

LICENSURE AND THE DENTAL MARKET

by

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A thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

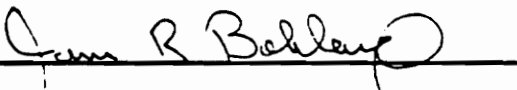
in

Public Administration and Policy

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April 22, 1988

Blacksburg, Virginia

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(ABSTRACT)

The dental profession in the United States has a history of organized activity designed to secure a market protected from outsiders. The development of this phenomenon follows a course that has paralleled that of the other licensed professions. The ultimate capture of the official blessings of the state by the argument of professional competency in the name of the public interest placed the profession in firm control of the dental market. The gatekeepers are dentists who control the market with the authority of the state police powers via the licensure process. These boards have executive, legislative and judicial authority granted by state legislatures in order to protect the interests of the public's dental health. However, the inflation rate of dental fees above the general inflation rate over the past several years suggests that the market has not been behaving in a competitive fashion. The decline in the incidence of dental caries coupled with an oversupply of dentists caused by the Congressional intervention of the 1960s and early 70s, has caused a financial crunch for the private practitioner. Meanwhile, emergent technology has created a market outside of the traditional political hierarchy, that

threatens the authoritative structure of the profession. The processes of a simultaneous scientific and economic revolution poses an enormous threat to the status quo. The conflict has been drawn to the public forum of the state dental boards. Unfortunately, the government's goal of affordable, quality dental care for its citizens had been supplanted by "turf" battles, restricted market access and manpower mobility. The state dental boards have lost sight of their mission; to protect the public interest in the market place.

ACKNOWLEDGEMENTS:

This paper would have been full of clerical and grammatical errors without the careful scrutiny of my advisor Dr. Phil Martin. His comments and criticisms have been instrumental in discovering weaknesses that I frequently missed. I am deeply grateful to the Faculty and Staff at the Center for Public Administration at Virginia Polytechnic Institute and State University. This effort would have been impossible without their encouragement and understanding during this most difficult period of transition in my life. The transformation from an independent dental practitioner to a lowly graduate student back to a confident leader in public dental health affairs still mystifies me. I am fortunate that the many periods of doubt that I experienced in the development of this text were eased by the extraordinary patience and support of my parents, Andrew and Helen Choby. I also wish to thank my children, Natalee and Lauren, for their unrequited and innocent love. A special thanks to the charismatic Christian Community at St. Mary's in Blacksburg, for sharing their joy with me. Last, but certainly first in my mind, I thank God for His never-changing laws as a reliable source of stability during the uncertainties of the inevitable changes in my life experiences.

The stone which the builders rejected, the same is become the head of the corner: This is the Lord's doing, and it is marvelous in our eyes?

Matt. 21:42

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INTRODUCTION:

The issue of professional licensure as a method of assuring quality in the delivery of health care in this country has its roots in our early history. The past 250 years has witnessed the birth and maturation of a body of knowledge and skills that has ascended through economic and sociologic ranks at an unprecedented rate. What had once been considered to be a lowly trade has now become the largest special interest group confronting the political process. The clever marriage of the police power of the state with the goals of the health care professions gave an official sanction to the creation of an monopoly in the health care market. The compelling arguments in favor of the restricted markets were legitimized by the validity of the scientific method as a tool for pursuing nature's secrets. Dentists have played a significant role in this process of professional legitimization. The results of the dental profession's cumulative efforts is that dentistry has become the largest licensed specialty of the healing arts of this country.

In 1960 the American Dental Association's House of Delegates passed a resolution to limit the number of dental specialty areas to 7, this was increased to 8 in 1963. This

action firmly secured a professional hierarchy that has withstood nearly 30 years of attempts to define new "turf" boundaries. In spite of the ADA's efforts, more and more societies of limited dental interests have been established. Since the battles over the boundaries of practice were not being adequately addressed by the ADA, the profession found itself becoming divided over arguments of competence; methods derived from the new found technologies, against the entrenched paradigms of the established quo. Out of economic fear the status quo shifted its focus to state protection on the age-old argument of quality in the interest of the public. In some cases ADA recognized specialists were successful in translating their economic concerns into additional market protection from competing general practitioners by developing state-sanctioned specialty licenses. These additional restrictions were granted on the premise that specialized knowledge was necessary to protect the public from general practitioners !!

When the U.S. Supreme Court's decision on professional advertising came in 1977, most organizational codes of ethics forbade advertising by the professional. The Court ruled that these codes were an unconstitutional interference of the free expression of speech. Consequently, the professional organizations had to alter their codes of

business ethics to align with the new "law" of the land. As the market information style gravitated towards representations of superior skills or knowledge, the specialists hoped to translate their higher level of professional knowledge into a secure market niche. As it turned out this was not the case.

Contrary to the unique economic status of the ADA specialty hierarchy, the only true dental specialty that has been recognized by the states has occurred in the practice area that includes the administration of systemic agents for sedation or complete anesthesia during dental operations. The development of this specialty became necessary when a growing number of unfortunate mishaps incurred significant statistics of morbidity and mortality. The states simply could not ignore the issue or attempt to placate the controlling membership of the ADA. The public interest was simply a greater political priority for patients under the influence of professionally-induced altered states of consciousness.

Over the past twenty years, advances in technology has re-written the traditional paradigms of oral physiology and function. As this new information caused friction between traditional practitioners and the evolving new professional,

a political showdown became inevitable. The current confusion among the profession vividly demonstrates the lack of significant leadership as an economic fear has developed for the unknown results of the growing scientific and professional revolution.

The economic uncertainty of the early 1980s convinced many that the only answer to future security lay in higher personal wealth. This perception provided an opportunity to add a little extra to the rising prices for dental services. The result led to increases in dental fees above the Consumer Price Index for all other goods. As the rising costs became a public concern, consumer pressures began to build in the political circles of government. The political attention turned to the dental market controllers, the state dental boards, for relief of the rigid market restrictions imposed onto the profession by the boards. While some change occurred in the advertising codes, the other market restrictions became even tighter. Simultaneously, the boards began to increase the prosecution of dentists for unprofessional behavior to demonstrate its involvement in the public interest. However these actions retarded the growth of entrepreneurship in the changing market conditions. In some instances the regulations became even more oppressive. In spite of convincing economic evidence, the

boards continued to maintain their cartel relationship over this public commodity in the name of quality.

In March of 1987, a report by the director of the National Institute of Dental Research, Dr Harold Loe, claimed "...and the nation is on the brink of eliminating toothlessness among people below the age of 65".¹ Dentistry became even more aware of the already declining need for its professional services. The inherent differences between the public interests and the private desires of the profession became more pronounced as the dental care market demand declined.

The plethora of restrictions that maintain the controlled markets for the professions had created a crisis for patients who sought an affordable access to dental services. Dentistry, more than any other licensed profession, had managed to secure an exceptionally restricted market. The policy directives that have emerged from the profession's desires has become more of a case of a wolf guarding the sheep. Policy concerns that emphasize quality of care at what ever the cost, long used to support the need for elaborate restrictions, no longer remains valid in our contemporary society. The public interest now includes affordable access along with a standard of quality

as equally desirable goals.

This paper will address these issues from a historical and contemporary basis in an effort to enlighten the reader towards the development of a sensible policy in the interest of the public which the dental profession is privileged to serve and to whom it is ultimately responsible.

CHAPTER 1. A REVIEW OF DENTAL LICENSURE IN THE U.S.:

STATE POLICES POWER AND DENTAL LICENSURE:

Regulation in the public interest has its origin in the police powers of the state. Interestingly enough, this doctrine is not defined in our constitution, in fact it is not even mentioned in this document. Yet this powerful concept is exactly why governments exist. The doctrine itself has evolved out of a common sense need to insure order among people. William Blackstone's commentary on the laws of England defined police power as regulation that is necessary to ensure domestic order within the Kingdom. ² In this country, the U.S. Supreme Court has at various times, attempted to define the concept. Out of the many cases that have addressed this issue, a currently acceptable definition has evolved. The police power is the authority of government to regulate the general prosperity and to promote the public health, safety, and welfare, while acting within the constraints imposed by the Bill of Rights, the Fourteenth Amendment and various Federal statutes designed to preserve individual liberties. Arguments have been made that the lack of a clear description of this doctrine in "positive law" or those that are created by legislative action, permit abuses under the ambiguous "color of the law". Recent Supreme Court

decisions justify police action as being under the color of the law when the action is a direct function of legitimate and constitutionally acceptable law. However, the enormous expansion of the modern administrative government into regulatory areas, draws criticism and debate as to whether this doctrine should supercede the individual rights as guaranteed by the Constitution. ³

The regulation of commerce, however, has a constitutional basis " to regulate commerce with foreign nations, and among the several states, and with the Indian tribes.". How this authority has been interpreted by the Supreme Court has been as varied as the police powers doctrine. Justice Marshall in the 1820s saw this authority to extend to interstate commerce in the absence of federal commerce laws. The states could enact police laws to protect the public even at the expense of commerce. ⁴

The interstate commerce concept evolved into interpretations that opposed regulations that placed greater constraints between states than within a state, in the absence of pre-emptive federal regulation. In other words, Federal authority trumped state authority when larger (interstate or civil rights) issues were at hand. ⁵

The state right to govern the affairs of the state within the federal union, was firmly established by the results of the American Civil War. State rights are subjected to the laws of the nation as a whole. Furthermore, the Fourteenth Amendment's clause concerning "due process" as a measure to guarantee life, liberty and prosperity, has been used by the Supreme Court to limit the state regulatory power. In the modern interpretation, substantive due process is a form of constitutional protection from the use of law that restricts the higher values of individual freedoms, except when the needs of the many are greater than the rights of a few. This clause also implies that state action can violate individual rights when there is no other alternative to achieve a legitimate public goal. The Court of the late 1890 to 1937 generally viewed government regulation as legitimate to protect the general health, safety, and moral welfare, but not as a means of redistributing social and economic power or property. Furthermore, The court affirmed that the constitution protected Americans to the right to be left alone as the most valued right among men. ⁶

This general overview of the basic governing principles regarding state regulation of health care in the interest of the public and against the backdrop of individual property rights, can now be used to understand the historical

development of dental regulations in the United States.

The earliest licensing laws for health care providers in this country occurred in Virginia (1639), Massachusetts (1649), and New York (1665). These statutes were a result of political pressure from the public to provide constraints on excessive doctor's fees! ' The earliest movement to establish the healing arts as a profession in the United States began in the 1750s when self-trained or apprenticed physicians/surgeons created medical societies as a forum of exchange for common interests and information. Eventually these groups sought protection of their crafts and skills through the public legislature as a way to require others to "earn" a right to become one of them. The first licensure law that required a competency test by examination was passed in New York City in 1760. This law had little impact on the current practice of medicine since it lacked any significant enforcement provisions or resources. The first medical school opened in 1765 at the College of Philadelphia, currently the University of Pennsylvania. The schools of that era offered bachelors and doctoral degrees in medicine. The usual course of study for the bachelors degree required less than one year. Since this degree had the necessary entry requirements into the profession, few students returned for the full doctorate. Even with minimal

requirements little could be done to force the practitioners of the day to conform to a uniform standard of care.

Medical schools were private enterprises whose sole source of income was from student fees. The faculty members were provided a source of income and the prestige of being organized in the pursuit of the lofty ideals of education for the betterment of others, an essentially religious principle. By the late 18th century, educational standards were changed to enhance the dignity of the profession by eliminating the bachelor's degree. The American doctoral degree attempted to mimic the more aristocratic European medical counterpart as a method of improving the image of the profession, but the medical schools of that day were deterred from raising the professional standards too rapidly for fear of losing students. The doctoral programs, moreover, had to be reduced in length in order to remain competitive with other professional educations. In spite of this change the requirements for a degree were less than what is properly expected of today's high school graduate. ^a

Recognizing the economic power of official state control as a means of limiting the number of practitioners, the early medical societies attempted to control the licensing process. Several states legislated this authority to the

medical societies in the late 1700s. The transfer of this public authority was based on the argument that self-regulation through codes of ethics and rigid requirements for membership was necessary to protect the public from unscrupulous practitioners. These efforts though were largely ignored by the doctors outside of the societies, for little could be done to enforce the terms of licensure without further extension of the police power to discipline the practitioners who refused to submit to the regulations.

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The societies and the schools continued their pursuit of higher standards primarily because of the economic incentives to present oneself as possessing more knowledge or skill. Since knowledge and skill formed the basis for monetary exchange between the doctor and the patient, the key to any sort of wealth lay in the reservoir of knowledge and skill available for exchange. Acquiring more knowledge or skill was the only legitimately competitive way of increasing one's wealth from professional services. The pursuit of knowledge for purely humanitarian reasons was a luxury that could only be afforded by the wealthy. Furthermore, and contrary to the desires of the educated doctors, competition for patients was a constant struggle against folk beliefs. Lay medicine was deeply rooted in the

family structure of early America. The health care tasks for the family were performed largely by the women. (10) This is not surprising, given that women experience illness more frequently than men, considering the responsibilities of the birth and rearing of children. 11

The specialized knowledge promoted by the schools and societies ran against the common sense faith that early Americans relied upon for their survival. Ordinary people expected to be able to understand virtually everything encountered in life on the basis of natural principles of reason. Complexity was confusion, and confusion was viewed as evil in and of itself. The idea of the rugged individual in control of his/her fate was epitomized by the presidency of Andrew Jackson. These people had little time for complicated matters. The free-for-all Jacksonian ideology of democracy prevalent in the 1830s eventually demanded an abolition of "licensed monopolies". Gradually over the next twenty years, most of the states of the union had eliminated licensure for the practice of medicine or dentistry. 12

The first professional dental group in the United States was founded on December 3, 1834. The Society of Surgeon-Dentists of the City and State of New York had attracted approximately 50 members around the call to disreputiate the

successes of a substitute for gold foil as a dental material. Earlier in that year, the Crawcon Brothers of New York City introduced an innovative dental technique that was a less costly alternative to dental gold. The method became an immediate commercial success. That forbidden material was dental amalgam. The professional squabble over the impact of this less expensive dental material on the stability of the existing dental market, became so intense that it was actually termed the "Amalgam War".¹³ The Society's response to this new technology exposed a hidden strategy for organized dentistry that would be repeatedly used in the future to attempt to maintain a controlled market. The Society went as far as to declare that the use of the material amounted to a form of dental malpractice. Anyone who used the forbidden material was unfit for membership in the newly organized profession. Claims of mercury poisoning, or overly exaggerated reports of the significance of failures were used to enhance the public image of the self-proclaimed "ethical" dentists who continued to use gold foil.¹⁴ The failures however, were more likely due to the improper mixing of the mercury/silver proportions or by contamination of the material by oral fluids. Once these problems were recognized and corrected the wide spread use of this substitute became the bread and butter of the profession. Amalgam continues to be the most commonly used

material in modern dentistry.

