community in which they currently resided. Interviews began with a brief introduction of the interviewer, purpose of the study, and nature of the questions for the interview. Questions were then asked about perceptions of the quality of life in the community and local health care system. Again, the entire interview process was anonymous with no identifying information collected at any time from the interviewees.

Observations

The principal investigator and members of the volunteer team conducted observations of the NRV residents' to acquire a sense of the type of client served by each of the selected interview locations (i.e., Free Clinics, senior centers, NRCA, VICAP, RSVP, and African-American churches), how each agency provides services to the public, and to validate comments made by the interviewees. The observations revealed the reasons why clients may seek support and services from the Free Clinic or VICAP, for example, the specific types of services sought, and any access issues individuals may experience due to insurance coverage or lack thereof. These observations by the principal investigator and volunteer team helped to expand discussions with interviewees.

Analyzing Documents

While visiting and observing the interview sites and their respective staff, the principal investigator and volunteer team analyzed documents that provided insight on the history of each

agency, the daily activities or types of services provided, the clients served, and the other organizations with which each agency coordinates. The principal investigator and volunteer team also reviewed local newspapers and magazines that covered stories about the activities and services provided by each agency. These documents helped expand conversation during interviews by providing the interviewers with knowledge about issues affecting residents seeking various health services.

Validity and Reliability

Validity. Scholars (e.g., Frey & Oishi, 1995; Merriam, 1998; Seidman, 1998; Silverman, 1993; Soy, 2000) recommended that researchers must ensure the study is well constructed to guarantee validity and reliability. Merriam (1998) suggested that there are several strategies to enhance internal validity:

1. Triangulation: using multiple investigators, multiple sources of data, or multiple methods to confirm the emerging findings.
2. Long-term observation: gathering data at the research site or repeated observations of the same phenomenon over a period of time, in order to increase the validity of the findings.
3. Peer examination: asking colleagues to comment on the findings as they emerge.
4. Researcher’s biases: clarifying the researcher’s assumptions, worldview, and theoretical orientation at the outset of the study (p. 204-205).

The present study incorporated the above strategies to enhance internal validity. Triangulation was implemented via multiple sources of data and methods to confirm findings. The principal investigator and volunteer team interviewed agency staff and clients and communicated with clients of the interview site locations (i.e., Free Clinics, senior centers,

NRCA, VICAP, RSVP, and African-American churches). The principal investigator and volunteer team also observed these agencies' daily activities, types of services provided, and how services are provided to the public. Documents, such as newspapers, magazines, and newsletter related directly to the local health care system and quality of life of NRV residents were reviewed by the principal investigator and volunteer team.

In addressing the long-term observation strategy, the principal investigator and volunteer team observed the operations of the interview site locations throughout the duration of the interview process. Furthermore, the principal investigator and volunteer team maintained contact with agency staff and church administrators regarding any special events that were hosted by the agencies or churches, or any novel issues proposed by new clients or parishioners regarding quality of life in the area, health needs, or problems with access to health services.

As the principal investigator and volunteer team observed the activities, services, and clients and parishioners of the agencies and churches, peer examination via communication with colleagues was utilized. More specifically, peer examination was implemented in conjunction with the New River Health District director and the principal investigator's doctoral committee members. The final version of the interview guide also was presented to the New River Health District director, volunteer team, and the principal investigator's doctoral committee, all of whom offered recommendations for improving the instrument. This feedback assisted the principal investigator in developing the research questions and correct methodology.

Researcher bias was acknowledged at the beginning of the study. In an attempt to minimize researcher bias, the principal investigator's literature review process helped in acquiring a full understanding of how the quality of life and local health care system affect a community and its residents. Moreover, the literature review helped the principal investigator

focus on issues pertaining to a rural community's actual quality of life and structure of the rural health care system.

Reliability. Merriam (1998) stated, "reliability in a research design is based on the assumption that there is a single reality and that studying it repeatedly will yield the same results" (p. 205). Thus, the volunteer team interviewed community residents until the data collected was redundant.

Data analysis

The principal investigator used a systematic coding approach. Merriam (1998) defined coding as assigning some sort of shorthand designation to various aspects of the researcher's data, so that he/she can easily retrieve specific pieces of the data. Borgatti (2006) described three different types of coding:

1. Open coding: concerned with identifying, naming, categorizing and describing phenomena found in the text (para. 8).

2. Axial coding: process of relating codes (categories and properties) to each other, via a combination of inductive and deductive thinking (para. 18).

3. Selective coding: process of choosing one category to be the core category, and relating all other categories to that category (para. 22).

The principal investigator employed the constant comparative method and axial coding to analyze the interview transcripts. Byrne (2001) explained the coding process as the following,

> Data typically are coded at three levels. At the first level, the researcher examines data line by line, and at the second level, he or she compares and contrasts the data to create categories or clusters. At the third or final level, the researcher moves from data analysis to concept and theory development. Theory emerges with data reduction (ie, filtering

information relevant to the topic and discarding extraneous information) and selective sampling. Data usually are collected until no further new information is found. This process is termed saturation and signals the end of data collection (para. 8).

Following Byrne's (2001) explanation, the principal investigator established seven categories that were related to the research questions and used for coding the information obtained during the interviews. The seven categories are community quality of life, community safety, community opportunities, community cohesion, community health care system, awareness of community health-related agencies and organizations, and community needs. The principal investigator analyzed each manually-recorded interview and searched for key themes (i.e., positive versus negative) that characterized the categories by utilizing the constant comparative method. For example, a resident's comment in response to the community's quality of life may have been, "excellent community for children," which is a positive key theme. Therefore, positive key themes were coded with orange highlighter and separated from negative key themes, such as "drugs and peer pressure are a problem," which were coded with blue highlighter.

Merriam (1998) stated that "deriving a theory from the data involves both the integration and the refinement of categories, properties, and hypotheses" (p. 191). Byrne (2001) stated that the core usually has some of the following characteristics:

1. Recurs frequently.

2. Links various data.

3. Has an explanatory function.

4. Has an implication for formal theory.

5. Becomes more detailed (para 6).

Finally, after the principal investigator finished coding and interpreting the data, a comprehensive review of each case was written (see Chapter 4). Furthermore, the core of emerging theory is presented in Chapter 5.

Ethical Considerations

At the outset of the current study, ethical considerations were of utmost importance to the principal investigator. Promoting a trusting relationship with all interviewees on behalf of the principal investigator and volunteer team was crucial in order to produce rich information without any negative impacts on the interviewees. The protocol of ethics assured that interviewee participation was entirely voluntary and no identifying information would be collected or revealed at any time throughout the study. Interviewees also were informed that they could refuse to answer any question and withdraw from the interview at any time. All data collected became the property of the principal investigator and New River Health District office. No transcripts were produced that would connect the participants to their comments (i.e., no identifying information was recorded). The principal investigator also received permission from the Virginia Polytechnic and State University Institutional Review Board for Research to conduct research on human subjects.

Summary

Means to improve the quality of life and local health care system in rural communities are longstanding issues. Few studies have approached these issues from a qualitative perspective. According to Merriam (1998), qualitative research sets out to understand the experiences of individuals and groups and the meaning tied to their experiences. Grounded theory, a qualitative research approach, develops theory through the perceptions and experiences of individuals.

The principal investigator, with help from the volunteer team, interviewed 28 NRV residents and discovered their perceptions of the quality of life and local health care system in their respective communities. Interviews were the main source of data collection and analyzed using the constant comparative method. The constant comparative method, in conjunction with grounded theory, serves as a way to compare research findings. The resulting analysis provided a description of NRV residents' perceptions of the quality of life and local health care system and the reasons behind their perceptions.

Chapter Four

Results

The purpose of the current study was to investigate the quality of life and health needs by discovering the perceptions of residents residing in New River Valley (NRV), Virginia. The principle investigator, with assistance from a team of retired volunteers, interviewed 28 New River Valley residents representing four locales/groups: Blacksburg Group, Christiansburg Group, Floyd Group, and Giles Group. An analysis of seven interviews from each of the four groups was conducted. Seven interviews was sufficient in allowing the primary investigator to discover a redundancy of findings and uniformity in the number of individuals interviewed from each group The data and observations collected during the interviews were analyzed using the constant comparative method. The constant comparative method compares occurrences found within transcripts of interviews that describe the research concerns. Occurrences are characterized by direct words or phrases spoken by the interviewee. Comparisons of occurrences lead to a property that describes the occurrences. The principle investigator transcribed and coded the hand-recorded interviews, uncovering rich informative responses from the participants interviewed. The investigator coded the data by reading the transcripts line-by-line and entering the transcripts into seven categories based on the interview guide (see Appendix B). The results of the data analysis provided rationale and a description for each of the following research questions:

1. What are community residents' perceptions of quality of life in their respective community?
2. What are community residents' perceptions of the local health care system in their respective community?

The following analysis presents a synthesis of how each group responded to the questions asked from the interview guide. In addition, the analysis defines the seven categories from the coding process and meticulously interprets the data collected from the interviews. Common themes were found within each group that distinctively set them apart from other groups. Themes were also found that threaded a bond among the groups. The themes and bonds characterize the perceptions and concerns of NRV citizens concerning their local community in relation to current health care systems and accessibility. Please see Appendix C for a table that displays the seven categories with each groups' responses.