Another one of the Society's ambitions was to develop a college of dentistry. This effort was not successful, but the concept of unifying the profession through a common formal education for dentists had been established.¹⁵ In 1840, the dental profession had just begun to organize on a larger scale. The first national association was the American Society of Dental Surgeons founded in New York City in 1840. This group was formed by dentists who sought protection of their trade from the charlatans who took full advantage of the free-wheeling market attitudes of the Jacksonian period. The society quickly identified its enemy as the unscrupulous quacks who preyed on the misfortunes of those afflicted by dental disease by offering miracle cures. The society's mission was based on the values of truth and integrity in service to the dental health of the ignorant public. Not surprisingly, this sentiment had its roots in the widely recognized beliefs found in the Holy Scriptures. However, the calls for lofty standards by the group were viewed as unreasonable by the public and profession at large. Consequently, the American Society of Dental Surgeons was seen as an elitist organization categorized by the public as just another market monopolist. Within a few years, the membership drifted apart until the organization

became inactive. ¹⁶

The Baltimore College of Dentistry founded in 1840 by Dr. Charles A. Harris established a formal educational framework for dentistry to counteract the disorganized preceptor training system. Over the next forty years, other schools became established along the criteria of the emerging standards for dental education. The transitional period of the conflicting educational methods of scientific training versus preceptorship had to be tolerated during the next forty years to accommodate the wide variety of techniques and methods used by the members of the profession. The favoring of one group over another was counterproductive to the goals of a unified profession.

The first post-Jacksonian law regulating dentistry was passed in Alabama on December 31, 1841. The law provided for the State Medical Board to examine and issue licenses for dentists under the medical licensure regulation. Dentists were recognized as being equal to the physicians in the eyes of the state. ¹⁷ The transfer of the police power from the legislative branch of government to this autonomous board became the example for other states to follow. Dentists had finally achieved the credibility that had evaded them for years. The dentist could now exert an influence via

legitimate state police power over the dental manpower supply and practice within the state.

In August of 1859, the American Dental Association was organized at its first convention in Niagara Falls, New York. The call to organize came from a widely recognized need to improve the standards of the profession through scientific inquiry. The group followed the model of the American Medical Association that was established in 1846 since its representative organizational model was successful in maintaining a viable membership. Thus, the ADA hoped to duplicate the same organizational goal with the dentists, but the task at hand was to avoid the alienation of the dentists that had been previously experienced by the American Society of Dental Surgeons.

In spite of all of the progress in the science of dentistry, one fact remained; politics and science followed different courses. Whereas science nobly pursued higher "truths", politics adjusted these to the constantly shifting economic values and needs of the community. To the frustration of the emerging profession, the economic mood that controlled the resources was the primary opponent to the unification of the profession around the common purpose of treating the diseases of the human mouth.

It was within this political environment that the health care provider recognized the economics of the public's interest. In the later half of the 19th century, science emerged as a stable foundation for all of the professions. The duplicity of measurable facts across the test of time presented the opportunity that the professions had been seeking. The proliferation of inventions and technologies that developed during the Civil War fueled the fever for this newly found scientific method of reasoning. Seizing the opportunity to establish itself as a scientific profession, health care providers used the argument that science could build a foundation of knowledge that could protect the public from quackery. Reason and science had begun to reshape the public's distrust of the professionals in health care delivery. ¹⁸

The concept of the dental profession as a conservator of the public's oral health needs spread into consumer affairs. In 1866, The American Dental Association began to investigate the contents of dentifrices in an attempt to identify what should be contained in a safe dentifrice.¹⁹ The report established the Association as a self-appointed consumer advocate for the public's dental needs. This unsolicited action was the first type of institutional advertising designed to enhance the dental profession's

image as the private protector of the nation's oral health.

From the beginnings of the dental profession in this country, dentists have relied on the credibility of truthful claims to enhance their image. This ideology gradually became incorporated as a professional concern for the public health although it had been contrary to the real source of authority that lay in the hands of the government. As licensure policies for dentists, physicians, nurses and other health related professions came into vogue in the late 19th century, the arguments that were used by dentists emphasized individual demonstrations of professional competence. The fusion of these professional interests with the police power of the state, accomplished by the catalyzing argument of competency in the public interest, was a political victory for official state approval of dentistry.²⁰ This position was firmly cemented in the law by the Supreme Court decision of Dent v. West Virginia in 1888. This landmark case reviewed the authority of a West Virginia regulation that required a doctor to obtain a certificate from a recognized medical school before he/she was entitled to receive a license to practice. A medical school had to meet certain requirements to be considered acceptable to the West Virginia's regulatory board. Dr. Dent's challenge to the law was based on argument that his

license was a form of his personal property protected by the Fourteenth Amendment. The Court rejected the challenge on the basis that the state action in the interest of the public's health is not an arbitrary one. Thus, police authority in the public interest is of a greater priority than the constitutional protection of personal property.²¹ Later, the Court expanded the requirements for medical licensure to include the standard of personal character in Hawker v New York in 1898 as being as important as medical knowledge itself in granting a license to an applicant.²² These decisions applied to the practice of dentistry as well to other professions.

The progressive era at the turn of the 20th century witnessed the rise of the dental profession to a status fully equal with that of medicine.²³ Educational reform in health professions were topics of broad political discussion. In 1904, the American Medical Association established a Council on Medical Education. Dentistry developed the Dental Faculties Association of American Universities and the Dental Educational Council of America. However, it took the action of an outside group to determine the national standards for medical or dental education. At the request of the AMA, the Carnegie Foundation for the Advancement of Teaching hired Abraham Flexner to study the

medical schools. His report issued in 1910 was a stinging expose of inadequate teaching facilities. The result of the famous Flexner report was that marginal or sub-par schools were forced out of business. The private commercial schools could not afford to compete with the well established universities for students when the requirements were raised without requiring less competitive tuition fees. ²⁴ In 1922 the Carnegie foundation commissioned William J. Gies to do a similar study of the dental schools. As with the Flexner report, a wide spread closure of proprietary dental schools followed the Gies report in 1926. Dr. Gies also pressed the case of dentistry as a full equivalent of a medical specialty. He further recommended that licensure standards should be uniform throughout the states. With the help of Andrew Carnegie's Foundation, the National Board of Dental Examiners was established in 1928 with the first nationally uniform exam being administered by this group in 1933. ²⁵

With the proprietary dental schools finally closed, the sharp annual increases in the number of dental graduates had been halted. The broad impact of these closures caused the total number of dentists in the United States to decline between 1930 and 1940. Dentistry had gained an effective control of the entry of its new practitioners. As the Great Depression reduced the demand for dental services,

competition for the remaining paying patients began to increase. The liberal licensure policies that permitted the interstate migration of dentists began to decline as dentists attempted to restrict their declining patient resources. ²⁶

All of these efforts began to reap economic benefits for the doctors. Licensure restricted the entry of new doctors into the market by closing down marginal schools on the argument of quality health care. Fewer doctors meant a relatively greater demand for the services of the current doctors. The increased demand also translated into higher fees for services. The prices for all goods and services in this country roughly doubled between 1900 and 1928. Studies by the AMA and the Committee for the Costs of Medical Care of the U.S. Commerce Department found the increases for doctor's net income rose roughly four times or twice as high as the net incomes of the rest of the nation's wage earners. This trend continued even after the Stock Market Crash of 1929. Another study in 1934 performed by the National Bureau of Economic Research suggested that the income of the doctors should be no more than 70% above the earnings of the gainfully employed. This additional 70% would fairly compensate for the extra costs incurred in the pursuit of higher education. The researchers, Simon Kuzents and Milton

Friedman, concluded that the higher incomes were related to the state's regulatory monopoly through licensure policies.²⁷ Of course, the dentists enjoyed the same security afforded by the state protection of their trade.

The depression years took a heavy toll on the American conscience. Social awareness developed by the hardships of economic adversity prompted the Federal Government to act in defense of the health of the poor and jobless. When the topics of national health arose in the state legislatures to help the nation's poor, the ADA firmly declared its opposition. In the immediate past the state governments had rendered assistance for the professions to get them on their feet by issuing protective regulatory policies, but now the profession was not very willing to return the favor. The noble Hippocratic pledges of honor and integrity in the interests of the public apparently did not apply to the poor. The health insurance provisions of the Social Security Act of 1935 met strong resistance from both the AMA and the ADA. This portion of the act was eventually deleted because of the professions' successful lobbying efforts.²⁸

World War II brought the country out of the depression and up to full industrial strength. Private dentistry prospered along with the other professions. Special

exemptions were made for all doctors for items that were rationed for the general population. The professions were right where they wanted to be, in full control of their market's supply.

The maldistribution of economic resources prompted efforts to provide insurance for the needy. However, these were seen as a form of a political threat to the independence of the health professions. "Cooperative medicine" was viewed as a covert method of exerting an economic control over the doctors. Eventually, the profession's attempts to suppress these markets ended in an indictment against the AMA for antitrust violations under the Sherman Antitrust Act. In 1943, the Supreme Court ruled in favor of the conviction in the American Medical Association v. United States, 317 U.S. 519.²⁹ However, the Court's opinion failed to deter further professional efforts to block the emerging private health insurance industry.³⁰

After nearly a half century of self rule, and a rapidly increasing population of baby boomers, a health manpower shortage appeared to be developing in the United States. Congress responded by identifying and developing the future "national resource" of medical and dental schools by passing

Public Law 88-129. The Health Professions Educational Assistance Act of 1963 provided government money to stimulate the growth of the professions as a high national priority. ³¹ The years of professional market controls through state licensure had not addressed the public need. This failure had forced a counter-action by the Federal government to overcome the professionally created manpower shortages. The private actions to close the schools in the early part of the century were now replaced by broad Federal policies to open and expand the schools. The strategy was to circumvent the state controls by financially enticing schools to produce more graduates. The increased market pressures created by the increased number of practitioners would then cause a geographic and economic redistribution to accommodate the enlarged manpower supply. ³²

In 1965 an amendment to the Social Security Act of 1935, established the Medicare and Medicaid programs. The health professions exerted their usual opposition to this measure with intensive lobbying. Their efforts were not as successful as they had been in the past. Later as the professions recognized that the Federal and state governments would pay their private doctor bills, the doctors got into line for payment.

Initially, the federal/state programs offered coverage for only a few dental benefits. In 1972, an amendment to the Medicaid and Medicare programs expanded the dental services provisions to include a broad variety of benefits. ³³

The rising consumer consciousness of the 1970s pressed the political economy for more market information about professional services. Market responses set the stage for the U. S. Supreme Court's decision in Bates v Arizona State Bar. This case established the precedent for advertising legal services. ³⁴ Another Court decision in Virginia Board of Pharmacy v Virginia Citizen's Consumer Council, ³⁵ ruled that price advertising for prescription prices were also protected by the First Amendment. The Court's broad interpretation of the First Amendment in professional advertisements were found to be applicable to all of the licensed occupations, including the dental and medical professions. No longer was advertising prohibited by state regulations as long as the promotions were not "false, misleading or deceptive". Since the dental profession followed the ADA's Code of Ethics, the profession waited for an official policy from the ADA. Consequently, in 1977, the Federal Trade Commission issued a complaint against the ADA for restrictive clauses in the Code of Ethics concerning the advertising and solicitation of dental services. A final

order was issued against the ADA to cease and desist from using ethical restrictions in professional policies in September 1979. ³⁶ It was subsequently modified in 1982 to conform with a similar order against the American Medical Association. It stated;

It is ordered,

That respondent American Dental Association directly or indirectly, or through any corporate or other device, in or in connection with respondent's activities as a professional association in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do cease and desist from:

- A. Restricting, regulating, impeding, declaring unethical, interfering with, or advising against the advertising or publishing by any person of the prices, terms or conditions of sale of dentists' services, or of information about dentists' services, facilities or equipment which are offered for sale or made available by dentists or by any organization with which dentists are affiliated.
- B. Restricting, regulating, impeding, declaring unethical, interfering with, or advising against the solicitation, through advertising or by any means, including but not limited to bidding practices, of patients, patronage, or contracts to supply dentists' services, by any dentist or by any organization with which dentists are affiliated.
- C. Inducing, urging, encouraging, or assisting any dentist or any dental association, group of dentists, hospital, insurance carrier or any non-government organization to take any of the actions prohibited by this Part.

The ADA, however, was reluctant to comply to these changes because of the potential threat to the professional

hierarchy of specialists and the established quo. The ADA finally enacted the terms of the order in a revised set of ethics by late 1987. ³⁸ The FTC wasn't satisfied with this revised code, so a further inquiry was undertaken in early 1988. This latest investigation of the ADA for market barriers focused on the new code of ethics that restricted claims of exclusivity, uniqueness, and additional education and training. The Commission felt that this additional market information would be potentially useful to a consumer. It also would permit the entry of substitute or alternative services without the stigma of an ADA sanction for unethical behavior. ³⁹

As the organized profession struggled with the new professional environment, the economic controls of dentistry nevertheless remained in the hands of the professional gatekeepers, the state boards of dentistry.

ENDNOTES FOR PAGES 1 THROUGH 28:

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medicine is presented in this article.

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18. Starr, op. cit., 1:59.
19. Jakush, op.cit., p. 489.
20. Starr, op.cit., 3:79-144.
21. "Dent v West Virginia" 129 US 114, Supreme Court Reporter, (St. Paul, West, 1888) October Term 1888. p 231.
22. "Hawker v. New York" 170-US-189, Supreme Court Reporter, (St. Paul, West, 1898) April 1898, pp. 573-580.
23. Jakush, op. cit. p. 505. Congressional legislation on October 6, 1917 granted dentists a rank equal to their medical colleagues for the various branches of the armed forces.
24. Starr, op. cit, p.119.
25. Jakush, op.cit., p. 552.
26. Fraundorf, op cit. pp. 773-774.
27. Starr, op.cit., pp. 142-143.
28. Jakush, op.cit., p. 528-536.
29. "American Medical Association v. United States", 317 U.S. 519, Supreme Court Reporter, (St. Paul, West, 1942) pp. 326-332.
30. Jakush, op. cit. p. 536.
31. Ibid, p 563-579.
32. Starr, op,cit., p. 118.
33. Jakush, op.cit., p. 570.
34. "Bates v. Arizona State Bar", 433 U.S. 350, Supreme Court Reporter, (St. Paul, West, 1977) p. 2691-2720.
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36. "American Dental Association et al." Federal Trade Commission Decisions, (Wash. D.C., U. S. Govt Printing Office, 1979) Vol. 94, pp. 403-414.

37. "Modifying Order in the Matter of American Dental Association", Federal Trade Commission Decisions, (Wash. D.C., U. S. Govt Printing Office, 1982) Vol 100, pp 449-450.

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CHAPTER 2. THE ECONOMICS OF DENTAL LICENSURE

THE DENTIST AND THE PATIENT:

The unique status of the health care market in our society requires a bit of explanation before one can begin to understand the complexities of economic theory and forecast models. A brief discussion of the many considerations that are involved in the patient's selection of a service and the availability of the service as provided by the dentist supplier is indicated.

The position of the dentist in the market can be appreciated when one takes moment to gain his/her perspective. The transformation of dental skills and knowledge into net personal income is a complicated process. The dentist must first obtain a doctoral degree from a dental school recognized by the American Dental Association. The criteria for this recognition is based on what has been determined by the profession to represent a proper dental education. Next, the candidate must successfully negotiate the National Dental Board examination process also administered by the ADA. This test is given in two parts. Part 1 measures the knowledge of basic human sciences. This material is very similar to that required of medical

students. It is given after the second year of dental studies. Part 2 measures the dental sciences. It is taken in the last year of formal schooling. The next challenge is to meet the school's individual requirements for graduation. With a degree firmly in hand, the dentist must now apply to the states for examination for licensure. Most of these examinations are given by regional boards of dental examiners. This exam involves the demonstration of clinical proficiency on actual patients to the satisfaction of the examiners. The procedures which are tested are samples of the broad variety of skills that are needed in daily practice. A successful exam is the final educational barrier to licensure. The last legal obstacle to market access is the specific moral and legal requirements of the state. One must be of good moral character to be licensed¹ and must register the location of the practice with the state.

At long last, the applicant dentist has been inducted into the protected oral health market secured by the state police powers, as a source of personal net income. The license itself is legally considered to be a form of personal property protected by the "due process" clause of the 14th admendment. It cannot be arbitrarily disturbed without a "fair" trial before an authoritative board after "proper" notification of the charges. The opportunity for an

appeal to higher courts, including the U.S. Supreme Court, is another aspect of this constitutionally protected property. ²

Thus, the knowledge of dental methods has been transformed into a form of officially recognized authority. This authority can now be used in the market place as a way of securing general business income. These professional services form a basis of economic exchange between the patient/consumer and the dentist. The money received for these services becomes the business's income. These funds are reduced by the fixed costs of the general business operation. These costs include malpractice insurance, rent, equipment leases or mortgage. The office supplies and materials used in the practice are termed variable costs because the amounts of these materials differ from one month to another. The income is further reduced by Federal, State and Local taxes, such as Social Security, un-employment insurance, wage withholdings, etc.. It is not until after all of these criteria have been met that net personal income can be achieved from the earning power of dental knowledge.

The long years of investment in time and money in exchange for the opportunity to reap the economic benefits through the possession of officially recognized knowledge,

has finally ended. This investment exceeds the value of all other alternative professional careers except those of self-employed lawyers and physicians. The fact that dentists receive higher incomes than other professionals with similar educational investments demonstrates an economic profit as a result of consumers paying much more for care than would be necessary to compensate the dentist for his/her school work. The future is very bright indeed. ³

From the perspective of the patient the future of dental care is not as optimistic. The individual in demand of dental services would most surely rather be doing something else. ⁴ The patient who selects the option to pursue dental services faces a process of selecting a provider that can fulfill his/her dental needs. The reputation of a doctor being "good" is more a function of the favorable reports from others. Since professional codes prohibit the public advertising of success rates because it may suggest that one doctor is better than another, the patient has no other choice. Previous patient satisfaction includes the demeanor of the doctor and staff, location and attractiveness of the office, painlessness or pleasantness of past experiences, direct cost of the appointment and the apparent success of the dental procedures. Indirect reports on the reputation of the doctor could include nonprofessional activities such as

attendance at church, social activities, hobbies, political affiliation, family, and involvement in the community at large. These perceptions of others are generally not based on quality of care statistics, but nevertheless the information is comparable to that found in any market. The consumer caveat, "let the buyer beware" has a legitimate role in the marketplace as a stimulus to encourage individual responsibility in market decision-making. It is, after all, not a function of the state to tell people how to live their lives. Most people presumably want the government out of their lives, not in it.

For the patient, the selection mechanism would include a distance factor with the attendant traveling expenses, a personal activity schedule, the perceived urgency of need, a measure of confidence from previous reports, and the availability of payment for the anticipated service.⁵ The opportunity cost of waiting time can also be admitted as a patient's demand influence. The market permits high fee/low waiting periods as an alternative to low fee/ high waiting times as a consumer option that permits the same supplier income level per hour. The value of this exchange of time for money could be estimated in terms of the opportunity to profit from some other activity. The decision to choose a certain doctor ultimately would rest on the patient's

feeling of security that the decision is a proper one, just as one must rely on this sense in any other transaction. ⁶

ECONOMIC THEORY:

There are two implicit assumptions in the theory of supply and demand economics. These are the optimization and equilibrium principles. The former states that in an economic transaction people will select the product that optimizes their budget constraints. In other words consumers will always select the best product at the best price given the availability of the products and a knowledge of the market. The equilibrium principle relates to the supplier's desire to maximize his/her profits while the buyer attempts to minimize his/her expenditures. The constant negotiation of the price through this process eventually determines an equilibrium price for the market demand and the available supply. ⁷ According to this theory, the consumer will pay for a service up until a reservation price is met. Beyond this reservation price, the consumer is not interested in the transaction. Because of differing interpretations of value, the reservation price of one individual would most likely differ from that of another consumer. The demand curve shown in Figure 1 represents the collective reservation price of all of the buyers in the market at a different quantities. The common values of the buyers will

force the average reservation price towards the middle of the curve where it would remain unless it were to be disturbed by the entry or exiting of another market factor.^a

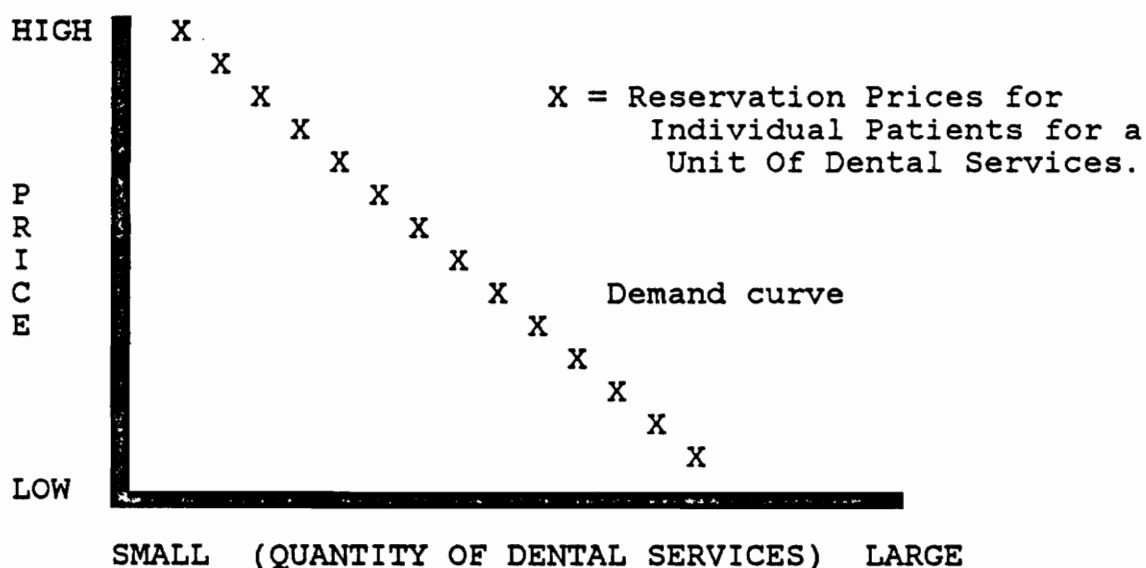


FIGURE 1. DEMAND FOR DENTAL SERVICES IN A FREE MARKET

The suppliers will follow the same process. They are willing to supply a good or service as long as it exceeds the cost of producing that unit. The difference between the cost and the amount received is the profit incurred by the transaction. When this profit margin approaches zero, the producer is making just enough return to cover his/her costs. He/she must then decide if it is desirable to remain in the market. Delays in this decision may create losses. Since the costs of producing a unit of service will vary between suppliers because of production technology,

motivation or materials, each producer will decide on a minimum acceptable price and profit margin. 9 A graph of these different reservation prices is demonstrated in a supply curve as shown in figure 2.

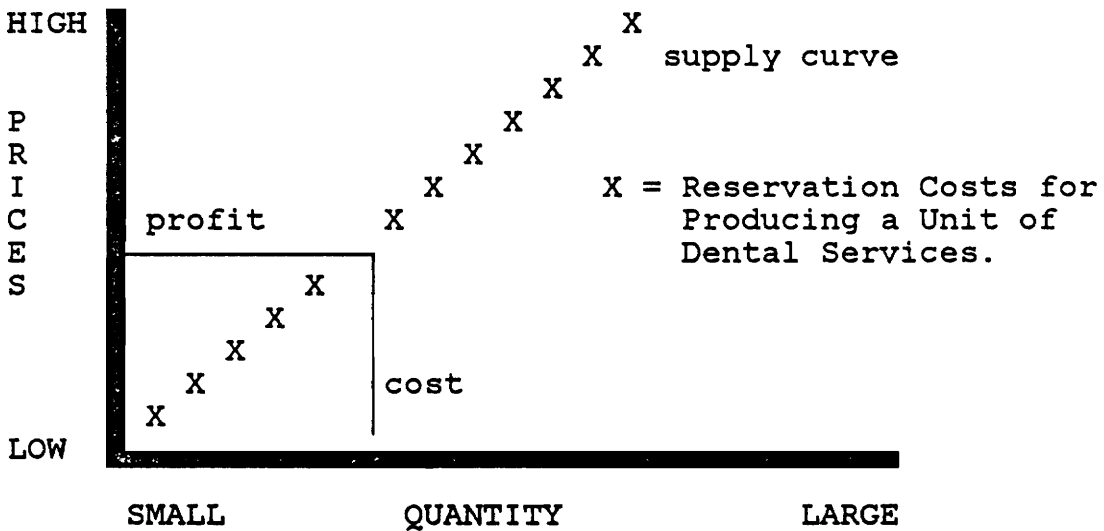


FIGURE 2. A SUPPLY CURVE IN A FREE MARKET

The triangle created by the vertical price line, the sloping supply curve and the horizontal connection between the two represents the producer's profit. The cost is represented by the area below the supply curve for a given quantity.

In an open economic system, the supply of a certain good is free to fluctuate according to the demand for the product. The producer and the consumer have the option to pursue their own interests over the price of the item. The

process of this negotiation continues until the price reaches an equilibrium between whatever price the seller is willing to accept and that which the buyer is willing to offer. ¹⁰ The whole market of activity for a good or service can be graphically represented in a combined model of supply and demand curves. (figure 3) It should be noted that the intersections of the curves occur at the market's equilibrium price for the service at a given quantity. ¹¹

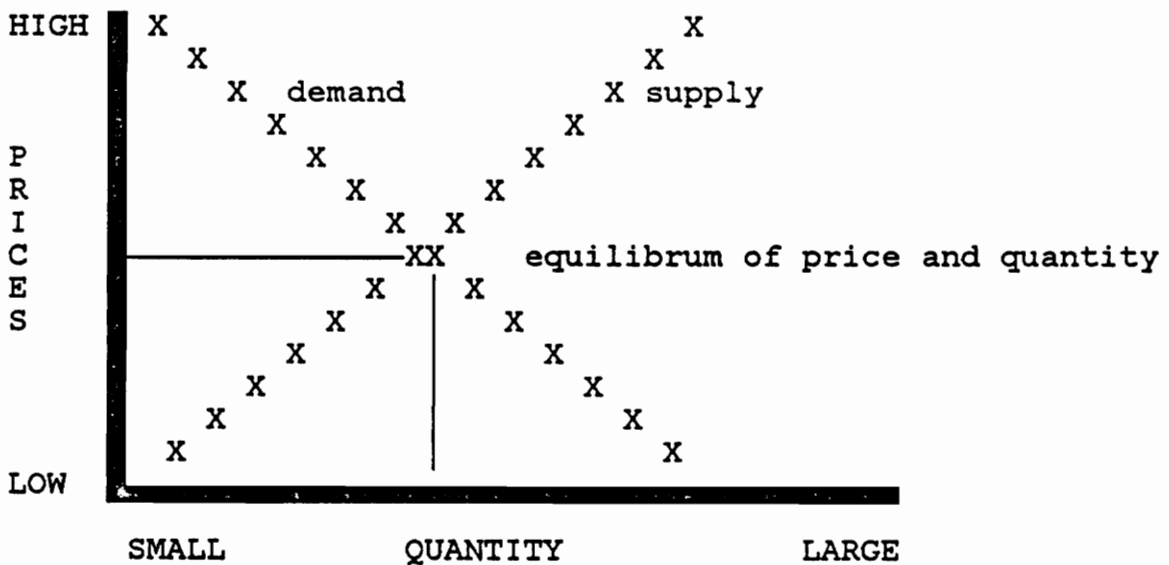


FIGURE 3. SUPPLY AND DEMAND CURVES IN A FREE MARKET

As figure 4 demonstrates, any additional buyers will increase the demand and drive the prices up to another equilibrium level. Likewise, any additional sellers will increase the supply that will reduce the demand and lower the price. ¹² The last unit purchased is the marginal unit.

If one more unit were to be added, the price would drop from p_2 to p_1 . If one more unit were removed the price would rise from p_1 to p_2 . Likewise, if the quantity would change in greater or lesser amounts the difference would be between q_1 and q_2 . Thus, it is the crucial marginal unit that most greatly affects the equilibrium price. ¹³

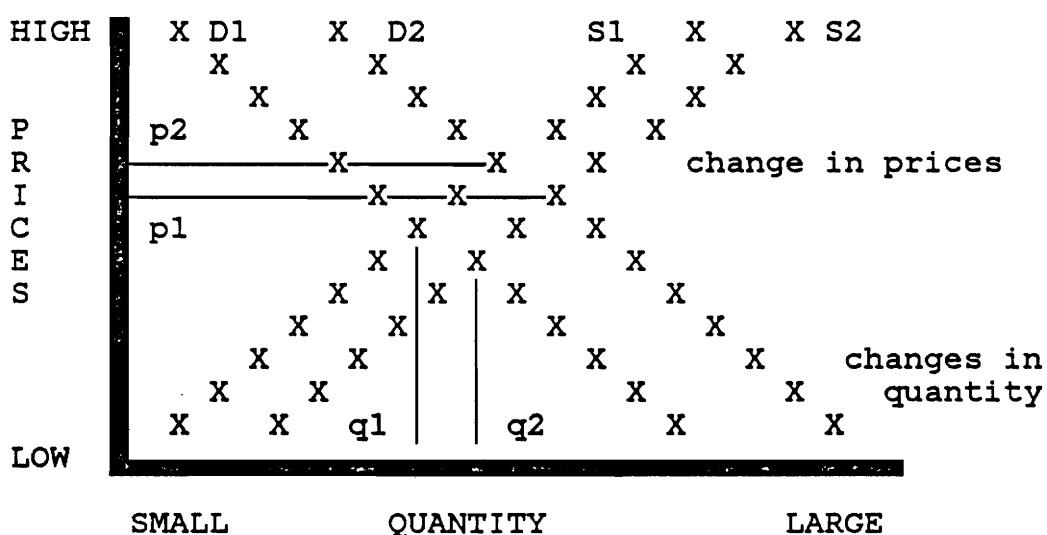


FIGURE 4. MARGINAL UNITS OF SUPPLY AND DEMAND

The interaction of the entry and exiting of the buyers and sellers around their marginal reservation prices determines the elasticity of the market. A highly elastic market will permit easy movement within the market for both suppliers and buyers. The price negotiation process is not restrained. ¹⁴ Similarly, an inelastic market shows little flexibility. Prices and costs are rigid.

In situations where the market has been subjected to outside influences, the market must adapt to accommodate the consequences of the change. An example of an external influence would be the effect of a tax placed on the sale of each unit. The demand equilibrium would shift inward from D2 to D1. The tax would cause an increase in the price at that quantity as shown in the change from p1 to p2 at q1. Over the range of the market, this tax would cause a decrease in the overall quantity of the units exchanged, q2 to q1, since the price had presumably reached its market maximum before the tax. The reverse would be true when a tax is removed. In either case, the market can respond by reconsidering the options of price or quantity. (Figure 5) All of these changes would occur at the marginal level of prices and quantity for the good or service.