Blacksburg Group

The interview group from Blacksburg consisted largely of mid-30s to middle-aged adults, and one middle school student, with five women and two men present, and four unmarried, one married, and two widowed interviewees. All of the interviewees were very active in the community as volunteers with the Retired Senior Volunteers Program (RSVP), Humane Society, and church. Additionally, two of the women were currently employed; one who worked from home as a contract worker for a major corporation and the other a teacher in the local public school system. Of the seven interviews conducted with this particular group, two were conducted at the Blacksburg Humane Society, three at RSVP, and two were conducted at the Blacksburg Community Center.

Community quality of life. Overall, the Blacksburg group was pleased with and perceived a good quality of life in Blacksburg and the NRV, in general. For instance, several of the interviewees shared that Blacksburg "promotes a good quality of life," is a "somewhat progressive community," where a "healthy lifestyle is possible and promoted." Other positive comments included Blacksburg is a "very good place to grow old with many support programs,"

with “good schools and homes,” and is “one of the best places I’ve ever lived.” Negative comments from the Blacksburg group, although minimal, included “jobs are not plentiful,” and one interviewee did not know if “it costs more or less here—it just costs.”

Community safety. The Blacksburg group reported that “doors are often unlocked, neighbors know one another, and take care of one another,” and that the town is an “interesting, inspiring, safe place to raise children.” Additionally, one interviewee reported that the “sheriff patrols neighborhood regularly.” The interviewees who perceived community safety as negative complained that the “character is changing and problems are starting to creep in,” and “others are afraid of people breaking in.”

Community opportunities. Interviewees within the Blacksburg group were very positive in describing their perceptions of this particular category. Positive perceptions within this category included the local “government is welcoming of citizen participation and input,” with “plenty of volunteer opportunities” and “plenty of recreational activities and opportunities.” The school system was also praised: “Schools have been excellent,” with “sufficient things for young people to do” within the community.

Community cohesion. The Blacksburg group also shared positive perceptions of a sense of cohesion within the community, stating that it is “easy to get involved and the closeness of the community gives a sense that people know who you are, are concerned about neighbors.” Overall, Blacksburg was considered to be a “fairly cohesive group with a generally common vision of what we want the town to be,” with “not much talk among neighbors of a lot of people moving away.” Additionally, church provided a sense of community cohesion for one interviewee, in particular: “People in church would help me get where I need to go.”

Community health care system. Despite one interviewee stating that she and her spouse would "leave the area for better care," the health care system within the community was perceived positively. For instance, the majority of interviewees in the Blacksburg group reported that there was "good access and wide variety of doctors," with one interviewee having "excellent experience in the after-hours Carillion Clinic." Other positive comments included being "pleased with family practitioner and pediatricians," and "good access with being so close to Roanoke," although transportation to health care services may be a problem area for some residents.

Awareness of community health-related agencies and organizations. The Blacksburg group was very much aware of a range of health-related agencies and organizations, including the walk-in Free Clinic, which "saves people and community resources by keeping people out of the ER;" Warm Hearth (assisted living residence and long-term care facility), United Way, schools, Christmas Store, Boys and Girls Club, Big Brothers/Big Sisters, Food Pantry/Food Bank, Women's Resource Center, Humane Society, Habitat for Humanity, Agency on Aging, Salvation Army, Retired Seniors Volunteer Program (RSVP), and the Montgomery County Emergency Assistance Program (MCEAP). Other more general resources include recreation centers ("with senior areas in most"), elder transportation buses, good public transportation, churches, social services, and banks.

Community needs. Despite the numerous positive perceptions provided by the Blacksburg group, the community still has needs in several areas, including "more things for high school students to do—they seem to be left out," and "housing/assisted living opportunities are limited." Several interviewees shared that there is "limited growth potential with Virginia Tech and other large employers," and the difficulty small businesses face with "Big Box and other large retail

stores moving in." The overall consensus of this group was that there needs to be "better control of growth."

Summary

The Blacksburg group, overall, perceived the quality of life, safety, opportunities, cohesion, and health care system in the community very positively, with a strong sense of awareness of health-related agencies and organizations in the area. Several needs within the community were also expressed by the interviewees, but these needs were not viewed as completely detrimental to the positive aspects of the community at-large.

Christiansburg Group

The Christiansburg interview group was comprised of one 29-year-old, two middle-aged adults, and four adults between the ages of 69 and 85 years. Four interviewees were unmarried, two widowed, and one was married, with four males and three females. Several interviewees in this group were active volunteers in the community, with two serving as working parents. Additionally, one interviewee was a young, single mother of two, four interviewees had adult children residing in the NRV, and two interviewees never had children. The interviews took place at the Christiansburg Free Clinic, Christiansburg RSPV office, and following a Central Labor Council meeting.

Community quality of life. The consensus within the Christiansburg group regarding perceived quality of life was very positive, with no negative perceptions. Positive comments made by the interviewees included, there is "nothing in Roanoke that we don't have here," the appreciation for the "lack of heavy traffic," and "rural makes it better." Christiansburg also was viewed as a "good place to raise children," with "good housing." One resident mentioned, "Especially coming from Pittsburg, I'm very happy to have escaped the big city."

Community safety. Overall, the Christiansburg group perceived their community as safe, as "neighbors look out for and trust one another," and "Southwest Virginia is a much better place for my children." One interviewee claimed that there is "a lot of crime in Roanoke, but not here." On the negative side, however, two interviewees observed that Christiansburg is "not as safe as 10 years ago."

Community opportunities. In terms of opportunities, the Christiansburg interviewees reported that the community offers "good volunteer opportunities, "lots of retirement centers," and "lots of learning opportunities for seniors with terrific recreation centers." One negative perception was revealed: "You can find jobs, but not necessarily good ones at places like Corning and Echo Star."

Community cohesion. The sense of cohesion among the Christiansburg group was minimal, although two interviewees shared that they rely on "friends for transportation" and "neighbors pitch in where needed." However, several negative perceptions were voiced, including "people should get more involved; they should care more about the community and not be so self-absorbed," and "neighbors don't know each other." One resident felt very adamant about encouraging "more empathy among community residents" in order to develop a greater sense of cohesion.

Community health care system. Despite the positively perceived quality of life and many opportunities in the community, the Christiansburg group agreed that the health care system is poor and needs improvement, particularly the Free Clinic, which "needs more people and resources, such as pharmacists." One interviewee declared that "good medical care isn't universal," and another interviewee shared her personal experiences that "getting health care can be difficult and expensive if not through one's employer."

Awareness of community health-related agencies and organizations. All of the interviewees in the Christiansburg group were very much aware of the health-related agencies and organizations in the area, although “many don’t get back in touch when you call and leave messages.” Nevertheless, the most commonly known agencies and organizations among this particular group included the Free Clinic, social services, RSVP, rescue squad, senior citizen groups, Red Cross Blood Bank, the hospital, Agency on Aging, Police Department, Med Ride, County Health Department, and New River Community Action (NRCA). Unfortunately, one interviewee had never heard of Meals on Wheels, but claimed he could have utilized this service due to his recent disability.

Community needs. There were numerous community needs reported among the Christiansburg group, including “better transportation;” “schools could be better;” “children need more activities in winter;” “not many high-pay jobs for high school graduates or less or disabled people;” “not necessarily jobs with real career growth potential and opportunities to advance,” and, “more entertainment for seniors and children.” Other pertinent needs perceived by the group in question is that “employers don’t offer much training;” “not enough shelters or counseling;” “not much support for low income individuals;” “better nursing homes and more help for the elderly;” “affordable health insurance;” “building-quality problems, low teacher salaries, lack of staffing, and more funding needed;” and, “more funds for large health problems, such as cancer.” A final comment by one interviewee was that there is a real “need for true community leadership.”

Summary

The Christiansburg group, overall, perceived a good quality of life in the area and shared a sense of safety within the community for the most part. While the majority of interviewees

perceived a number of opportunities in the community, a strong sense of community cohesion was lacking among the majority of interviewees, as well as major deficits within the community health care system. The Christiansburg group was also aware of the various health-related agencies and organizations in the community; however, one interviewee not familiar with Meals on Wheels, which highlights the need for improved advertising and education regarding available community service agencies and organizations. Finally, a number of important needs for the community to address were expressed, with job opportunities and affordable health insurance rating among the group’s top priorities.

Floyd Group

The Floyd interview group was composed of six female and one male interviewee, ranging in age from 30 to 65 years. Of the seven interviews conducted in the present community, three were unmarried, two married, and two interviewees were widowed. More specifically, one single woman, in her 30’s, owned her own business in Floyd and worked part-time elsewhere to supplement her income, while a single father of three teenage boys worked for the Montgomery County Public Service Authority. A total of five interviewees were not working, either due to disability (e.g., cancer treatment) or retirement, and two of these interviewees currently had no insurance. Additionally, two interviewees were mothers of young children in the Head Start program. The interviewees were conducted at the New River Community Action (NRCA) office and Giles Free Clinic. It should be noted that there are only two Free Clinic facilities located in the NRV, including the Christiansburg facility and Giles facility, the latter of which is the closest location for Floyd residents.

Community quality of life. The Floyd group perceived a very good quality of life, as there is “lots of sharing, such as gardens and volunteer work,” and Floyd is a “stable community with

a sense of responsibility," and is continually "safe, beautiful, and not commercialized." One middle-aged female interviewee commented that there "appears to be a large number of women over 50," which was important to this individual, because she was in the same age bracket and, as a result, felt tied to the community. Another interviewee claimed that she "loves living in this community because of church."

The factors that led several interviewees to perceive a negative quality of life include that living in Floyd is "hard for single parents," although the interviewee did not elaborate. Other negative factors include "drugs and peer pressure are a problem." Another interviewee shared that Floyd "needs to become a better place for baby boomers to grow old," by providing more activities, opportunities, and living arrangements for this particular group.