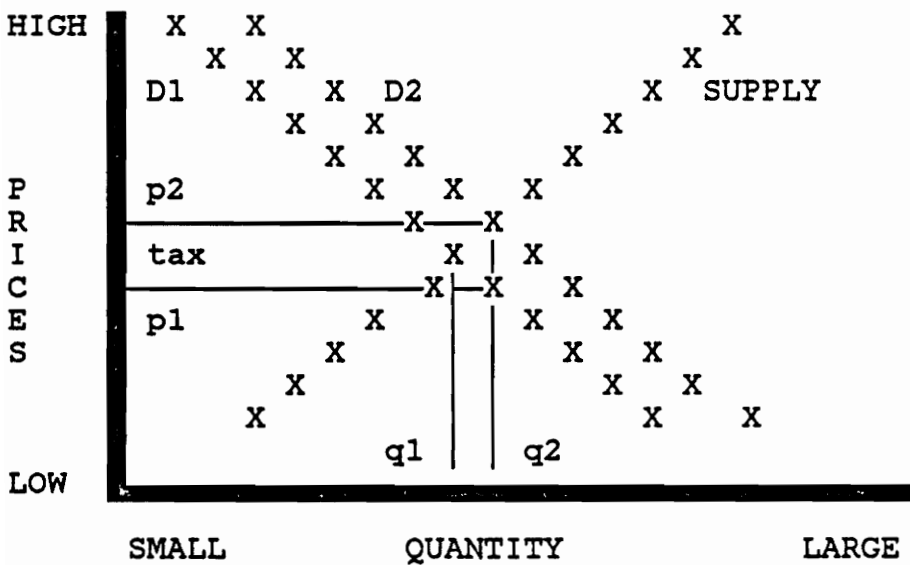


FIGURE 5. EFFECT OF A TAX ON MARGINAL PRICES

When a supply becomes fixed, the price of the unit is determined by the demand. An increase in the demand would shift the curve outward (D1 to D2). Since the quantity (q1) would be unchanged, the price per unit would rise from p1 to p2. It is whatever the market will bear.

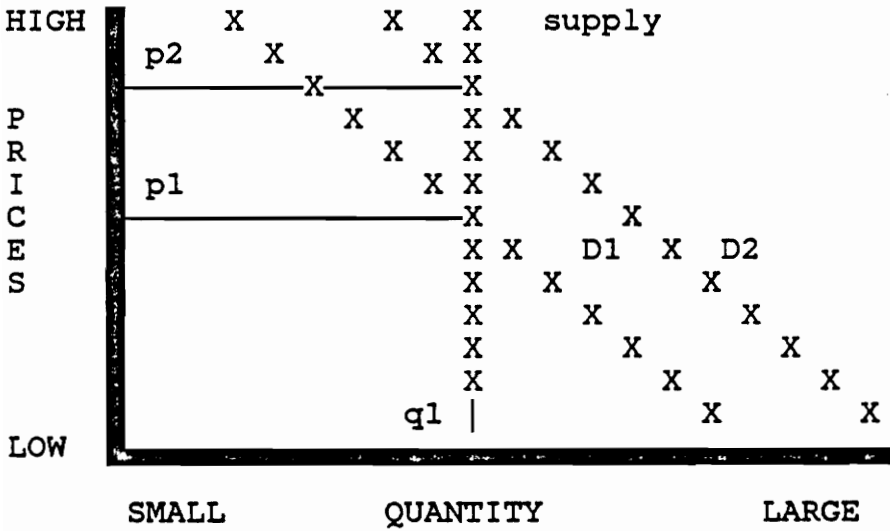


FIGURE 6. FIXED SUPPLY AND MARKET DEMAND PRICES

Figure 7 shows the market effect of an unlimited supply. The demand quantity for the unit determines the price. This option can be demonstrated by the shift in the price from p1 for quantity q1, to p2 at the increased quantity of q2. ¹⁵

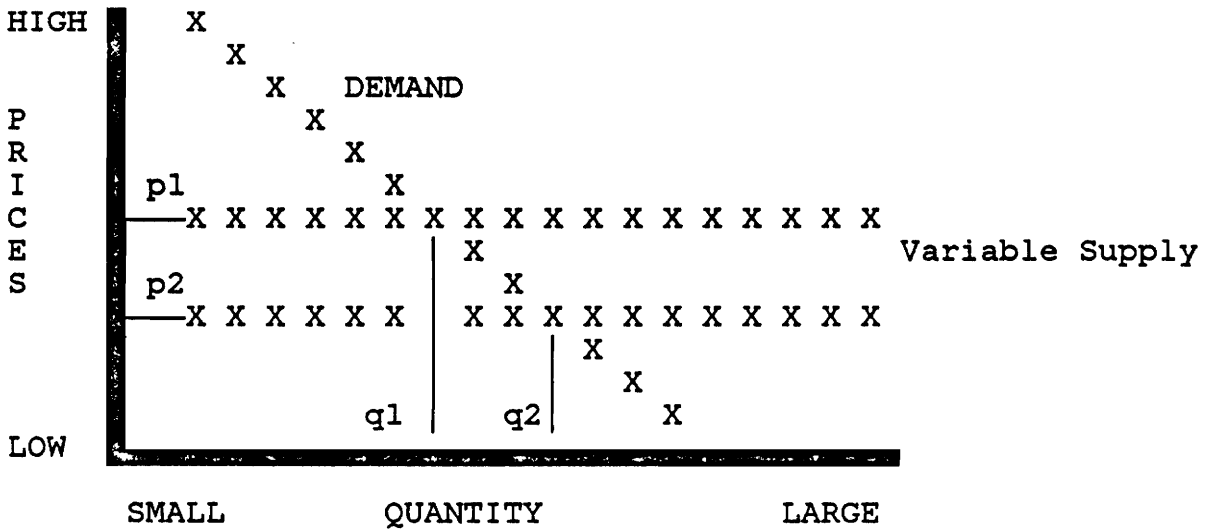


FIGURE 7. UNLIMITED SUPPLY AND FIXED DEMAND CURVES

In a monopoly, the supplier can either choose a price and let the buyer determine the quantity, or restrict the quantity and let the buyer determine the price. Regardless of which controls the monopolist uses, the consumer is put into the least efficient position of affecting the price of the unit. In general, the prices will be higher and the output will be lower. For the consumer/public, this manipulation is a very inefficient utilization of resources to the profit advantage of the monopolist. ¹⁶

For the sake of simplicity, the model presented here will discuss the supply and demand for the health service as a function of acceptance or rejection of a service from one or more doctors. In dentistry, as in all fields of health care, the demand for a service is a function of a perceived need

by the patient. Our licensing system of requiring credentials recognizes the doctor as one who has expertise in these matters. Since the patient does not have a knowledgeable access to the procedures or medications that the doctor has at his/her disposal, the patient is given the option to refuse care or to rely on the advice of the doctor.¹⁷ The perceived need for service then dictates the economics of the demand. Contrary to truly free economic models, the perceived need and the actual demand are not one and the same.¹⁸ An actual demand for care becomes absolutely necessary when the individual has a physical ailment or disability that impairs their functional ability to continue with their daily affairs, whereas a perceived need would be to receive a purely elective procedure. In either case, the doctor's opinion can influence the need (demand) based on his/her recommendation. This ability to alter the economic rules of health care demand has been the focus of much debate.¹⁹

In a free economic model, the price for a doctor's services could be negotiable within the market depending on the supply of providers willing to enter into competitive bidding for the patient. The patient should be in an ideal situation by being able to make an informed choice about the need and price of the service. To achieve this goal, the

patient should have all of that information available at one time in order to make a properly informed decision. An acceptable method of making this information available is achieved through advertising. ²⁰

The state's certificate for quality of care by licensure places some assurances in the patient's decision process. If the argument is valid that licensure is a necessary quality control mechanism, then a patient should not have to be concerned with who performs the service. ²¹ In the event that a patient would receive care which was of less than average quality, the patient has the recourse of reporting the doctor to the state board, and/or to proceed in civil court for damages. After all, the free market has been relying on the courts for years for relief from product deficiencies. The argument that health should be somewhat different should require strong compelling evidence in order to legitimize a repressive influence on the market's activity.

The marginal unit for a patient's demand for dental services can be described as that informed decision to proceed with a dental service at an agreeable cost. The marginal unit for the supply of services would be the number of dentist suppliers who are willing to compete for that

patient at a price that ensures a return at or above their costs. Since profit represents the return above the costs, dentists can still afford to operate if their salary is included in the overall costs. It is rather obvious that this scenerio is a rare possibility at best, but it does indicate just how far the profession could move towards a more freely competitive system. ²² This model also represents the maximum public interest of quantity and fees as expressed in the price of services.

Figure 8 is an example of the effect of a stable demand curve representing the public's need for dental services, when there are two different numbers of suppliers. At the quantity, q_1 , the price would be p_1 for the supply curve marked S_1 . At the same quantity on the supply curve marked S_2 the price would be p_2 . This example most clearly demonstrates the relationship of price and quantity to the size of the manpower supply. The example points out the control mechanism that could be used by the state dental boards on the dental market. The increased costs of restricted manpower translates into higher individual gross income. ²³

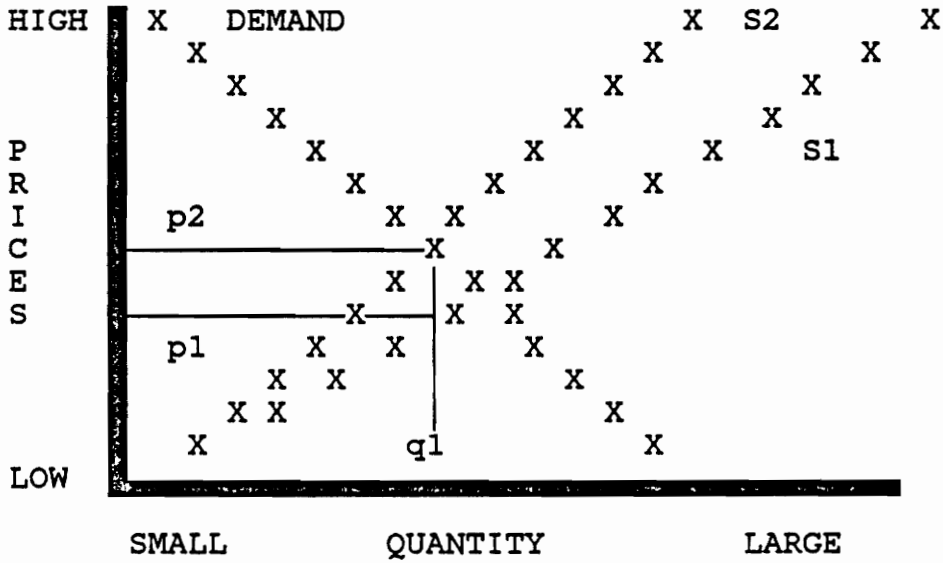


FIGURE 8. STABLE DEMAND AND TWO LEVELS OF SUPPLIERS

Figure 9 demonstrates the effect of an altered demand on the prices of dental services. The perceived demand represents those services that are elective, but not absolutely necessary. The absolute demand indicates a need that could not be ignored as in the case of a functional impairment. The price (p_1) at quantity (q_1) on demand curve D_1 , is higher per unit than p_2 at q_2 on D_2 .

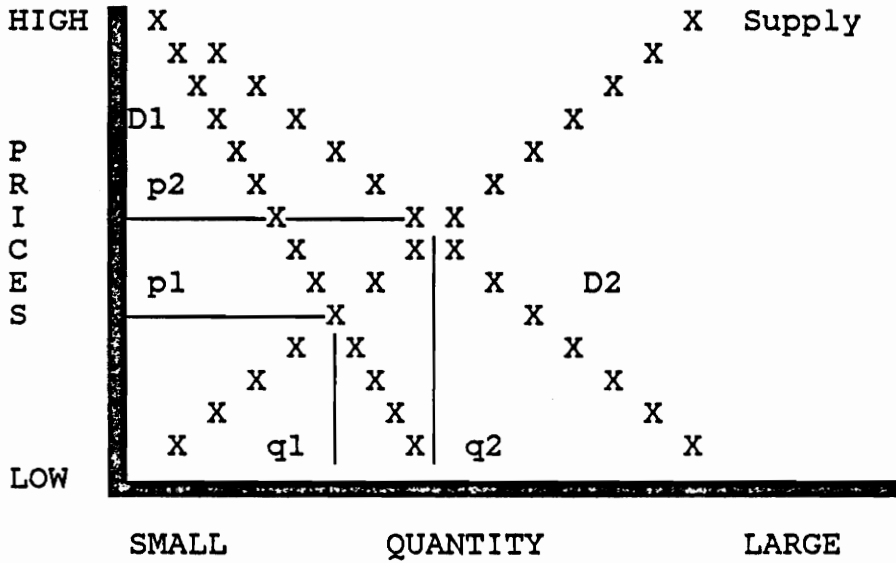


FIGURE 9. PERCEIVED AND ABSOLUTE DEMAND FOR DENTAL SERVICES

Another factor to consider in our model is role of the Federal Government. Congress got into the dental manpower business with the Health Educational Assistance Act of 1963, as admended, ²⁴ the Health Manpower Act of 1968 ²⁵ and the further expenditures in the 1971 with the Comprehensive Health Manpower Training Act. ²⁶ The results of these Congressional actions are demonstrated in Table 1. A sharp increase in the numbers of dentists in the United States is apparent from 1964 to 1983, with the greatest increases occuring between 1970 and 1978. Since then the numbers of new graduates have begun to decline. The number of schools also increased from 53 to 60 during the same eight year period. ²⁷

TABLE 1. DENTAL GRADUATES IN THE UNITED STATES

1960	1970	1975	1976	1977	1978	1979
3,300	3,700	4,969	5,336	5,177	5,324	5,424
1980	1981	1982	1983	1984	1985	1986
5,256	5,550	5,378	5,756	5,337	5,353	4,957

28

TABLE 2. PRACTICING DENTISTS IN THE UNITED STATES BY YEAR
(in thousands)

1960	1970	1975	1978	1979	1980	1981	1982	1983	1984
85	96	107	115	118	121	124	127	130	133

29

TABLE 3. PROJECTIONS OF PROFESSIONALLY ACTIVE DENTISTS
1988-1994 (in thousands)

1988	1989	1990	1991	1992	1993	1994
139.3	140.9	142.5	144.1	145.6	147.1	148.5

30

These projections permit an increase in the total numbers of active dentists by approximately 1,600 members per year. This estimate allows for an attrition of nearly 3,000 dentists per year, with new graduates filling the ranks with 4,600 per year. The rate of growth would be around 1.1% per year. The projections of the growth of the U.S. population are expected to exceed this rate in each year. A shortfall can thus be expected to occur at some point in the future.

TABLE 4. DENTAL VISITS IN THE UNITED STATES, 1970-1983.

	1970	1975	1979	1980	1981	1983
Visits (in million per person)	304	341	366	364	380	422
	1.5	1.6	1.7	1.7	1.7	1.8

3 1

Since the total number of dentists engaged in active, private practice in the United States for 1983 was 130,000, and the total number of visits to be 422 million, a simple mathematical calculation determines the average number of dental visits per active practitioner per year to be 3246 visits. A dentist that has seen an appointment every 20 minutes in a 40 hour work week of a 48 week year, would require 5,760 appointments to remain busy. Even if the appointments were 30 minutes long, the number of appointments to remain busy would be 3,840. Considering this information it is no wonder the market prices have risen just to cover the overhead costs.