Community safety. The general consensus among the Floyd group was that the community was "very safe," and "people don't lock their cars" and "no one locks their doors." The most notable negative aspect regarding safety in the area are that there are many "car accidents among teens." The aforementioned negative aspects of safety in Floyd may be applicable to many communities, but the above perceptions were very meaningful to these very close-knit community residents.

Community opportunities. There were nothing but positive comments from the Floyd group regarding opportunities in the local community, including "lots of homeschooling" and "lots of music, arts, and crafts." Floyd also offers "better schools than other counties," with the Blue Mountain School (BMS) being one such school. The BMS offers a slightly unstructured environment, where students are given the freedom and opportunity to take responsibility for their own learning through informal small groups and structured group meetings. In other words, curiosity, democracy, freedom, and responsibility provide the educational foundation for the

school (Blue Mountain School, n.d.) One interview also observed that it is “easy to start a small business” in the area, given the lack of commercialization with large corporations as seen in other areas in the NRV.

Community cohesion. The Floyd group reported a strong shared sense of cohesion within the community, with the exception of one interviewee who reported that “neighbors do not care.” The reason for the interviewee’s sentiment was unclear, but may be attributable to the particular vicinity of Floyd in which the individual resided. Additionally, there is a great deal of noticeable “friction between newcomers and old-timers.” However, the majority of interviewees in this particular group found that “people are friendly, helpful, and supportive of each other,” and “people living here all pull together here.” One interviewee observed that “there is a sense that we are all in this together,” and another interviewee claimed that “neighbors are kind and look out for others.” The strong sense of community cohesion among the Floyd group was aptly summarized when one interviewee shared that there is a “good sense of community.”

Community health care system. Given the very rural landscape of Floyd, it is understandable why the health care system within the community would not be viewed entirely favorably. While there are numerous “herbalists,” and “alternative medicine” sources, although not viable options for those with more chronic health conditions, and “you can get care here, even without insurance,” the community lacks a number of traditional health care-related resources. For instance, several interviewees reported that there are “no hospitals” in the immediate area, making it necessary for Floyd residents to commute to Christiansburg or Roanoke for traditional medical care, which was the case presented by another interviewee. “Options are limited” in Floyd, but it seemed that the community’s residents did their best to manage with commuting elsewhere for medical care.

Awareness of community health related agencies and organizations. Despite the limited number of options within the Floyd health care system, several alternative options of which the interviewees were aware included the "Barter Clinic, [an osteopathic clinic] with reasonable prices," Carilion Clinic, "and the "Free Clinic, which is available to [Floyd] residents only twice per month." Other resources include Wall Residencies, which serve individuals with mental retardation, mental illness, and developmental disabilities; New River Community Action; Floyd Pharmacy; Head Start; the State Children's Health Insurance Program (SCHIPs); the Family Preservation Group in the elementary school, school counselors, and the school system in general; social services; churches; and, interestingly, one interviewee's landlord. There was one interviewee who observed that there is a general "lack of awareness of services," among himself and his peers in the surrounding community.

Community needs. The Floyd group reported a lengthy list of needs for their community, such as "more bike and hiking trails," "more jobs that pay better," "more summer and part-time jobs for teens," "a lower cost of living," "separate wells for separate dwellings," "improved public school system," "more daycare," and "tougher laws on drugs with better enforcement." Other noted community needs included "better screening of people who receive services," "parks and recreation opportunities for all ages," as well as "intergenerational opportunities." Several interviewees in this group also pointed out that there is "no public transportation" with "very little manufacturing." Another interviewee observed that Floyd is not "commercial enough." A final noteworthy observation by one female interviewee is that there needs to be "better advertising of existing services" in the community, which may serve to assist residents more efficiently.

Summary

Overall, the Floyd group experienced a good quality of life, with the exception of single parents and baby boomers, and the problems associated with drugs and peer pressure. In addition, the Floyd group reported an overall strong sense of cohesion among the community. Community safety did not seem to be an issue, although car accidents were frequent among teens. There were reportedly numerous opportunities for homeschooling, recreation, and small business development, as well as alternative medicine services. Finally, as is the case in many other communities throughout Virginia and the United States, interviewees within the Floyd group reported numerous services and opportunities as perceived community needs, including but not limited to, transportation, recreation opportunities, more jobs, commercialization, and daycare, and stricter drug laws.

Giles Group

Interviewees in the Giles group consisted of six females and one male, ranging in age from 50 to 80, with all but two interviewees retired. One interviewee was unmarried, three were married, and three were widowed. In addition, one woman in her 60's worked in a local social service agency prior to taking early retirement to take care of her disabled husband, which caused her to lose her employer insurance plan. The interviews took place at the Giles Free Clinic, Christiansburg RSVP office, and NRCA office.

Community quality of life. The Giles group did not report any negative aspects of the quality of life in the community, but rather highlighted several positive perceptions of quality of life. For example, Giles is "very elder-friendly," and one interviewee shared that "after living in 26 different places in the country, this is the best place I've been." Giles also is an "excellent

community for children," with "good after-school programs" and an overall "good school system."

Community safety. Giles seems to be a very safe community based on interviewees' perceptions. More specifically, it was reported that "most neighbors know and trust each other," although one female interviewee was currently having problems with her nearby neighbors, although she did not elaborate on the situation. Other comments by interviewees were that Giles is "a safe community" and a "good place for children and safe." One interviewee observed that "there's good police protection" in the community, which affirmed his feelings of safety.

Community opportunities. The Giles group reported a number of opportunities available in the community, including "many social activities and community-based activities," "plenty of shopping," and "lots of community service volunteer activities." The "availability of taxi services" was perceived as an important opportunity in the community by one interviewee, and another interviewee observed that there "seems like a lot of businesses are starting up."

Two primary negative perceptions regarding community opportunities were reported among the Giles group. One interviewee claimed that the "best place to find a job is Roanoke," and another interviewee shared that "many factories have closed." Such perceptions highlight the need for many Giles residents to commute outside of the immediate area for employment opportunities.

Community cohesion. Overall, the Giles group perceived a strong sense of cohesion within the community. For instance, one interviewee reported that "people look in on each other" and "neighbors take care of one another and look out for weaker members." Another interviewee shared that "everybody is friendly" in the community. One interviewee did claim that "people don't interact that much," but finished her comment by stating, "but neighbors are willing to

help." Therefore, the general consensus among the Giles group was that neighbors play a pivotal role in fostering the community's sense of cohesion.

One interviewee shared his negative perception: "It's hard to deal with big corporations." Such a sentiment may be due to big corporations moving into the area and having a deleterious effect on the aesthetics of the community or undermining pre-existing small businesses. Nevertheless, the existence of big corporations may negatively affect one's sense of community cohesion, as it has for the above interviewee.

Community health care system. Unfortunately, the health care system in Giles was not perceived in a positive manner, with the exception of two interviewees who reported that "doctors are handy" and "it's easier to get good health care here," respectively. The more negative perceptions presented by the interviewees in this group included how one woman had "good insurance, but still feels 'insurance poor.'" Another interviewee claimed that his "access to the Free Clinic is a problem," although it was not clear whether his perception was due to his own lack of transportation to the Free Clinic, for example, lack of availability of Free Clinic services in the immediate area, or lack of his ability to obtain Free Clinic services due to income, insurance, or other reasons. Another female interviewee who retired to take care of her ill husband at home noted that "work-related insurance is a problem," particularly when one's health insurance is dependent upon current employment status.

Awareness of community health related agencies and organizations. Despite the negative perceptions reported in the aforementioned categories, the Giles group was very aware of the various services available to community residents. Services available in Giles, according to the interviewees, included Meals on Wheels, support groups, emergency services such as the Montgomery County Emergency Assistance Program (MCEAP), Self-Help and Resource

Exchange (SHARE), senior bus, food/clothing banks, RSVP, Salvation Army, Med Ride, home health care, social services, Agency on Aging, AARP, and the local Health Department. One interviewee shared that the "Free Clinic has been good for Pro Bono access" for herself. In addition, another interviewee claimed that the "Rec Center publicizes area help agencies," which again highlights the importance of educating community residents on the available services.

Community needs. There were a variety of needs reported within the Giles group, including "a new Commonwealth Attorney because there's no justice in Montgomery County," which was reported by a female interviewee who seemingly had a personal negative experience with the local court system. In addition, there were other important needs reported, such as "better water/well water" and "affordable school activities." Other perceptions among the interviewees were that it is "kind of rough to find good jobs with potential to advance and with training," there is a "lack of industry," the "government doesn't pay enough for prescription assistance," there are "not enough business here." One interviewee shared that she was currently working on a "petition for the community to come together for a [mutual] cause;" however, she did not elaborate on the cause or the specifics of the petition. Nevertheless, the writing of a community petition by local residents emphasizes their sense of responsibility for the betterment of the community at-large.

Summary

The perceptions of the Giles group were that they experienced a very positive quality of life in the area; generally felt safe; enjoyed and utilized a number of community opportunities, despite a lack of jobs within the immediate area; felt a sense of cohesion within the community; and, were very much aware of community services offered via various organizations and agencies. Similar to many other communities, specifically rural in nature, the community health

care system in Giles needs improvement in the areas of access and insurance coverage, in addition to jobs, more business/industry, school activities that fit families' financial situation, and an improved law system.

Conclusion

The Blacksburg group, overall, perceived the quality of life, safety, opportunities, cohesion, and health care system in the community very positively, with a strong sense of awareness of health-related agencies and organizations in the area. Several needs within the community were expressed by the interviewees, such as housing opportunities and control of business growth. However, these needs were not perceived as completely detrimental to the positive aspects of the community at-large.