Another study showed that only 41% of the U.S. population had made a visit during 1977. This study found that 87 million patients had an average of 3.2 visits each. Information such as this finding initiated an ADA funded institutional advertising effort to stimulate the remaining 59% to seek dental services.³² In spite of all of the

ADA's efforts, the market had only increased to 44.8% of the 1980 population. This same study found the rate for patients without dental insurance to have remained unchanged at 41.6%. The assumption is that these increases were due to the greater utilization of dental insurance. While the insured patient spent \$229 annually on dental visits, the uninsured patient spent only \$156. The users of dental services among those with insurance averaged 3.4 visits, and for the uninsured, 3.0 visits. ³³ The data suggests that the lowering of financial barriers through dental insurance causes an increase in the use of dental services. ³⁴

On the following page, Figure 10 shows the Consumer Price Index from 1935 to 1970. It demonstrates the relationship of the general economy and the dental fee index over these 35 years.

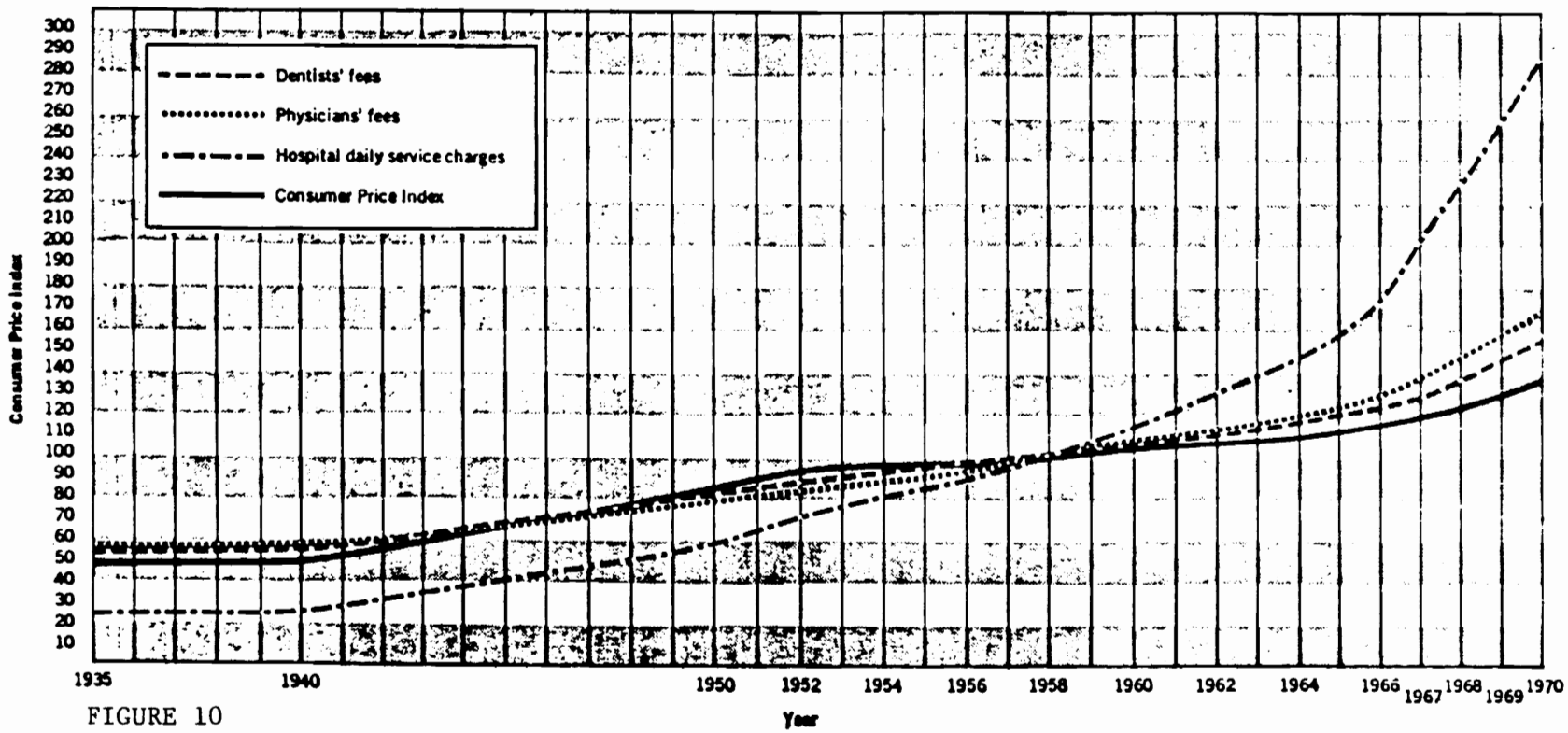


FIGURE 10

Price indexes for specified items of "medical care" and Consumer Price Index, 1935 to 1970 (1957 to 1959 = 100). (From JADA, Vol. 83, Dec. 1971)

Figure 11 shows the Dental Price Index along with the CPI and the prices of dental equipment and supplies. The increases in the dental fees rose at a much higher rate than the CPI and the costs of the business of dentistry.

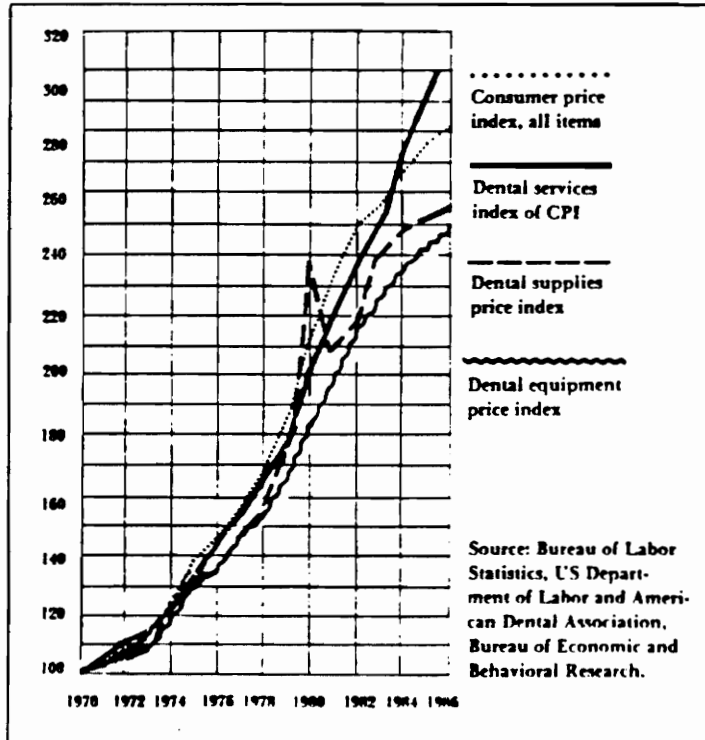


FIGURE 11. DENTAL SUPPLIES/EQUIPMENT PRICES, DENTAL PRICES AND THE CONSUMER PRICE INDEX 36

On the next page is a numerical tabulation of the data found in Figure 11. Table 5 demonstrates the slowed rate of increases for dental fees as compared to the Consumer Price Index. It is expressed in relation to 1967 dollars = \$100.

TABLE 5. CONSUMER PRICE INDEX AND DENTAL PRICES, 1970-1985.

1970	1975	1977	1978	1979	1980	1981	1982	1983	1984	1985
			Consumer Price Index							
116	161	181	195	217	246	272	289	298	311	322
			Dental Price Index							
119	161	185	198	214	240	263	283	302	327	347

37

It is noticeable that the dental price increases were less than the increases for the CPI for the years 1979 to 1982. An explanation for this phenomena was not found in this literature search. One might suggest that these changes were related to the Supreme Court's decision on professional advertising in 1977. No other single factor could be accountable for such a dramatic shift from the trends of the past 50 years. The argument that the ADA somehow orchestrated the profession to hold the line on costs does not fit any historical pattern. Given the fragmented nature of the profession on other major national issues it is doubtful that this response was a direct result of deliberate organizational action on the part of the profession. In any event these figures offer a compelling argument in favor of removing even further advertising restrictions.

The return of rapidly rising costs over the CPI from 1982

to 1985 did not have any readily explainable answer in the literature. Between 1982 and 1985, dental fees have increased from \$283.6 to \$347.9, as compared to the increases from \$289.1 to \$322.2 for the CPI. During this four year period, dental fees have nearly doubled the increases of the CPI. (\$64.3 to \$33.1).

Professional liability claims and insurance premiums rose sharply in the mid-1980s across the country.³⁸ This phenomenon has developed in spite of a relative decline in patient visits. These premium increases may have been the result of a hidden market behavior within the supply side of the dental market.³⁹ If one recalls that the organizational market strategy in the Amalgam War of 1834 was to harass the new competition with the inflammatory rhetoric of inadequate quality, the contemporary market responses may be directed towards repeating the earlier results. The encouragement of malpractice claims against unpopular dentists in order to force them out of a market area could be the primary reason that the liability insurance rates have risen so dramatically. After all, the burden of proof in a malpractice action requires the plaintiff to produce a dental expert who will testify that a breach in the standard of care had indeed occurred. This tactic is certainly not a new one. Established dentists could literally harass their

competitors out of the area with a barrage of malpractice allegations. Patients would not know the difference unless something very serious had happened to them. The dispute could remain within the language of dental and legal expertise without the patient ever really knowing what was going on. These protracted court procedures could tax the credibility and reputations of the accused doctors without any real merit to the case. The publicity alone would be devastating. In the event that actual proof was lacking, a settlement could make everyone somewhat happy and provide an end to the legal affair. The legal costs would be borne by the profession at large through higher insurance rates. Although the appearance of this kind of behavior seems to be unethical, it has historically been used by the so-called ethical dentists. It could be that professional market squabbles are being passed on to the consumer in the form of higher dental fees.

The external preventative factor of systemic fluoride in community water supplies as a health care measure has shown a reduction in dental caries in one study resulting in a reduction in the demand for "routine" dental services. The reduction in the need for examinations and cleanings was estimated to be 70% along with an 88% loss in the demand for simple restorations among regular dental consumers. These

results appear to be rather high. The value of fluoridated water as a publicly sponsored preventive measure has been estimated to be ten cents per year. Overall, the reduction in total dental services from the fluoride alone was approximately 23% from 1965 to 1972. ⁴⁰ Figure 12 demonstrates the effects of fluoride by the differences in decayed, missing and filled teeth (DMF) scores for young adults in the United States. ⁴¹ The National Dental Caries Prevalence Survey of 1979-80 established a mean DMF score 4.8 as compared to 7.1 found in 1971-74, this represents a 32% decline as shown in Figure 13. ⁴² Another study conducted by the National Institute of Dental Research in 1987 found the level of toothlessness to have dropped dramatically within the past decade. The following figures show just how dramatic this decline has been.

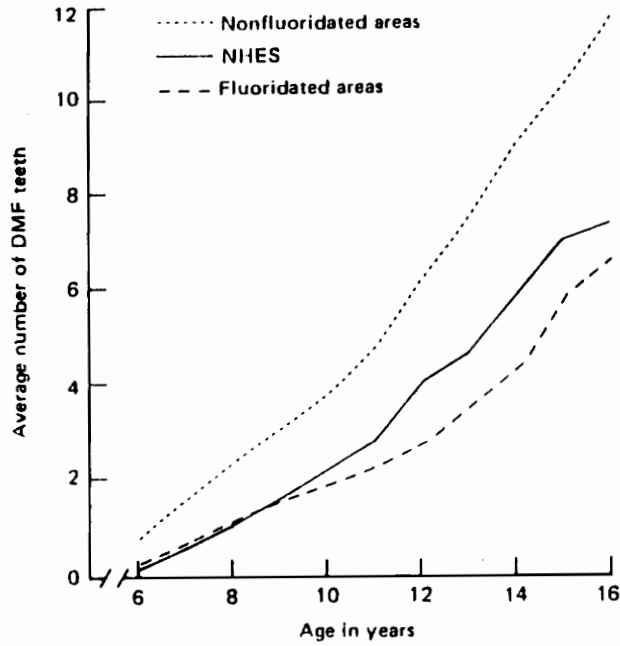


FIGURE 12. NUMBER OF DECAYED, MISSING AND FILLED TEETH (DMF) IN FLUORIDATED AND NONFLUORIDATED WATER SUPPLIES IN THE UNITED STATES 43

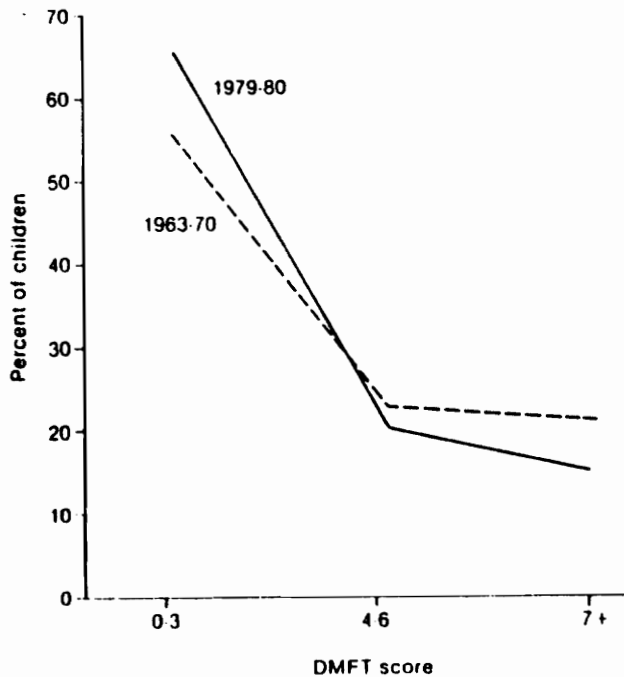


FIGURE 13. DISTRIBUTION OF DMF SCORES IN CHILDREN AGED 6 TO 17 YEARS IN 1963-70 COMPARED TO 1979-80. 44

**Percent of Edentulous Persons among
Adult Populations, U.S.**

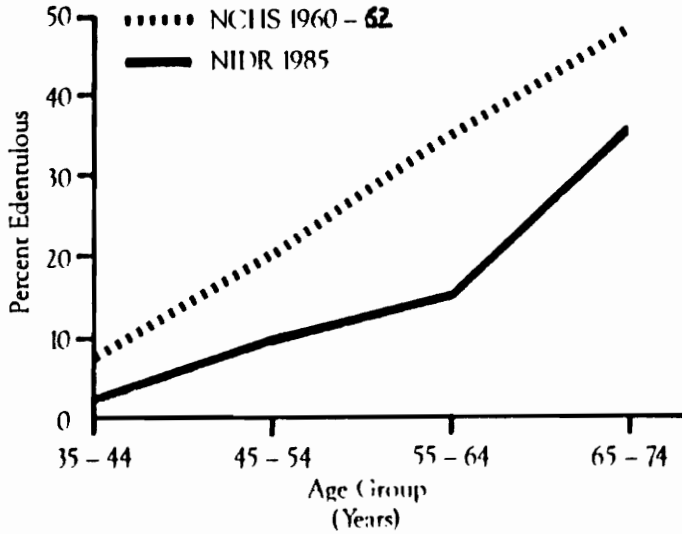


FIGURE 14. PERCENT OF EDENTULOUS PEOPLE AMONG THE ADULT POPULATION IN THE UNITED STATES ^{4 5}

Concurrent with the distribution of dental diseases, the distribution of dental services in this country has not been uniform. Since the largest contributor to oral disease is dental caries, the commonly provided dental services have followed the prevalence of the disease. The services have been for basic dental care as demonstrated in Figure 16.