The Christiansburg group, overall, perceived a good quality of life in the area and shared a sense of safety within the community for the most part. While the majority of interviewees perceived a number of opportunities in the community, a strong sense of community cohesion was lacking among the majority of interviewees, as well as major deficits within the community health care system. The Christiansburg group was also aware of the various health-related agencies and organizations in the community, although not all interviewees, which highlights the need for improved advertising of service agencies and organizations available in the community. Finally, a number of important needs for the community to address were expressed, with job opportunities and affordable health insurance among the group's top priorities.

Overall, the Floyd group experienced a good quality of life, with the exception of single parents and baby boomers, and the problems associated with drugs and peer pressure. In addition, the Floyd group reported an overall strong sense of cohesion among the community, which may be tied to the reportedly good quality of life in the area. Community safety did not

seem to be an issue, although car accidents were frequent among teens. There were numerous opportunities for homeschooling, recreation, and small business development, as well as alternative medicine services. Finally, as is the case in many other communities throughout Virginia and the United States, interviewees within the Floyd group reported numerous services and opportunities as perceived community needs, including but not limited to, transportation, recreation opportunities, more jobs, commercialization, and daycare, and stricter drug laws.

The perceptions of the Giles group were that they experienced a very positive quality of life in the area; generally felt safe; enjoyed and utilized a number of community opportunities, despite a lack of jobs within the immediate area; felt a sense of cohesion within the community; and, were very much aware of community services offered via various organizations and agencies. However, the community health care system in Giles needs improvement in the areas of access and insurance coverage, in addition to jobs, more business/industry, school activities that fit families' financial situation, and an improved law system. Despite these needs, however, the Giles group still remained actively involved in their community in many ways.

Chapter 5

Summary, Discussion, and Recommendations

Summary

The purpose of this study was to uncover the perceptions of quality of life and the local health care system among community residents in Blacksburg, Christiansburg, Floyd, and Giles, Virginia. The following questions were addressed:

1. What are community residents' perceptions of the quality of life in their respective community?
2. What are community residents' perceptions of the local health care system in their respective community?

Chapter Four explained how each group responded to the interview guide. Chapter Five attempts to present an overall discussion of how each group perceived the quality of life and local health care system within their respective communities.

Research question one. What are community residents' perceptions of the quality of life in their respective community?

Blacksburg Group

Similar to the findings of Sirgy and Cornwell (2002) that community satisfaction plays a role in life satisfaction and quality of life, the Blacksburg Group perceived that the community promoted a good quality of life for its residents in terms of safe neighborhoods and ample community activities (e.g., senior centers, recreation centers). The interviewees viewed the community as progressive with the presence of a large university, such as Virginia Tech, and a new osteopathic college; a commendable public school system with high student success rates and standardized test scores; competitive and active housing market; and, numerous support

organizations, agencies, and programs within reach. More specifically, student scores on standardized tests in Blacksburg public schools are among the highest in the state of Virginia (greatschools, 2007). Additionally, the housing market in Blacksburg, while on the high end in neighborhoods directly surrounding Virginia Tech, is extremely competitive (RKG Associates, Inc., 2001). The interviewees also perceived Blacksburg as promoting a healthy lifestyle that offers ample walking/biking trails (e.g., greenspace) and physical activity programs. Sirgy and Cornwell (2000) found that rural communities that promote healthy lifestyles by initiating physical activity programs foster a high quality of life.

The focus on a healthy lifestyle and its relation to a high quality of life outweighed the perceptions of career opportunities within the Blacksburg community. Residents felt that jobs were not plentiful in the Blacksburg area, unless one is employed by Virginia Tech or other smaller scale organization, and the cost of living seems to increase with each passing year. Nevertheless, the findings from the Blacksburg Group interviews suggest that communities focusing or encouraging a healthy lifestyle and offering sufficient health-related programs and services can compensate for a lack of substantial employment opportunities and still provide a high quality of life. The findings do not suggest that a career or meaningful employment is optional to survival, as all of the interviewees were currently employed or retired from jobs within the community.

The Blacksburg Group also perceived the local health care system as offering good access, particularly with being adjacent to Roanoke, with a wide variety of services, including family planning services and medical specialists, which is incongruent with previous findings (e.g., Comer, 2005; Huttlinger, Schaller-Ayers, & Lawson, 2004). Perceptions of a good quality of life in rural America is not a novel finding (Dillman, 1979; Dillman & Tremblay, 1977). More

specifically, the quantity and quality of available health services (e.g., public health, sanitation, nutrition/diet, lifestyle, exercise, preventive services) is likely to affect the quality of life in a given community (Cordes, Doeksen, & Shaffer, 1994; Deller, Tsai, Marcouiller, & English, 2001; Sirgy & Cornwell, 2000; Whitener & McGranahan, 2003). Moreover, the economic development of a community with the addition of new businesses, which may also affect the quality of life in the area, is dependent upon which health services already exist in the area and which health services may be necessary to the expansion of business (e.g., obstetricians, dentists, primary care physicians) (Cordes, Doeksen, & Shaffer, 1994; Deller, Tsai, Marcouiller, & English, 2001; Whitener & McGranahan, 2003). For example, the expansion of services such as plastic surgeons for medical reconstructive surgery, which are in need in the Blacksburg area, is dependent upon the pre-existing medical services, such as practicing oncologists. Services such as medical reconstructive surgery are particularly important for women who have had mastectomies due to breast cancer.

Positive perceptions of quality of life are not applicable to all of the interviewees of the Blacksburg Group. While access to certain health services may be viable for some Blacksburg residents, lack of transportation may pose a barrier for others residents. Lack of transportation was a major barrier found in previous studies and resulted in false perceptions of community health services by rural residents (Arcury et al., 2005; Casey, Thiede Call, & Klingner, 2001; Heckman, Somlai, Peters, Walker, Otto-Salaj, Galdabini, & Kelly, 1998; Taylor, Hughes, & Garrison, 2002). Additionally, if a Blacksburg resident has a chronic condition such as cancer, he/she may be required to travel to Roanoke to receive specialized care, such as cyberknife treatment. Currently, the cancer center at Carilion Roanoke Memorial Hospital is the first in the state of Virginia to offer this state-of-the-art radiosurgery procedure (Carilion Clinic, 2006).

Individuals requiring specialized care are oftentimes required to travel great distances to receive the necessary care, which is not uncommon in rural locales (Casey et al., 2001; Arcury et al., 2005; Arcury, Preisser, Gesler, & Powers, 2005; Nemet & Bailey, 2000; Rosenblatt, 2002; Taylor et al., 2002).

Christiansburg Group

Christiansburg, Virginia, while more suburban than Floyd and Giles, was perceived by the interviewees as offering a good quality of life. The interviewees perceived the area as a good community in which to raise children with a reasonable housing market. Scholars (e.g., Sirgy & Cornwell, 2000; Struthers & Bokemeier, 2000; Valentine, 1997) found that community residents consider a quality environment in which to raise children and reasonable housing market as high priorities. Furthermore, three of seven interviewees had previously transitioned from larger cities and greatly appreciated the rural quality of the community. Best, Cummins, and Lo (2000) iterated that one's quality of life frequently improves with relocation to a rural locale.

Despite the perceptions of a good quality of life in a suburban area with seemingly numerous resources, the Christiansburg Group perceived the local health care system very negatively, which is often due to residents' lack of access, affordability, or transportation to available health care services (Arcury et al., 2005; Ayanian et al., 2000; Beem, Machala, Holman, Wraalstad, & Bybee, 2004; Berndt, Hevner, & Studnicki, 2003; Borders et al., 2004; CFRHC, 2005; Davis, 2004; Dennis & Pallotta, 2001; Eberhardt & Pamuk, 2004; Glasser et al., 2003; Huttlinger et al., 2004; Jensen & Royeen, 2002; Lee, Giuse, & Sathe, 2003; Roux, 2001; Scariati & Williams, 2007). Residents perceived health-related organizations (e.g., Christiansburg Free Clinic) as lacking sufficient staff and resources, such as qualified pharmacists. Additionally, in that universal medical care has not come to fruition in the U.S.,

health care can be near impossible to obtain physically and financially, unless sought through an employer's health plan. However, even employer-offered health plans do not cover the full range of services that one may need (e.g., adequate prescription assistance, paid leave to care for ailing family member) (Fuchs & Emanuel, 2005).

Floyd Group

The general perception of quality of life in Floyd is positive, with the community being very rural and offering appealing aesthetic qualities for those seeking a less hectic or less commercialized lifestyle than their Blacksburg or Christiansburg counterparts. Four out of seven interviewees in this group perceived Floyd as offering a stable community that promotes a sense of responsibility among its members. One asset that was mentioned during the interviews was the significant presence of middle-aged women, which suggests that Floyd, like many rural communities, may be a coveted location to which to retire for those desiring a more tranquil locale than that provided by the city or suburbs. Researchers (e.g., Filkins, Allen, & Cordes, 2000; Whitener & McGranahan, 2003) concur that rural communities are oftentimes coveted among retirees seeking a peaceful existence and a higher quality of life in retirement. However, for retirees with special circumstances, such as requiring an assisted living residence, a largely rural community, such as Floyd, may not be a suitable choice given its limited resources to cater to older adults' range of needs. Many older adults (aged 65 or older) are found to have specialized needs, such as assisted living or long-term care arrangements, older adult-focused social and physical activities, and social services, such as Meals on Wheels or home care (Flora, Flora, & Fey, 2003; Patrick, Cottrell, & Barnes, 2001; Reeder, 1998).