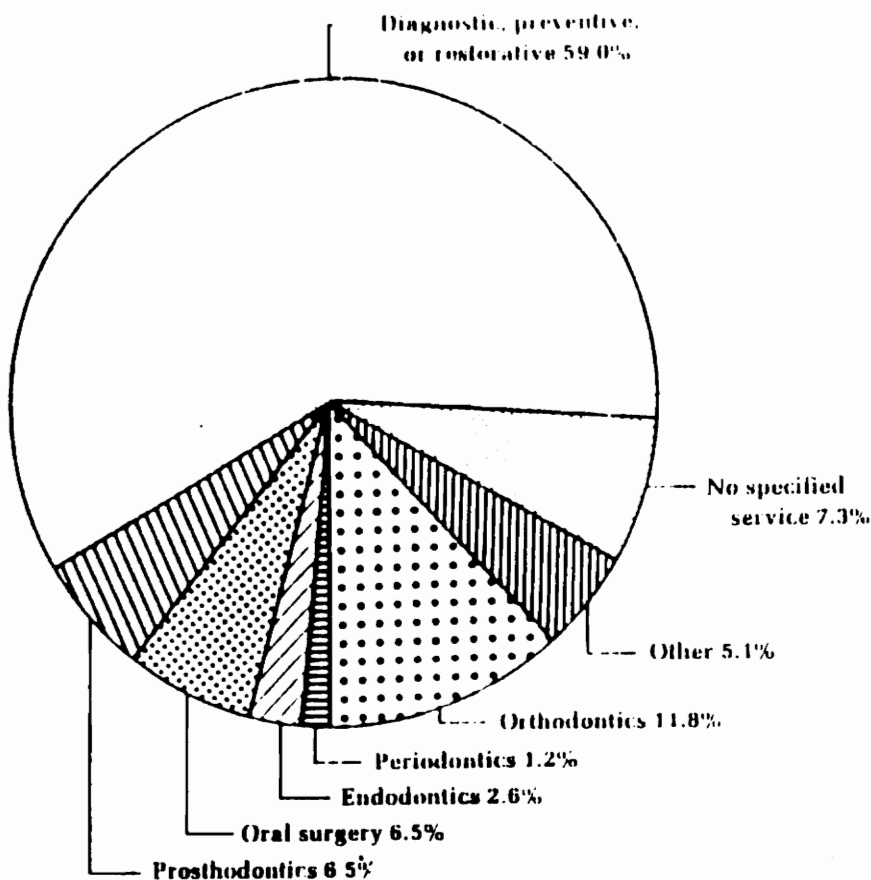


FIGURE 15 PIE-DISTRIBUTION OF DENTAL SERVICES IN THE UNITED STATES. * *

The majority of these services [60%] were for procedures that were delivered without the additional dental laboratory expenses, as would be the case with dentures. These services collectively represented only 44.1% of the dental fees. The most frequently provided services were exam and diagnosis, preventive instruction, cleanings, and simple restorations. These services accounted for 59% of all that were provided. As expected most of the nation's dental visits were for "routine" care.

Table 6 displays the general categories of services that are offered in the U. S. dental care market. The table also lists the average dental fees as offered by general dentists from 1982. A comparison of these fees are made between states that have restrictive policies on interstate migration by extrapolating ratios from a previous study. A forecast of these fees can be drawn following the linear projection of the 1985 fees on an annual increase rate of 3% compounded to 15.9% over 5 years. Notice that the difference between the general practitioner's fees for a dental cleaning as compared to those of the specialists become greater over the forecast period even though the rate of increase remained the same. The increase for the general practitioner's fee from 1985 to 1990 is \$5.50, while the specialist fee for the same service rose by \$8.67. Such is the uneven nature of inflation.

TABLE 6. ROUTINE DENTAL SERVICES IN THE UNITED STATES.

Procedure	Gen Pract Fee Indx	Specialist Fee Indx	Non-Recip State G-P	1990 Forecasts	
				G-P	SP
Exam	\$12.67	\$14---\$40	\$13.81	\$15.79	\$17-50
X-rays	\$32.63	\$38.26	\$33.70	\$40.66	\$47.67
Cleaning l surf.	\$22.41	\$35.26	\$24.31	\$27.92	\$43.93
Restore. Simple	\$21.21	\$22.09	\$21.84	\$26.43	\$27.52
Extract. Gold	\$24.88	\$33.79	\$29.33	\$31.00	\$42.10
Crown Full	\$296.23	not aval	\$314.59	\$369.10	
Denture Root	\$394.36	not aval	\$401.85	\$491.37	
Canal Simple	\$141.93	\$205.19	\$155.83	\$176.84	\$255.6
Orthodont	\$1,314.80	\$1768.34	not aval	\$1,638	\$2,203

47 48

The loss of the demand for the more routine services has been replaced with procedures of greater complexity and cost. These reconstructive procedures include root canals, crowns and bridges, dentures, bite therapy, orthodontic treatment and dental implants. Other forecasted increases because of the increased demand for these specialized procedures has been as high as 72% over the next 20 years. The second greatest increases (60%) is expected for oral prophylaxis or dental cleaning. **

Returning to the free market economic model, the addition of noncompetitive restraints imposed by the power of the state dental boards can now be visualized. These

restrictions are; educational and licensure qualifications, interstate migration of practitioners, advertising restrictions on claims of quality or skills, practice structure and ownership, and the utilization of auxiliary manpower ⁵⁰

The following figures demonstrate the impact of these restraints on the supply and demand curves of the dental market. The assumption that the patient demand curve will not change during this exercise is necessary to isolate the effects of the licensure laws. Although time does not permit the close inspection of each of these market controls in this study, the general effect can still be understood from the various studies that are already available.

EDUCATIONAL AND LICENSURE QUALIFICATIONS:

The explanation for this figure is simply that the supply cannot exceed the requirements of law. This is the effect of the state-sponsored monopoly of health care through licensure.

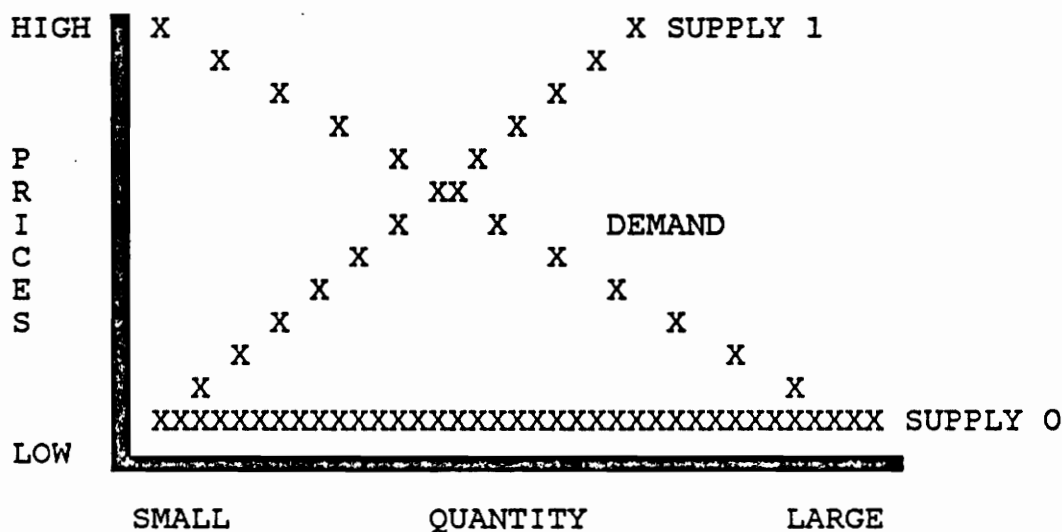


FIGURE 16. EDUCATIONAL AND LICENSURE QUALIFICATIONS.
ON THE SUPPLY SIDE OF THE MARKET

The primary method of state control of the dental market lies in the definition of the practice of dentistry as expressed in the state dental practice acts. Most statutes define the practice of dentistry to be related to the diagnosis, treatment and replacement due to diseases or malformations of the human teeth, jaws, and adjacent structures. Where the practice of dentistry ends and the professional turf of another type of health care provider begins, forms the economic boundaries of the dental market. In earlier times, the Gies Report of 1926 set the standard for the dental profession. Today's technology challenge the structure of these boundaries. Those individuals who struggle with traditional standards as expressed in the states' interpretations of these requirements, could face stiff opposition by law.

Recently, the introduction of newer technology stretches this definition to include dysfunctional disturbances of the jaw muscles. The overlap of this area with other medical specialty boundaries creates a potential conflict with the state medical practice acts. In which case the dentist may be prohibited from offering these services at the risk of incurring repercussions from the medical establishment. Limitations such as these could block the entry of newer technologies in the dental market supply.

INTERSTATE MOBILITY AND RESTRICTED SUPPLIER ENTRY OPTIONS:

The next figure demonstrates the effect of restrictive policies on the supply of dental manpower. A limited supply (S1) would cause the equilibrium price to remain at p2, while a removal of these clauses would permit the supply to increase so that prices would drop to p1.

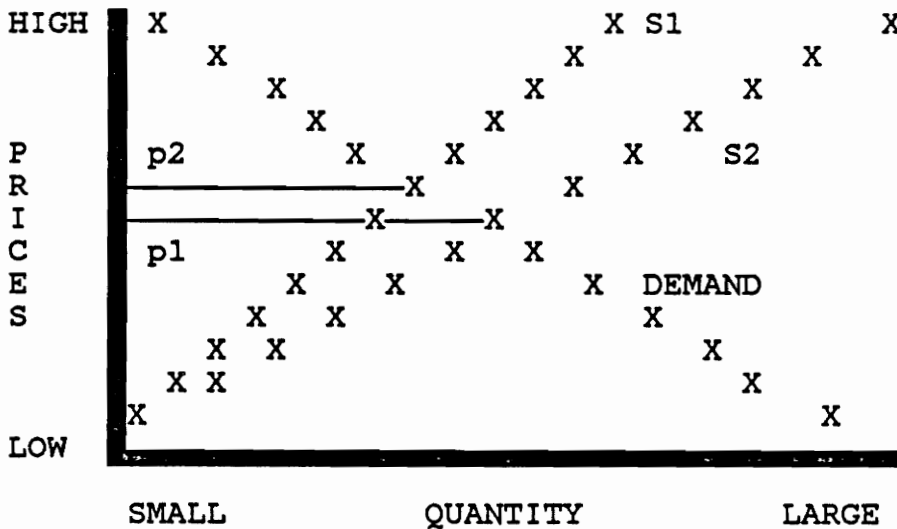


FIGURE 17. INTERSTATE MOBILITY AND RESTRICTED SUPPLY ENTRY

The effects of restricted access into dental markets can be further demonstrated by the regulatory barriers to interstate mobility of dental manpower. A study of seventeen licensed professions throughout the states, found that policies which limit professional mobility into states by restrictive regulatory clauses, would experience a 45% increase in mobility and reduce the incomes of the occupations by 7 to 18%. The implication is that these policies "protect" their markets by 7 to 18%. Furthermore, of all of the occupations reviewed, the dental professional was one of the least mobile along with barbers and optometrists. ⁵¹ Another study that specifically addressed the dental profession found that the states with restrictive barriers had prices for dental services and had mean practice incomes which were 12 to 15 per cent higher than those in non-reciprocal states. The estimated cost for these restrictions were \$700 million for 1971. Moreover, the number of licensure examination failures for nonresidents was found to be 22% while only 9% for residents. ⁵²

An interesting contradiction exists among the supplier dentists and these policies when dentists were surveyed about their attitudes towards these regulations. A 1972 survey found 68% of the dentists questioned about the need for national reciprocity, were in favor of eliminating these

restrictions. Evidence exists that correlates higher fees with greater opposition to the proposed changes. In addition, the American Dental Association's House of Delegates passed a resolution in 1975 calling for the state dental boards to remove interstate barriers to manpower migration.⁵³ Why do these restrictions continue to exist when the public and the professional are opposed to them?

Another study looked at the projected adjustments to dental fees that would occur if there were a redistribution of dental manpower this country. The results show that the aggregate effects of the national redistribution of dentists would cause an increase in dental fees by 1%, the number of dental visits would decrease by less than .1% and the gross incomes of dentists would increase by almost 1%. While these effects are small, there would be a considerable redistribution of dentists with some states showing as much as a 25% increase in practitioners.⁵⁴ When one considers the general migration pattern over the past 10 years from the densely populated Northeast to the South and West, the dental manpower should have been permitted to follow the rest of the shifting population.⁵⁵ The argument for quality assurance at the expense of interstate mobility is a costly one for the public.

A comparison with the the practices of the European Common Market shows that widespread opposition to migration restrictions. The Treaty of Rome prohibits restrictions that interfere with the movement of learned professionals. Apparently, this treaty recognizes the beneficial effects of liberal migration policies for the entire European community. ⁵⁶ Certainly, the cumulative evidence supports the removal of these restrictions.

ADVERTISING RESTRICTIONS AND MARKET DEMAND:

The market stimulating effect of advertising is most easily seen in the effects on the quantity of services. When the demand for services increases, a responsive shift occurs in the the supply curve. The end result is more services q_1 to q_2 that eventually causes lower prices.

A survey on the attitudes of dentists and consumers towards dental advertisements discovered the attitudes of these two groups to be quite different. When issues of market information concerned prices and representative knowledge about the dental market, the consumer overwhelmingly approved the advertisements, while the dentists overwhelmingly disapproved. Although the dentists generally disagreed with the consumers in all of the areas questioned, the strongest negative responses from the

dentists came from advertising market information, and not quality of care concerns. ⁵⁷

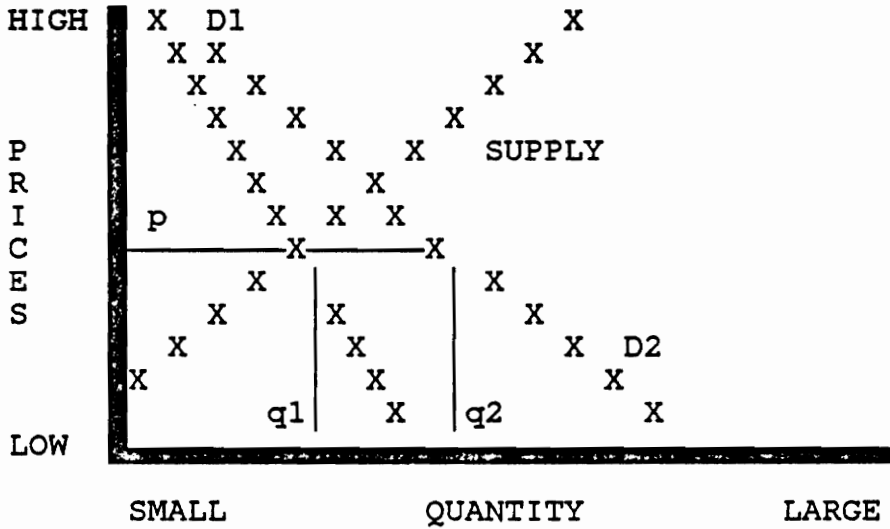


FIGURE 18. ADVERTISING RESTRICTIONS AND OPEN ADVERTISING POLICIES ON THE DEMAND CURVE

Additional restrictions on market information for dental services is evident in regulations concerning advertising. Since the landmark Supreme Court decision of Bates v. Arizona State Bar ⁵⁸ in 1977, restraints on the advertisement of services for professionals are considered to be unconstitutional as a violation of the First Admendment guarantees of free speech. The only remaining constraint on advertising was defined as those advertisements that would be against "false and misleading" claims. Economic theory and observational evidence strongly suggest that restrictions on advertising cause increased prices with little effect on the quality of services. The drop of the dental fees form 1978

to 1982 can be surmised as related to this effect. The social value of lower prices for a given value certainly fit the description of public interest.

OWNERSHIP OF DENTAL PRACTICES:

The following economic responses in the market can be found when the market has been stimulated by the additional business talents and skills known to the general business community. The general effect is to lower prices and increase the quantity of services. This method of practice has been used by some large department store chains or "mall dentists" in some parts of the country. Their market successes have demonstrated the potential public benefits of a broad removal of these ownership clauses in the state laws.

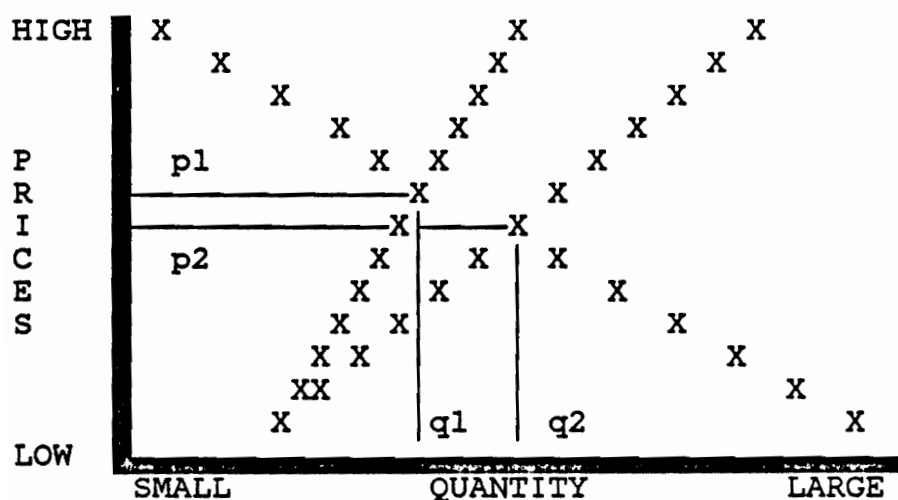


FIGURE 19. SUPPLY CURVE COMPARISONS OF RESTRICTED AND UNINSURED OWNERSHIP OF DENTAL PRACTICES

Another method of police control over the professional market can be exerted through the permissible forms of the structure and ownership of dental practices and corporations. The restriction of ownership to licensed dentists prohibits the entry of other financial investors as full partners in the business aspects of dental service delivery. This regulation forces the dentist to assume the major managerial tasks of the practice, although the dental educational process does not prepare the dentist for this crucial business knowledge. Since the restriction of dental practice ownership is not related to educational qualifications or examination for quality of care issues, the maintenance of these clauses in state dental laws are contrary to the public interest. There is no legitimate reason for these restrictions to exist in state dental laws! Furthermore, licensure examinations exclude any reference to these skills, in spite of the enormous impact that managerial knowledge has on the delivery of care and the subsequent market prices. This criteria is simply not substantiated on the basis of quality or dental knowledge. These ownership limitations also prevent dentists from outside of the state from becoming a part of the market.

DENTAL AUXILIARIES AS ADDITIONAL SUPPLIERS:

The market effect of permitting the utilization of dental auxiliaries is the same as increasing the number of suppliers. The impact of these measures is that prices would decrease and the quantity of services would increase.

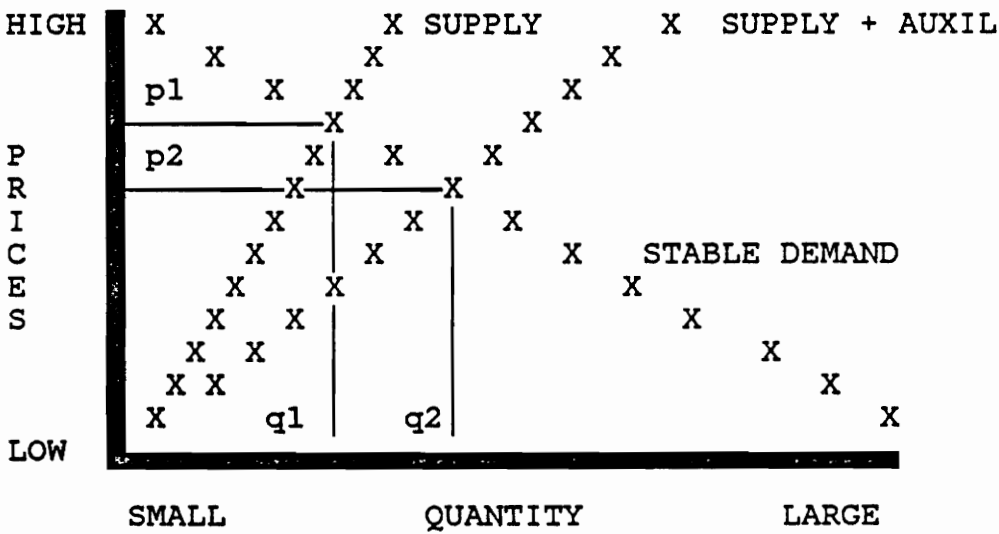


FIGURE 20. ROLE OF DENTAL AUXILIARIES ON THE MARKET MANPOWER SUPPLY

Dental auxiliaries are another example of how licensure is used to control the dental market. This category includes dental hygienists, dental assistants, dental laboratory technicians and denturists. The utilization of these fully trained and examined auxiliaries expands the capabilities of the dentist to deliver care to a greater number of patients. The reduced cost of training these para-professionals permits an opportunity to pass the savings onto the patient.⁵⁹

Studies have shown that the quality of care provided by these auxiliaries is equal to, if not superior to that rendered by the dentist. ⁶⁰ Since the primary difference between the dentist and the auxiliary lies in the extent of knowledge of basic human sciences and the intervention thereof, the exercise of noninvasive care cannot be substantiated as a function of protecting the health of the patient. An argument could be made that the quality of dental appliances could suffer from the involvement of paraprofessionals, but these are generally business matters not health related ones. Recourse is available through the civil courts for deficiencies of dental appliances without necessarily incurring an allegation of malpractice onto the dentist.

SUMMARY:

This chapter has reviewed the various relations between restrictive dental legislature and the dental care market. The continuation of these regulations has not been supported by the economic models that have been presented. They are simply contrary to the public interest while they serve the financial interests of the dentist suppliers.

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CHAPTER 3: A SURVEY OF STATE DENTAL PRACTICE ACTS

The real authority of state control in the dental market lies in the definition of the practice of dentistry. Most state statutes define the practice of dentistry to be related to the diagnosis, treatment and replacement due to diseases or malformations of the human teeth, jaws, and adjacent structures. However, the administration of systemic agents by dentists such as antibiotics or anesthetics certainly affect the entire body. This fact is the reason that licensed dentists are required to obtain a knowledge of the entire body and its functions. It is a common practice for oral surgeons to administer anesthesia in dosages that certainly fit the definition of anesthesiology. Orthodontists routinely treat oral malformations that are a result of nasal disturbances that are clearly within the domain of ear, nose and throat specialists. Extensive dental caries and/or gum diseases can be a result of general metabolic disorders, a task for the endocrinologist. Dental infections that require an intricate knowledge of infectious diseases and antimicrobial therapy could be considered to be the area of an internist specializing in infectious diseases. The management of patients with compromised physiological systems such as AIDS certainly demands some expertise in microbiology and isolation techniques. Musculo-

skeletal disorders of the complex muscles of the jaw directly affect the head and neck. Yet, some would argue that this area belongs to physical medicine or chiropractors. If dental research were to be limited to the same confines as the practicing dentist, would there ever be any breakthroughs in technology? Where the practice of dentistry ends and the professional turf of another type of health care provider begins forms the economic boundaries of the dental market. Given the broad statutory definition of dentistry, the interpretation of what constitutes dentistry lies within the realm of the personal views of the state dental boards.

The primary question that a state legislature must ask before creating a regulated occupation such as dentistry, is whether the controls are in the public interest. Six criteria have been proposed;

- (1) The unregulated practice of an occupation will harm or endanger the health, safety and welfare of the public, and the potential for harm is recognizable and not remote or dependant on tenuous arguments.
- (2) The practice of an occupation requires a high degree of skill, knowledge and training, and the public requires assurances of initial skill and continuing competence.
- (3) The functions and responsibilities of the practioner require independent judgement and the members of the occupational group practice independently.

- (4) The scope of practice of an occupation is distinguishable from other licensed and unlicensed occupations.
- (5) The economic impact on the public of regulating this occupational group is justified.
- (6) There are no adequate alternatives to regulation (i.e. statutory certification or registration) that will protect the public. ¹

Since the political pressure for licensing an occupation has historically been at the initiative of the profession and not the public, the states should give careful consideration to creating the regulations for a profession. In general, licensed occupations are characterized by entry controls. The result of this control is that an economic windfalls (rent) occurs. Consequently, professions will spend a great deal of time convincing the public of the quality benefits that will be gained through licensure. ² In dentistry, the extensive state statutes and regulations that legitimize the profession and its various sub-specialities will be examined in this light.

The states dental practice acts exhibit a broad variety of definitions for the practice of dentistry. The Nebraska law is typical of the majority of the state dental laws. It is as follows;

Any person shall be deemed to be practicing dentistry who:

1. Performs, or attempts or professes to perform , any dental operations or oral surgery or dental service of any kind, gratuitously or for a salary, fee, money, or other remuneration paid, or to be paid directly or indirectly, to himself or to any other person or agency who is a proprietor of a place where dental operations, oral surgery, or dental services are performed;
2. Directly or indirectly, by any means or method, takes impression of the human tooth, teeth, jaws, or performs any phase of any operation incident to the replacement of a part of a tooth;
3. Supplies artificial substitutes for the natural teeth, or who furnishes, supplies, constructs, reproduces, or repairs any prosthetic denture, bridge, appliance, or any other structure to be worn in the human mouth, except on the written work authorization of a duly licensed and registered dentist.
4. Places such appliances or structures in the human mouth, or adjusts or attempts or professes to adjust the same, or delivers ths same to any person other than the dentist upon whose work authorization the work was performed;
5. Professes to the public by any method to furnish, supply, construct reproduce, or repair any prosthetic denture, bridge or appliance, or other structure to be worn in the human mouth;
6. Diagnoses, or professes to diagnose, prescribe for, or professes to prescribe for, treats, or professes to treat, disease, pain, deformity, deficiency, injury, or physical condition of the human teeth or jaws, or adjacent structures;
7. Extracts, or attempts to extract, human teeth, or corrects or attempts to correct, malformations of teeth or of the jaws;
8. Repairs of fills cavities in human teeth;

9. Diagnoses, makes and adjusts appliances to artificial casts or malposed teeth for the treatment of the malposed teeth in the human mouth, with or without instruction;
10. Uses a roentgen or X-ray machine for the purpose of taking dental X-rays or roentgenograms;
11. Gives, or professes to give, interpretations or readings of dental X-rays or roentgenograms;
12. Administers an anesthetic of any nature in connection with a dental operation;
13. Uses the words dentist, dental surgeon, oral surgeon, or the letters D.D.S., D.M.D., or any other words, letters, title, or a descriptive matter which in any way represents him as being able to diagnose, pain, deformity, deficiency, injury, or physical condition of the teeth or jaws or adjacent structures;
14. States or professes, or permits to be stated or professes by any means or method whatsoever, that he or she can perform or will attempt to perform dental operations, or render a diagnosis connected therewith. ,

It is rather obvious that this lengthy list of criteria which defines the practice of dentistry for a majority of the states, can create confusion about what services are restricted in the name of quality and those which maintain control over the business aspect of dental practice. In the interest of the public the definition should be much more simple in order to permit competitive market responses. An example of a simplified version has been presented by The Council of State Governments' National Task Force on State Dental Policies.

A dentist shall have the exclusive responsibility for:

- (1) Diagnosis of conditions within the human oral cavity and its adjacent tissues and structures.
- (2) The treatment plan of any dental patient.
- (3) Prescribing drugs which are administered to patients in the practice of dentistry.
- (4) The overall quality of patient care which is rendered or performed in the practice of dentistry, regardless of whether the care is rendered personally by the dentist or a dental auxiliary.
- (5) Supervision of dental auxiliaries and authorization for procedures performed by dental auxiliaries...
- (6) Other specific services within the scope of dental practice (example; overall physical evaluation)

The primary difference between these two examples are the former's description that concerns the business aspects of dental practice, whereas the later focuses on maintaining the quality of patient care. The Nebraska model also defines the personal representations that a dentist may make regarding the practice of dentistry. Although it is not specified in the law, it does constitute a definition of the legitimate representations (advertisement) that a dentist may make in regards to insuring a quality of patient care. However, the regulations that are found in the laws of most of the states take a much more stringent view of business representations when they are actually called professional advertisements. The difference cannot be justified in the

public interests of maintaining quality of care. To the contrary the limitations on business advertisements actually inhibit the public from obtaining market quality and price information.

The statutory definitions for the practice of Dental Hygiene Dental Assistance and Denturism have similiar wide variations of scope of practice. The primary distinction lies in the audit trail of accountability for the licensed professional activity. Most states define this reponsibility as to be of the supervising dentist as a result of his/her advocating the reponsibility by issuing specific instructions for treatment. The supervision of this order can then be provided by the direct or indirect presence of the dentist at the time of the task. The difference lies in the actual presence of a licensed dentist. ⁵

For the dental hygienist, the following list of procedures from the Illinois law provides a typically specific set of procedures.

- a. The operative procedure of dental hygiene, consisting of oral prophylactic procedures.
- b. The appliacion to the surfaces of the teeth of such chemical compounds as have the approval of the American Dental Association as desensitizing agents or as effective agents in the prevention of dental caries.
- c. Polish restorations without changing the anatomy, contour or occlusion of the teeth.

- d. Perform root planning and closed soft tissue curettage.
- e. Place temporary restorations following the examination and instruction of a dentist.
- f. Apply topical anesthetics.
- g. Record existing conditions through the use of radiographs.
- h. Perform laboratory tests such as oral cytology smears and pulp vitality tests.
- i. Apply pit and fissure sealants to teeth, as prescribed by the dentist.
- j. Remove temporary crowns and restorations using hand instruments.

A simplified version is offered by the Montana format. It states;

The practice of dental hygiene is services,...that are educational, therapeutic, prophylactic, or preventative procedures in nature...These services include...the administration of local anesthetic agents under the direct supervision and authorization of a licensed dentist. However, this section does not allow the board or a licensed dentist to delegate any of the following duties.

1. Diagnosis, treatment planning and perscription;
2. Surgical procedures on hard and soft tissues other than root planning and subgingival curettage.
3. Restorative, prosthetic, orthodontic, and other procedures which require knowledge and skill of a dentist;
4. prescription for drugs or medications or work authorizations.

In the field of Dental Assistance, the laws are just as variable. The states that license dental assistants are few however the definitions of scope of practice read very much like the state definitions of the practice of dental hygiene. The primary difference lies in what is termed oral prophylaxis. In some states the licensed or registered assistant may polish the exposed surfaces of the teeth but may not remove any deposits on the teeth or roots. An other distinction prohibits the assistant from removing any of the soft tissues adjacent to the deposits (curettage).

In some states, dental laboratory technicians are regulated in areas that relate to the fabrication of dental appliances. The restrictions are generally directed towards maintaining a level of quality in dental appliances by requiring a perscription for the device from a licensed dentist as demonstrated in the Okalahoma Law.