As is the case with many communities in modern America, both rural and urban alike, drugs and peer pressure are a perceived problem in the community of Floyd. Consequently,

societal problems, such as crime and drugs, may deter one's positive perception of the quality of life in the community (Benedict, Brown, & Bower, 2000; Valentine, 1997). Perceived trials and challenges experienced by Floyd's single parents were considered to negatively affect one's quality of life in the area, which may be due to a lack of support services and financial resources to assist in such a situation. Similarly, scholars (e.g., Brown & Lichter, 2004; Weinraub, Horvath, & Gringlas, 2002; Wiley, Warren, & Montanelli, 2002) found that single parents experience a lower quality of life than their married or childless counterparts due to a lesser likelihood of actively accessing or inability to receive necessary support and/or financial services.

The health care system was perceived as neither positive nor negative among the Floyd Group. However, residents reported that there are no hospitals or similar options in the immediate area, and one must drive to Christiansburg, Roanoke, or further distances to acquire the appropriate medical care. Communities that have limited health care services may lead to residents not obtaining needed health services or providing ill citizens with a false perception that there is no hope in cures for ailments (CFRHC, 2005; Rosenblatt, 2002). Still, health care options such as alternative medicine practitioners are becoming widely available in rural communities, such as Floyd, particularly chiropractors and herbalists. Scholars (e.g., Arcury, Preisser, Gesler, & Sherman, 2004; Robinson, Chesters, & Cooper, 2007; Shreffler-Grant, Weinert, Nichols, & Ide, 2005) found that alternative medicine gives hope to ailing individuals and families when traditional treatment is not available or limited.

Giles Group

Similar to the rural structure of Floyd, the Giles Group perceived the quality of life in the area as extremely high, with no negative perceptions reported by the group. Also, similar to

Floyd, Giles was perceived among the interviewees as very elder-friendly and offering a sound school system with a variety of quality after-school programs. A perceived high quality of life in a community, such as Giles, that offers a variety of support programs and activities, such as social activities for seniors and after-school sports programs, confirms previous research. For instance, Sirgy and Cornwell (2000) found communities that are perceived by citizens to provide a high quality of life also provide support services within the community and creates a bond among residents. Additionally, the majority of interviewees considered the community to be a good choice for those with young children in the public school system. Education was a priority for the Giles interview group, particularly those with school-aged children and grandchildren, as was an environment supportive of older adults' quality of life. Researchers (e.g., Bauch, 2001; Filkins, Allen, & Cordes, 2000; McCoy, 2006; Seal & Harmon, 1995; Sirgy & Cornwell, 2000; Whitener & McGranahan, 2003) found a community that is considered to provide a high quality of life also values education opportunities for its youth and workforce.

Conclusions: Research Question One

The perceptions of quality of life in the community were consistently positive among the four groups, but may have been at least partially affected by generational differences. For instance, depending on the age of the interviewee, he/she may perceive that the quality of life is poor for a blue collar single parent, while an older interviewee may perceive the area as needing more resources for Baby Boomers. Similarly, an interviewee who desires to establish his/her graphic design career may perceive that decent-paying jobs are not plentiful in the area, while a retiree may perceive the community as offering ample community-based activities and senior support programs. Perceptions regarding the quality of life in a community should be examined carefully, as factors such as age, socioeconomic status, gender, and ethnicity may affect one's

perceptions. In addition, the cost of living in the community may affect one's perceptions of the quality of life; however, despite one's socioeconomic status, the overall perception of the quality of life among the four groups was positive.

Feeling safe in the community is an additional factor that may affect one's perceptions of the quality of life in the community (Fried, 1982). For instance, one interviewee in the Floyd Group indicated that drugs and peer pressure are mounting problems in the area. Lack of safety or the perception that the community is unsafe can negatively affect one's quality of life. One's feelings of a lack of safety in the community may be dependent upon the particular side of town in which one resides and the perceptions of an effective local police department.

Each community resident has a different set of priorities that constitute quality of life. Therefore, an additional factor that may negatively affect one's perceptions of quality of life in the community may be one's prioritization of community resources. For instance, one interviewee in the Giles Group mentioned that there was plenty of shopping in the area, which may have increased her perceptions of the quality of life in the community. Another resident, who did not consider shopping opportunities to be a priority, may perceive a lesser quality of life for other reasons, such as a lack of recreation facilities or public transportation.

Research question two. What are community residents' perceptions of the local health care system in their respective community?

Blacksburg Group

Blacksburg is a small college town with a large student body that creates a surge in population during academic semesters. The large student population has created a large demand for health care providers; therefore, health care is readily available within the community. There are several health care providers in Blacksburg, such as the Carilion Clinic, New River Mental

Health Association, Montgomery Regional Hospital, and New River Valley Community Services. The community also is home to the Virginia College of Osteopathic Medicine, which plays a role in offering a wide variety of practitioners to meet community residents' alternative medical needs. One interviewee commented on the convenience and accessibility of after-hours care in one of the major clinics in town; however, this may not be the perception of all who access such care. Additionally, two interviewees had been diagnosed with medical conditions requiring specialized care, which they sought by traveling to Roanoke. Traveling a significant distance to receive specialized care is not uncommon for residents of rural communities lacking a variety of health care resources (Arcury et al., 2005; Arcury, Preisser, Gesler, & Powers, 2005; Casey et al., 2001; Nemet & Bailey, 2000; Rosenblatt, 2002; Taylor et al., 2002).

Christiansburg Group

Despite Christiansburg's similar structure to Blacksburg, the interviewees in the Christiansburg Group perceived the community health care system very negatively and did not divulge any positive aspects. Largely negative perceptions of the health care system may be due to lack of access, lack of transportation, lack of after-hours care, and limited health care options (Gesler et al., 2000; Hill & Fraser, 1995; Logan et al., 2004) The general consensus was that the health care system in Christiansburg was lacking resources, such as medical professionals (e.g., pharmacists) in the Christiansburg Free Clinic. Similar to many areas in the U.S., a complaint was that good medical care is not universal in Christiansburg, which reaffirms the comment that the area is lacking many medical resources. However, a lack of universal health care among community residents is not restricted to underdeveloped rural areas (Arcury et al., 2005; Black, Mather, & Sanders, 2007). Furthermore, the lack of universal medical care available to and affordable by all residents may also be due to the vicinity of Christiansburg in which one resides,

or the extent of medical care one requires, with more extensive care requiring travel to a more medically-advanced facility (Casey et al., 2001; Arcury et al., 2005; Arcury, Preisser, Gesler, & Powers, 2005; Nemet & Bailey, 2000; Rosenblatt, 2002; Taylor et al., 2002).

Four out of seven interviewees complained that getting health care can be difficult and expensive—if possible at all—if not offered through an employer-based health care plan. Oftentimes, employees' only means for acquiring even minimal health care coverage is via their employer, although the employer-based plan may not necessarily cover all of the employee's medical needs (Bolin & Gamm, 2004; Sowada, 2003). Difficulty with accessibility and affordability particularly pose a problem for the unemployed and/or uninsured, who may have an ailing spouse or have a chronic medical condition themselves that requires specialized—and oftentimes expensive—care (Hayward et al., 2004; Lima & Allen, 2001; O'Hara, 2004; Sowada, 2003; Tong, 2002).

Floyd Group

The town of Floyd is home to less than 500 Virginia residents and, according to the Floyd Group, is lacking medical care options. Given the very rural nature of this small town, there are no hospitals in the immediate area, causing those in need of medical attention to travel to Roanoke or Christiansburg for the necessary care. Traveling great distances to receive the necessary medical care is not uncommon in rural locales and warrants further attention by legislators (Arcury et al., 2005; Arcury, Preisser, Gesler, & Powers, 2005; Casey et al., 2001; CFRHC, 2005; Nemet & Bailey, 2000; Rosenblatt, 2002; Taylor et al., 2002). According to the interviewees, Floyd lacked medical care facilities that could provide care without insurance, with the exception of herbalists and alternative medicine practitioners, which is very popular among Floyd natives of all ages specifically, and is becoming increasingly common among rural

residents in the U.S. in general (Arcury, Preisser, Gesler, & Sherman, 2004; Robinson, Chesters, & Cooper, 2007; Shreffler-Grant, Weinert, Nichols, & Ide, 2005).

Giles Group

Giles is similar in rural landscape to Floyd, with medical practitioners within the reach of its citizens. However, overall, access to medical care, such as that provided by a Free Clinic, is still problematic with inconvenient hours, unequal access, and lack of transportation (Hadley & Cunningham, 2004; Mott, Gifford, Cashman, & Savageau, 2004; Nadkarni & Philbrick, 2005; Nadkarni & Philbrick, 2003). Interestingly, a Free Clinic facility was established in Giles in December of 2007; however, access to Free Clinic care was a common complaint among the Giles Group. A minimal professional staff often leads to a limitation in services (e.g., dental care) that can be provided to the low-income, uninsured community (Hadley & Cunningham, 2004; Mott, Gifford, Cashman, & Savageau, 2004; Nadkarni & Philbrick, 2005). Moreover, all seven Giles interviewees reported that they had to seek medical care within the Roanoke health care system.

Conclusions: Research Question Two

Similar to previous research (e.g., Ricketts, 2000), the overall perceptions of the community health care system were both positive and negative, with the majority of complaints pertaining to the lack of resources (e.g., medical professionals), lack of care options in the immediate area, and difficulty accessing care if under-/uninsured. The aforementioned findings are not surprising, particularly because rural areas, for a number of reasons, typically experience a significant deficit in health care resources as compared to urban areas (van Dis, 2002).

In a society that bases quality medical care on the quality of one’s insurance, rural American community residents’ experiences with and perceptions of the community health care

system varied among the present study sample. Furthermore, some community residents reported easy access to medical care due to a full insurance plan, while others reported negative experiences with accessing the health care system in the community if they lacked health insurance or if they lacked transportation to health care sites, for example. Based on the comment that one can receive medical care in Floyd without insurance, it was unclear if any of the uninsured Floyd Group interviewees accessed the new Giles Free Clinic services. Future publicity efforts on behalf of the Free Clinic, for example, should strive to reach the uninsured populations of rural Virginia communities such as Floyd and Giles, as well as Blacksburg and Christiansburg.

Recommendations for Future Research

1) For a more complete picture, implement the MAPP tool in its entirety, including the use of community needs assessment surveys.
2) Study more urban areas within Virginia (e.g., D.C.) and compare the findings to those of the present study.
3) Include a larger sample size that encompasses a greater number of communities within a particular health district in order to generalize the findings to similarly structured communities.
4) Compare the findings of the present study with those of previous similar studies that have been conducted within the U.S.
5) Formulate the one-on-one interview questions in an extremely clear manner with a narrow focus to avoid confusion or misinterpretation among interviewees.
6) Examine how religion and spirituality relate to one’s perceptions of quality of life and the community health care system.

7) Include additional interview questions pertaining to quality of life and the local health care system, such as, “What does quality of life mean to you?” “In what ways do you think quality of life could be improved in your community?” “How many times in the past six months have you accessed the local health care system directly?” “What specific health care services would be most helpful to you or someone you know (e.g., family member, friend)?”
8) Consider the sensitivity of the interview questions for future studies requiring the collection of personally identifying information from interviewees.
9) Determine the factors that enhance collaboration between the local health care system and service agencies and support organizations in assisting community residents.

Recommendations for Practice

The most profound finding of the study is that despite the perceived needs for the local health care system, interviewees still perceived a good quality of life in their respective communities. This finding may lead one to believe that community residents’ quality of life is independent of access to or availability of health care services in the community. However, many other factors not examined in the current study, such as family relationships, retirement status, rural versus urban residence, extent of use of the local health care system, and income levels also may lead to a perceived good quality of life and should be considered for future studies. In addition, a perceived good quality of life does not suggest that perceived needs of the local health care system should be ignored. On the contrary, improved access to after-hours care, transportation, and universal health insurance coverage are considerations for the betterment of the current local health care system in New River Valley, Virginia, and throughout the U.S.

The two populations that were continually mentioned among all four interview groups were children and older adults. Consequently, community planners, health department professionals, school system personnel, and older adult living facility administrators and staff should collaborate to better meet these populations' needs. Another population, those with special needs (e.g., mental illness, mental retardation, learning disabilities), was briefly mentioned by the Floyd group, which offers a specialized facility to treat this population, and warrants further attention.

Health promotion strategies must redirect their focus on enhancing independence, quality of life, and a respect for individual perspectives of self-care, as well as an appreciation of the spiritual dimensions of health, an acceptance of different healing modalities, greater understanding of the negative effects of stereotyping, and cultural competence (Averill, 2003; Borders et al., 2004; Davis & Magilvy, 2000; Jensen & Royeen, 2002; Roberts, 2004; Springett, 2001). In that lifestyle factors are modifiable, behavioral interventions among rural residents should be developed based on urban models, such as community education and outreach that considers rural social norms and issues of access to care typical of urban communities. There needs to be a shift in focus on lifestyle changes and barriers to such changes that are typical among rural residents. Consequently, barriers to change need to be addressed, such as prohibitive costs, long distances to treatment, social stigmas concerning diagnosis and treatment, heavy patient load among physicians, lack of accessible continuing medical education for physicians, and community knowledge and attitudes about risk factors, prevention, and treatment, including vision care and foot care for diabetic individuals, as well as the implementation of free clinics (Arcury et al., 2005; Ayanian et al., 2000; Beem, Machala, Holman, Wraalstad, & Bybee, 2004; Berndt, Hevner, & Studnicki, 2003; Borders et al., 2004; CFRHC, 2005; Davis, 2004; Dennis &

Pallotta, 2001; Eberhardt & Pamuk, 2004; Glasser et al., 2003; Huttlinger et al., 2004; Jensen & Royeen, 2002; Lee, Giuse, & Sathe, 2003; Roux, 2001; Scariati & Williams, 2007).

In order for health care delivery to be successful, a linkage between mental health and primary health care is necessary, and can include providing mental health professionals in the primary care setting. Results of this network may include enhanced real and perceived level of confidentiality, improved referrals and earlier identification of individuals with mental health issues, interaction between professionals to reduce the sense of professional isolation, and reduced operational costs due to the sharing of some overhead expenses (Averill, 2003; Ayanian et al., 2000; CFRHC, 2005; Davis, 2004; Eberhardt & Pamuk, 2004; Glasser et al., 2003; Levin & Hanson, 2001; Roux, 2001; Wagenfeld et al., 1997).

Future research and service delivery models should focus on community strengths and assets to achieve population health, such as the model of community oriented primary care [COPC] (Glasser et al., 2003) and Community As Partner Model [CAP] (Huttlinger et al., 2004). Emphasizing the shared strengths of a community has the potential to facilitate community empowerment and foster a movement toward positive change in the planning and delivery of a health care continuum (i.e., chronic disease management, medication management, rehabilitation therapies, environmental health policies), as well as promote related information that will enhance rural residents' health knowledge (Averill, 2003; Berkowitz, 2004; Berndt et al., 2003; Borders et al., 2004; CFRHC, 2005; Davis, 2004; Eberhardt & Pamuk, 2004; Leight, 2003; Laverack & Labonte, 2000; May et al., 1995; Potvin et al., 2005; Roux, 2001; Sampson, 2003; Scariati & Williams, 2007). Moreover, learning is not simply for experts or the community alone. Successful health promotion requires a mutual dialogue between community groups and stakeholders that offers an openness to discover the components that foster successful health

promotion programs, processes, and outcomes that involve empowerment, active participation, holism, intersectoral qualities, equity, sustainability, and are multi-strategic in nature (Leight, 2003; Potvin et al., 2005; Springett, 2001; Williams & Cutchin, 2002).

Conclusion

The present study provides insight into the perceptions regarding quality of life and the local health care system among residents residing in four separate communities within the New River Valley in an attempt to reveal the relationship, or lack thereof, between these two factors. Blacksburg, Christiansburg, Floyd, and Giles community residents' perceptions of quality of life and the local health care system were brought to life through a qualitative analysis of 28 interviews. The findings suggest that community residents still perceive a good quality of life in their community, despite crime and lacking services, such as transportation and health-related services. For instance, even in communities such as Christiansburg and Giles, where community residents perceived the local health care system as mainly negative, residents still perceived an overall good quality of life. However, it was not clear during the interviews how often and to what extent the interviewees accessed—or attempted to access—the local health care system, which may have played a role in the residents' negative perceptions of the available health-related services.

The present qualitative study revealed that a need for improved access to and greater availability of local health care services require continued attention. More efficient and effective coordination between the local health department and community health-related service providers may serve to improve existing health services, as well as access to and affordability of these services. In addition, to improve health communication, the current study's findings suggest that health service providers may reach the public more effectively by providing

enhanced advertising of their services through posters displayed in local doctors' offices, recreation centers, senior centers, churches, and other public locations. Other health communication efforts include advertisements in local newspapers and monthly newsletters, mail-out flyers to individual residences and in daily/weekly newspaper delivery, and public service announcements on the radio. Collaboration among health service providers in the community and education institutions, such as public school systems and higher education, could serve to educate community residents on taking better care of their own health, as well as increase awareness of the services that are available in the local community.

The need for integration of medicine, public health, and the local health care system to meet the needs of rural residents cannot be overemphasized. The ongoing quest for improved access to, availability of, and affordability of health care services will continue to challenge many community residents who are in need of such services, particularly those who are under-/uninsured, or who reside in an area that lacks the necessary services. Though future research is needed, this study provides the community development and health department professional with the perceptions of four groups of community residents regarding the interplay between quality of life and the local health care system. The value of these observations provides insight to future research variables, such as the need for more comprehensive community needs assessment surveys, health professionals surveys, health policy revisions, advocacy, and coordination among the local health department, nonprofit health agencies/organizations, and government agencies.

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Appendix A

Definition of Terms

Access: The potential for or actual entry of a population into the health system. Entry is dependent upon the wants, resources, and needs that individuals bring to the care-seeking process. The ability to obtain wanted or needed services may be influenced by many factors, including travel, distance, waiting time, available financial resources, and availability of a regular source of care.

Assessment: As one of the core functions of public health, assessment involves the systematic collection and analysis of data in order to provide a basis for decision-making. This may include collecting statistics on local health status, health needs, and/or other public health issues.

Behavioral risk factors: Risk factors in this category include behaviors that are believed to cause, or to be contributing factors to most accidents, injuries, disease, and death during youth and adolescence as well as significant morbidity and mortality in later life. This is a category recommended for collection in the Community Health Profile.

Best practice(s): Recommendations for establishing a practical, effective, and comprehensive approach.

Communities: The aggregate of persons with common characteristics such as geographic, professional, cultural, racial, religious, or socio-economic similarities; communities can be defined by location, race, ethnicity, age, occupation, interest in particular problems or outcomes, or other common bonds.

Community assets: Contributions made by individuals, citizen associations, and local institutions that individually and/or collectively build the community's capacity to assure the health, well-being, and quality of life for the community and all its members.

Community collaboration: A relationship of working together cooperatively toward a common goal. Such relationships may include a range of levels of participation by organizations and members of the community. These levels are determined by the degree of partnership between community residents and organizations, the frequency of regular communication, the equity of decision making, access to information, and the skills and resources of residents. Community collaboration is a dynamic, ongoing process of working together, whereby the community is engaged as a partner in public health action.

Community's health: A perspective on public health that regards "community" as an essential determinant of health and an indispensable ingredient for effective public health practice. It takes into account the tangible and intangible characteristics of the community, its formal and informal networks and support systems, its norms and cultural nuances, and its institutions, politics, and belief systems.

Community health assessment: Community health assessment calls for regularly and systematically collecting, analyzing, and making available information on the health of a community, including statistics on health status, community health needs, epidemiologic and other studies of health problems. Often this can take the form of community needs assessments, which are intended to assist the community in adapting and responding to important health problems and risks. Increasingly, moving beyond problems and deficits toward an analysis of community strengths and resources is becoming recognized as a critical part of understanding a community's health.

Community health professional: An individual who provides a community-based service related to the preservation or improvement of the health of individuals, or the treatment or care of individuals who are injured, sick, disabled, or infirm.

Community health status: Health status in a community is measured in terms of mortality (rates of death within a population) and morbidity (the incidence and prevalence of disease). Mortality may be represented by crude rates or age-adjusted rates (AAM); by degree of premature death (Years of Productive Life Lost [YPLL]); and by cause (disease—cancer and non-cancer or injury—intentional, unintentional). Morbidity may be represented by age-adjusted (AA) incidence of disease.

Cultural competence: A set of skills that result in an individual understanding and appreciation of cultural differences and similarities within, among, and between groups and individuals. This competence requires that the individual draw on the community-based values, traditions, and customs to work with knowledgeable persons of and from the community in developing targeted interventions and communications.

Demographic characteristics: Demographic characteristics of a jurisdiction include measures of total population as well as percent of total population by age group, gender, race and ethnicity, where these populations and sub-populations are located, and the rate of change in population density over time, due to births, deaths and migration patterns.

Determinants of health: Direct causes and risk factors which, based on scientific evidence or theory, are thought to influence directly the level of a specific health problem. These may be defined as the “upstream” factors that affect the health status of populations and individuals. Roughly divided into the social environment (cultural, political, policy, economic systems, social capital, etc), the physical environment (natural and built), and genetic

endowment. The determinants of health affect both individual response (behavior and biology) and the prevalence of illness and disease.

Effectiveness: The improvement in health outcome that a strategy can produce in typical community-based settings.

Environments: Totalities of circumstances where individuals live, work, learn, and play.

Environmental hazards: Situations or materials that pose a threat to human health and safety in the built or natural environment, as well as to the health and safety of other animals and plants, and to the proper functioning of an ecosystem, habitat, or other natural resource.

Environmental health: The quality of our physical environment, including air, water, and food, directly impacts health and quality of life, including the interrelationships between people and their environment that promote human health and well-being and foster a safe and healthful environment.

Essential Public Health Services: The services identified in *Public Health in America*: monitoring health status; diagnosing and investigating health problems; informing, educating, and empowering people; mobilizing community partnerships; developing policies and plans; enforcing laws and regulations; linking people to needed services; assuring a competent workforce; conducting evaluations; and conducting research. Representatives from federal agencies and national organizations developed the statement made in *Public Health in America*. This statement includes two lists: one that describes what public health seeks to accomplish and the second that describes how it will carry out its basic responsibilities. The second list, the Essential Services, provides a list of 10 public health services that define the practice of public health.

Goals: Broad, long-term aims that define a desired result associated with identified strategic issues.

Health: A dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity.

Health assessment: The process of collecting, analyzing, and disseminating information on health status, personal health problems, population groups at greatest risk, availability and quality of services, resource availability, and concerns of individuals. Assessment may lead to decision making about the relative importance of various public health problems.

Health belief model: A theory stating that the likelihood of taking a preventive health action will be determined by one's perceived susceptibility (the individual's perception about his or her own likelihood of contracting a condition); perceived severity (the seriousness the individual would assign to such a condition were it to happen); perceived benefits of the proposed action (the individual's perception about the likelihood that a given action would succeed in reducing or eliminating harm); and perceived barriers (factors that would interfere with the individual's taking the desired action).

Health education: Any planned combination of learning experiences designed to predispose, enable, and reinforce voluntary behavior conducive to health in individuals, groups, or communities. An educational process by which the public health system conveys information to the community regarding community health status, health needs, positive health behaviors and health care policy issues.

Health information: Information regarding medical or health-related subjects that individuals may use to make appropriate health decisions.

Health needs: Demands required by a population or community.

Health status: The current state of a given population using a variety of indices, including morbidity, mortality, and available health resources.

Infectious diseases: A disease caused by a living organism. An infectious disease may, or may not, be transmissible from person to person, animal to person, or insect to person.

Local public health agency (LPHA): May vary in different jurisdictions, but usually includes the local health department, local board of health, and/or other local governmental entity designed to provide public health services to the jurisdiction. In many communities, the LPHA is a major player in the LPHS. The State also may provide services, and may comprise a part of the local public health system.

Local public health system (LPHS): The collection of public, private and voluntary entities, as well as individuals and informal associations, that contribute to the public's health within a jurisdiction.

Mobilizing for Action through Planning and Partnerships (MAPP): A community-wide strategic planning tool developed by National Association of County and City Health Officials (NACCHO) and Centers for Disease Control (CDC).

Morbidity: Illness or lack of health caused by disease, disability, or injury.

Mortality: A measure of the incidence of deaths in a population.

Objectives: Defined as results of specific activities or outcomes to be achieved over a stated time. Objectives are specific, measurable, and realistic statements of intention. Objectives state *who* will experience *what change or benefit* and *how much* change is to be experienced in *what time*.

Partnership: A collaborative relationship of individuals and/or organizations within which partners set aside personal or organizational agendas to achieve the agenda of the

partnership. In a partnership, the partners engage as equals in the decision-making process. In effective partnerships, partners share a vision, are committed to the integrity of the partnership, agree on specific goals, and develop a plan of action to accomplish the goals.

Performance standard: A generally accepted, objective form of measurement that serves as a rule or guideline against which an organization's level of performance can be compared.

Populations with barriers to the health care system: Populations with barriers to the health care system include the uninsured, the underinsured, and socially disadvantaged people. Socially disadvantaged people include all people who, for reasons of age, lack of education, poverty, culture, race, language, religion, national origin, physical disability, or mental disability, may encounter barriers to entry into a coordinated system of public heath services and clinical care.

Public health: The science and the art of preventing disease, prolonging life, and promoting physical health and mental health and efficiency through organized community efforts toward a sanitary environment; the control of community infections; the education of the individual in principles of personal hygiene; the organization of medical and nursing service for the early diagnosis and treatment of disease; and the development of the social machinery to ensure to every individual in the community a standard of living adequate for the maintenance of health. The mission of public health is to fulfill society's desire to create conditions so that people can be healthy.

Public health director: The person responsible for the total management of the health department. The governing authority, often the board of health, appoints this person. The public health director is responsible for the day-to-day operations of the health department and its

component institutions, often sets policy or implements policies adopted by the board of health, and is responsible for fiscal and programmatic matters.

Public health system: All public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction. These systems are a network of entities with differing roles, relationships, and interactions that contribute to the health and well-being of the community or state.

Quality of life data: While some dimensions of quality of life can be quantified using indicators that research has shown to be related to determinants of health and community-well being, other valid dimensions of QOL include the perceptions of community residents about aspects of their neighborhoods and communities that either enhance or diminish their quality of life.

Risk Assessment: The scientific process of evaluating adverse effects caused by a substance, activity, lifestyle, or natural phenomenon. Risk assessment is the means by which currently available information about public health problems arising in the environment is organized and understood.

Safety-net providers: Individuals and organizations that provide health care to low-income and other vulnerable populations, including the uninsured and those covered by Medicaid. Major safety net providers include public hospitals and community health centers, as well as teaching and community hospitals, private physicians, and other providers who deliver a substantial amount of care to these populations.

Sentinel (health) events: Cases of unnecessary disease, disability, or untimely death that could be avoided if appropriate and timely preventive services or medical care were provided. These include vaccine-preventable illness, avoidable hospitalizations (those patients admitted to

the hospital in advanced stages of disease which potentially could have been detected or treated earlier), late stage cancer diagnosis, and unexpected syndromes or infections. Sentinel events may alert the community to health system problems such as inadequate vaccine coverage or lack of primary care and/or screening.

Social and mental health: This category represents social and mental factors and conditions, which directly or indirectly influence overall health status and individual and community quality of life.

Social capital: A composite measure that reflects both the breadth and depth of civic community (i.e., staying informed about community life and participating in its associations), as well as the public's participation in political life. It is characterized by a sense of social trust and mutual interconnectedness, which is enhanced over time through positive interaction and collaboration in shared interests.

Socioeconomic characteristics: Include measures that have been shown to affect health status, such as income, education, and employment, and the proportion of the population represented by various levels of these variables.

Stakeholders: All persons, agencies and organizations with an investment or "stake" in the health of the community and the local public health system. This broad definition includes persons and organizations that benefit from and/or participate in the delivery of services that promote the public's health and overall well-being.

Sustainability: The long-term health and vitality — cultural, economic, environmental, and social — of a community. Sustainable thinking considers the connections between various elements of a healthy society, and implies a longer time span (i.e., in decades, instead of years).

Underserved populations: Populations with barriers to the health care system include the uninsured, the underinsured, and socially disadvantaged people. Socially disadvantaged people include all people who, for reasons of age, lack of education, poverty, culture, race, language, religion, national origin, physical disability, or mental disability, may encounter barriers to entry into a coordinated system of public health services and clinical care. Refer to *Populations with barriers to the health care system* above.

Values: The fundamental principles and beliefs that guide a community-driven process. These are the central concepts that define how community members aspire to interact. The values provide a basis for action and communicate expectations for community participation.

Vectors: Used in terms of public health, it refers to animals or other living organisms that carry or transmit diseases (e.g. rats, mosquitoes, fox).

Vector control: Programs designed to reduce or eliminate a disease-carrying insect or rodent population (e.g., mosquito control programs).

Vision: A compelling and inspiring image of a desired and possible future that a community seeks to achieve. A health vision states the ideal, establishes a link explicitly to strategies, inspires commitment, and draws out community values. A vision expresses goals that are worth striving for and appeals to ideals and values that are shared throughout the local public health system.

Vulnerable populations: A group of people with certain characteristics that cause them to be at greater risk of having poor health outcomes. These characteristics include, but are not limited to, age, culture, disability, education, ethnicity, health insurance, housing status, income, mental health, and race.

Appendix B

Interview Guide

1. Are you satisfied with the quality of life in our community? *(Prompt: Think about your sense of safety, well-being, participation in community life and associations, etc.)*
2. Are you satisfied with the health care system in the community? *(Prompt: Think about access, cost, availability, quality, options in health care, etc.)*
3. Is this community a good place to raise children? *(Prompt: Think about school quality, day care, after-school programs, recreation, etc.)*
4. Is this community a good place to grow old? *(Prompt: Think about elder-friendly housing, transportation to medical services, churches, shopping; elder day care, social support for the elderly living alone, meals on wheels, etc.)*
5. Is this an easy place to find a job or start a business to make a living? (*Prompt: Think about locally owned and operated businesses, jobs with career growth, job training/higher education opportunities, affordable housing, reasonable commute, etc.)*
6. Is the community a safe place to live? Do you feel safe in this community? *(Prompt: Think about residents' perceptions of safety in the home, the workplace, schools, playgrounds, parks, the mall. Do neighbors know and trust one another? Do they look out for one another?)*
7. When families and individuals need help in this community, are there agencies and organizations that can help? *(Prompt: Think about neighbors, support groups, faith community outreach, agencies, organizations)*

8. What kinds of agencies and organizations do you know of? Is it easy or hard to get services and help here? Do these helping organizations work together well in providing services?
9. What are some of the things that would make the community a better place to live?
10. (a) Do you think your *neighbors* know that they can, as individuals or in groups, help make this a better place to live? (b) Do you feel *you* personally can do things to help make this community a better place to live? What kinds of things?
11. Do you think most people in this community care about living here? Do you think most people here like to work together to keep this a good place to live?

Appendix C

Interview Data

Table C1. Blacksburg Group

Instances found related to MAPP

Group	Community quality of life	Community safety	Community opportunities	Community cohesion	Community health care system	Awareness of community health related agencies and organizations	Community needs
Blacksburg	• Promote a good quality of life. • Jobs are not plentiful. • Somewhat progressive community • Healthy lifestyle. • Very good place to grow old with many support programs. • Good schools and homes. • One of the best places I've ever lived. • I don't know if it costs more or less here	• Character is changing and problems starting to creep in. • Doors are often unlocked, neighbors know one another, and take care of one another. • Interesting, inspiring, safe place to raise children. • Others are afraid of people breaking in. • Sherriff patrols neighborhood regularly.	• Government is welcoming of citizen participation and input. • Plenty of volunteer opportunities. • Schools have been excellent. • Plenty of recreational activities and opportunities. • Sufficient things for young people to do.	• Easy to get involved and the closeness of the community • People know who you are, are concerned about neighbors. • Fairly cohesive group • Common vision of the town. • I don't hear of a lot of people moving away. • People in church would help me get where I need to go.	• Good access and wide variety of doctors. • Excellent experience in the after-hours Carillion Clinic. • Pleased with family practitioner and pediatricians. • We would leave the area for better care. • Good access with being close to Roanoke.	• Churches, United Way, Christmas Store, Boys and Girls Club, Big Brothers/Big Sisters, Food Pantry, Food Bank, Christmas Store, Women's Resource Center, Humane Society, Habitat for Humanity. • Social services, • Salvation Army, • Banks • RSVP • MECAP	• More things needed for high school students to do; seems more left out. • Housing/assisted living opportunities may be limited. • Limited growth potential with VT and other large employers. • Harder now for small businesses with Big Box and other large retail stores moving in. • Better control of growth.

Table C2. Christiansburg Group

Instances found related to MAPP

Group	Community quality of life	Community safety	Community opportunities	Community cohesion	Community health care system	Awareness of community health related agencies and organizations	Community needs
Christiansburg	• Nothing in Roanoke that we don't have here. • I like the lack of heavy traffic. • Rural makes it better. • Good place to raise children. • Housing is good. • Especially coming from Pittsburg—very happy to have escaped the big city.	• Neighbors look out for and trust one another. • A lot of crime in Roanoke, but not here. • SW VA is a much better place for my children. • Not as safe as 10 years ago.	• Good volunteer opportunities. • Lots of retirement centers. • You can find jobs, but not necessarily good ones—Corning, Echo Star. • Lots of learning opportunities for seniors; terrific recreation centers.	• Relies on friends for transportatio n. • Neighbors pitch in where needed. • People should get more involved; they should care more about the community and not be so self-absorbed. • Encourage more empathy among community residents. • Neighbors don't know each other.	• Free Clinic needs more people/resou rces (Pharmacists for example). • Good medical care isn't universal. • Getting healthcare can be difficult and expensive if not through employer.	• Free Clinic, Social Services, RSVP, Rescue Squad, Senior Citizen groups. • Red Cross Blood Bank and the hospital. • Agency on Aging, Dept. of Social Services, police dept. • Med Ride, County Health Dept. • Never heard of Meals on Wheels.	• Better transportation. • Better schools. • Children need more activities in winter. • Not many jobs. • More entertainment. • Employers don't offer much training. • More shelters or counseling. • More support for low income individuals. • More help for elderly. • Affordable health insurance. • More funds for health. • Need community leadership.

Table C3. Floyd Group

Instances found related to MAPP

Group	Community quality of life	Community safety	Community opportunities	Community cohesion	Community health care system	Awareness of community health related agencies and organizations	Community needs
Floyd	• Large number of women over 50. • Stable community with a sense of responsibility. • Safe, beautiful, not commercialized. • Hard for single parents. • Love church. • Drugs and peer pressure. • More help for baby boomers.	• Very safe. • People don't lock their cars. • Car accidents among teens. • No one locks their doors.	• Lots of home-schooling. • Lots of music, arts, and crafts. • Blue Mountain School. • Easy to start a small business. • Better schools than other counties.	• People are friendly, helpful, and supportive of each other. • People living here all pull together; there is a sense that we are all in this together. • Neighbors do not care. • Neighbors are kind and look out for others. • Good sense of community. • People pull together here. • Friction between newcomers and old-timers.	• No hospitals • Herbalists • Alternative medicine • Must drive to Christiansburg for healthcare. • You can get care here, even without insurance. • Options are limited.	• Barter Clinic w/reasonable prices • Carillion Clinic • Free Clinic (only twice/month). • Wall Residencies • New River Community Action • Floyd Pharmacy • Lack of awareness of services. • School system. • Churches • Head Start • SCHIPs • Family Preservation Group	• No public transportation. • No manufacturing. • Not enough daycare. • More jobs • More jobs for teens. • Lower cost of living. • Better wells. • Promote services. • Improved schools. • Reduce drugs. • Better screening of people who receive services. • Not commercial enough. • More parks and recreation. • Intergenerational opportunities.

Table C4. Giles Group

Instances found related to MAPP

Group	Community quality of life	Community safety	Community opportunities	Community cohesion	Community health care system	Awareness of community health related agencies and organizations	Community needs
Giles	• Excellent community for children. Good after school programs. • Very elder-friendly. • After living in 26 different places in the country, this is the best place I've been. • School system is good.	• Most neighbors know & trust each other, although I have had problems with my nearby neighbors. • It's a safe community. • There's good police protection. • Good place for children and safe.	• Many social activities and community based activities. • Best place to find a job is Roanoke. • Many factories have closed. • Taxi services available. • Seems like a lot of businesses are starting up. • Plenty of shopping. • Lots of community service volunteer activities.	• It's hard to deal with big corporations. • People look in on each other. • People don't interact that much, but neighbors are willing to help. • Everybody is friendly. • Neighbors take care of one another, look out for weaker members.	• Doctors are handy. • It's easier to get good healthcare here. • Has good insurance, but still feels "insurance poor." • Access to Free Clinic is a problem. • Work-related insurance is a problem.	• Meals on Wheels, support groups, emergency services (MCEAP), SHARE, senior bus. • Free Clinic has been good for Pro Bono access. • Food bank, clothing bank, RSVP, Salvation Army. • Rec. Center publicizes area help agencies. • Med Ride, home healthcare.	• Rough to find good jobs. • A new Commonwealth Attorney – no justice in Montgomery County. • Gov't. doesn't pay enough for prescriptions. • More business here. • Better water. • Lack of industry. • Affordable school activities. • Petition for community to come together for a cause.