...A dental laboratory technician is any person whose name is filed in the official records of the Board of Governors, who may, only upon the specific written work authorization of a licensed dentist and by using inert materials and mechanical device, make, produce, reproduce, construct, furnish, supply, alter or repair for the licensed dentist any prosthetic, bridge, appliance ot thing to be used in, upon or in connection with any human tooth, ajw or associated structure or tissue of the human mouth, or the treatment of any condition thereof. ^a

In other states, the technicians have been able to secure a separate market niche for offering their services directly to the public. The new field has been termed "denturism". This method of service delivery has found a wide acceptance in Canada. The statute for the licensed practice of denturism follows a model developed by the National Denturist Association. It states;

1. The making, fitting, constructing, altering, reproducing or repairing of a denture and furnishing or supplying of a denture directly to a person or advising the use of a denture; or
2. The taking or making or giving of advice, assistance, or facilities respecting the taking or making of any impression, bite, cast, or design preparatory to or for the purpose of making, constructing, fitting, furnishing, supplying, altering, repairing, or reproducing a denture. ' 9

A survey of the state dental practice acts demonstrates the variety of regulations that control the business character of the profession. The following market and manpower supply restrictions were discovered in a review of the 50 states and territories. In this table the column titled "ADVERTIMT RESTRICTS" refers to "F & M" as false and misleading representations and "SQ" as claims of offering superior quality of care. "S" indicates that restrictions are placed on claims regarding the availability of speciality services to only ADA-recognized speciality program graduates. The column listed as "PRACTICE OWNRSHP" indicates whether the ownership of a dental practice is

restricted to dentists only. "INTRSTATE MOBILITY" refers to freedom with which dentists may move from one state to another without having to take additional competency examinations. A response marked "LIMITED" indicates that there are other restrictions instead of examinations. The column marked as "SPECIALTY PROTECTION" relates to specific regulations or statutes that require a dental specialist to obtain an additional license (L) or certificate (C) beyond the basic licensure exam. The designation (AP) means that a permit is required before a dentist may administer a systemic anesthetic agent. The last column, "DENTAL AUXILIARY" describes the requirement for licenses or certificates for dental hygienists (H), dental assistants (A), dental laboratory technicians (T) or denturists (D) to operate within the state.

TABLE 1 SURVEY OF STATE DENTAL LAWS FOR MARKET RESTRICTIONS

STATE	ADVERTIMT RESTRICTS	PRACTICE OWNRSH	INTRSTATE MOBILITY	SPEC'LTY PROTECT'N	DENTAL AUXILIARY
ALABAMA	F&M SQ S	D	Y	AP	H A T
ALASKA	F&M S	D	LIMITED	L AP	H
ARIZONA	F&M SQ S		LIMITED		H A T D
ARKANSAS	F&M SQ S	D	LIMITED	AP	H A
CALIF.	?	?	LIMITED	?	
COLORADO	F&M	D H	N	AP	H A
CONN.	F&M S	D	LIMITED	AP	H A
DELAWARE	F&M SQ	D	LIMITED		H
FLORIDA	F&M SQ S	D	N	AP	H A
GEORGIA	F&M SQ S	D	N	AP	H A
HAWAII	F&M	D	N	AP	H A
IDAHO	F&M SQ S		N	L AP	H A
ILLINOIS	F&M SQ S	D	LIMITED	L AP	H A T
INDIANA	F&M SQ S	D	LIMITED		H T
IOWA	F&M SQ S		LIMITED	AP	H A T
KANSAS	F&M SQ S	D	LIMITED	L	H
KENTUCKY	F&M SQ S		LIMITED	L	H T
LOUIS'NA	F&M SQ S	D	LIMITED		H A
MAINE	F&M	D	Y		H A T D
MARYLAND	F&M SQ S	D	LIMITED	AP	H A
MASS.	F&M SQ	D	LIMITED		H A
MICH.	? S	?	Y	C	H A
MINN.	F&M SQ S	D	LIMITED		H A T
MISS.	F&M SQ S	D	N	C AP	H A
MISSOURI	F&M SQ S	D	LIMITED	C AP	H A
MONTANA	F&M SQ S	D	LIMITED	AP	H A
NEBRASKA	F&M SQ S	D	LIMITED	AP	H A
NEVADA	F&M SQ S		LIMITED	L AP	H
NEW HAMP	F&M SQ	D	Y	AP	H A
NEW JERS	F&M SQ S	D	LIMITED	AP	H A
NEW MEX.	F&M	D	N		H A
NEW YORK	F&M S	D	LIMITED		H
NO. CAROL	F&M SQ S	D	LIMITED		H A
NO. DAKOT	F&M SQ S		Y		H A
OHIO	F&M SQ S	D	LIMITED	AP	H A

TABLE 1 CONTINUED

STATE	ADVERTIMT RESTRICTS	PRACTICE OWNRSH	INTRSTATE MOBILITY	SPEC' LTY PROTECT'N	DENTAL AUXILIARY
OKLAHOMA	F&M SQ S	D	LIMITED	L AP	H A T
OREGON	F&M S		N	AP	H A D
PENNA.	F&M S		LIMITED	AP	H A
RH ISLND	F&M	D	Y		H A
SO. CAROL	F&M SQ S		LIMITED	L	H A T
SO. DAKTA	?	?	Y	?	?
TENN.	F&M SQ S	D	Y	C AP	H A
TEXAS	F&M SQ S	D	LIMITED	AP	H T
UTAH	F&M S	D	N	AP	H
VERMONT	F&M	D	LIMITED		H A
VIRGINIA	F&M SQ S	D	LIMITED		H
WASH.	F&M SQ S	D	LIMITED	AP	H
W. VA	F&M SQ S	D	LIMITED		H
WISC.	F&M S		Y		H
WYOMING	F&M S	D	LIMITED	AP	H
D. OF COL	F&M S		Y		H
PRTO RIC	F&M	D	Y		H A

The consumer reform movement of the 1970s brought some changes to the composition of the dental boards. This survey revealed that the total number of board members in the states was approximately 400. Of this number 290 (72.5%) were licensed resident dentists, 56 (14%) represented the dental auxiliaries, and 54 (13.5%) were selected from the public at large. Five states had boards with dentists only. The largest board was found in Pennsylvania with 16 members. The smallest one was Rhode Island with 4 members. Two of the

states had more non-dentists than licensed dentists on the boards; Colorado had 5 nondentists and 4 dentists or 55%, and Connecticut had 6/5 or 54%. The overwhelming majority of the board members were appointed by the Governor with confirmation from the legislatures.

A summary of this survey for market restraints are listed below.

1. States generally limit the ownership of individual practices and professional corporations to dentists that are licensed within that particular state.
2. States generally prohibit the public advertisement of claims of superior ability to the market, but permit the advertisement of specialty services.
3. States generally restrict certain tasks to dental hygienists while other dental auxiliaries must be qualified to perform nearly identical tasks. Even the auxiliaries are specialized.
4. States generally recognize that specialized knowledge in anesthesia is necessary to protect the public. This area is the only widely licensed speciality in dentistry.
5. States generally inhibit the entry of out-of-state residents from entering into the state market through a variety of additional requirements in the name of protecting the public quality of care.
6. State dental boards members are selected by political appointment, and not on the basis of regulatory or market knowledge.

The results of this survey demonstrates how the business aspects of dental practice have become intertwined with the quality of care arguments. It could be stated that these

restrictions are unrelated to the public concerns that are legislated to the state boards to protect the consumer/patient from unqualified practitioners. It could also be argued that these constraints are excessive controls over the market supplier's entry and exit options. Restrictions on business advertisements, practice ownership, interstate mobility, speciality protection, and auxiliary turf all add up to a more highly controlled market. This translates into fewer suppliers working for higher dental fees.

ENDNOTES: FOR PAGES 79 THROUGH 93.

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3. State Regulation of the Health Occupations and Professions: 1985-86, (Lexington, Ky, Council On State Governments, 1987) p.31-32.

4. State Regulatory Policies, Dentistry and the Health Professions, (Lexington, Ky, Council on State Governments, 1979) p. 20.

5. State Regulations of the Health Occupations and Professions: 1985-86. op. cit. p.82.

6. Professions and Occupations, The Illinois Dental Practice Act, Title 68: Ill Rev. Stst 1985, Chapter 111.

7. State of Montana, Department of Commerce, Board of Dentistry, Title 37, Ch. 9, Sec. 101.

8. Oklahoma Dental Act, S.B. 182 and H.B. 1181, Section 35. 1970.

9. State Regulation of the Health Occupations: 1985-86, op. cit. p. 96.

10. State Dental Practice Acts. A complete lists is available in the Appendix. This survey was conducted by the author using an unobtrusive content analysis method.

CHAPTER 4: EMERGENT TECHNOLOGIES AND PRODUCTS

The rapid expansion of knowledge during the 1960s and 70s was stimulated by the international politics of space exploration. President Kennedy's goal of landing a man on the moon before 1970 created a priority that focused the national attention and energy into broad areas of novel research. The unique structural requirements for space travel created a demand for a new generation of instruments and materials. The requirements of stronger, lighter, and heat-tolerant materials lead to the refinement of materials such as titanium and ceramics. Likewise, the necessity for miniaturization of instruments for space flight caused the development of smaller and more capable electronic instruments. This technology gradually became recognized as being applicable to other fields. The benefits from these innovations also extended to the dental profession.

Dentistry is a surgical specialty that relates to anatomic form in millimeters and centimeters. It was natural that dental instrument technology became curious of the space age technology for solutions to age-old problems. One improvement was so fundamental that it was surprising that an effective solution had not been found long before. The addition of fiber-optic illumination for the direct lighting

of dark recessed areas such as the oral cavity, permitted the dentist to see his/her work in a literally new "light". The development of high volume evacuation of oral fluids and irrigation during treatment solved the persistently irritating problem of fluid contamination when placing dental materials into the mouth. The contaminants would weaken the chemical bonds of the materials causing dental treatment failures. Recall that the dental amalgam failures of the 1840s were largely due to fluid contamination not the materials per se.

Other recent developments include superior impression materials, tooth-colored resin/quartz composite filling materials, porcelain fused to metal ceramics, non-precious metal substitutes for gold, and precision dental casting methods that greatly reduced the level of contaminants. Again all of these changes came about because of the scientific progress of miniaturization technology stimulated by the space race.

Concurrent with these changes were the more biological approaches to dentistry. The most widely known improvement in dental health came from the government sponsored fluoridated water and school tablet programs. The result of these preventative efforts has been profound. The incidence

of dental caries has dropped dramatically over the past 20 years.

Other biological developments include oral rinses that dissolve plaque. The approach is to breakup that sticky substance of salivary protein and food that serves as a nidus for disease producing bacteria. This medical approach has been shown to reduce dental caries and gum disease (periodontitis). Antimicrobial therapy that targets the specific pathogenic bacteria of the mouth, has also shown a promising direction for the elimination of oral disease. The overall effect of these biologically oriented developments has been to cause an overall reduction in the incidence of oral disease, and eventually the market demand for dental services.

DENTAL IMPLANTS:

The basic breakthrough for oral implantology occurred when biologically compatible materials were developed in the 1970s and 80s. Two categories of materials evolved from the research; the development of bone-like material, and the refinement of physiologically-acceptable foreign materials. Calcium-phosphate ceramics form the basis of the first group, while pure titanium is the standard for the second.

These materials improve the surface characteristics of adhesion or cohesion to permit bio-molecular attachment of the surface of the implant with that of the surrounding bone. ¹ The use of pure or coated titanium also fulfills a criteria for a strong and light weight material in the structure of the dental replacement. Bone-like ceramics are used as a substitute where bone loss from an extraction or periodontal disease has impaired the functional strength of the jaw or dental arch(es). The primary constituents of these materials are calcium and phosphate. These are chemically bound as compounds in a variety of combinations that are designed to mimic the inorganic chemical composition of bone. ²

Dental implantology is the most rapidly growing area in dental practice. Although the field has slowly evolved over the past 35 years, it wasn't until 1983 when research results from Sweden demonstrated success rates of 90+ percent over five and ten year periods. The response was overnight. By 1985, 24,000 Americans received oral implants, by 1986 the figures rose to 35,000. ³ One independent study indicated that 213,000 implants would be placed in 1987, with projections of 563,000 units annually by 1990.⁴ In terms of dollars and cents, another study showed \$6.7 million spent on oral implants in 1984, \$22.6 million in

1986, and projections of \$48.4 million by 1990. ⁵

Private research in a novel area had created a growth area for a beleaguered profession.

IMPROVED BIOMEDICAL INSTRUMENTATION:

Diagnostic instrumentation in dentistry had been primarily restricted to x-rays for many years. Consequently, the prevalent paradigm of dental function and dysfunction reflected the profession's observations of x-ray films. Whole theories were postulated in efforts to explain the nature of these observations. Since the measurement of functional activity of the mouth was limited by the weight and balkiness of the recording instruments, little more could be done. However, the new technology changed all of this by providing lighter and smaller instruments that could be applied to dental health care. The opportunity to accurately observe and record functional oral behavior became possible. In addition, the further development of the computer chip aided the compilation of this raw data into meaningful results. The utilization of the computerized electrodiagnostic instruments have permitted the researchers to visualize functional anatomy during actual movement. These observations have required the dentists to re-examine the currently acceptable theories of functional oral

physiology.

The profession has historically struggled to find a theory that explained why oro-facial disabilities developed in apparently normal patients. The established doctrines failed to completely explain these problems. However with the new diagnostic instruments, the research attention was able to focus on previously overlooked factors. The vision from a broader perspective drew an entirely different picture of dentistry and the general health of the patient.

The treatment of oro-facial dysfunction also applied to the task of reconstructing the oral environment after the mouth had been changed by extractions or the placement of oral prosthesis. The dogma of re-establishing the dental occlusion after these interventions had been based on the premise that the jaw could be manipulated into a proper position with the head and neck by the dentist. The whole element of normal physiology was forsaken in order to determine a reproducible position for the jaw in relation to the teeth. The method that has been accepted by the dental schools and the state examiners alike, is to force the jaw joint back into its most retruded and superior position. It is postulated that this position is normal, with little regard to the role of the facial and jaw muscles in this

movement. The occurrence of patient discomfort became of little concern to the dentist simply because he/she felt that this position was objectively determined. These methods applied to both partial and full reconstruction with fixed or removable denture prosthesis. Dentists were actually creating pathological muscular patterns in patients because of their lack of understanding about anything but the teeth. The effects of this professionally induced muscular disturbances would lead to jaw and even neck arthritis!

It took the inquiring mind of an independent practitioner to bring these factors together into useful everyday tools. The discoveries of Dr. Bernard Jankleson for dentistry were comparable to Galileo's discoveries in the heavens. In the early 1950s, Dr. Jankleson observed the functional movements of the tongue and jaws in the chewing and swallowing activities on continuous radiography or cine-radiography. His simple observations instilled a life-long search for an understanding of oral function and the dentition. Additional cine-radiographic studies were difficult to obtain because of a growing awareness of the adverse effects of excessive x-radiation. In search of a solution, he set out to measure his observations in another fashion. By 1975, he developed a mandibular kinesiograph which recorded jaw movements in three dimensions by tracking a small magnet within a

electronic field. This recording field was suspended around the jaw by a modified pair of ordinary glasses. This development removed the adverse influence of weight on the accuracy of jaw measurements. In order to analyze this data, he modified a computer to assimilate the recordings into graphic representations that could be viewed on the screen of an oscilloscope. The former obstacles to understanding the movements of the jaw were finally overcome. ⁶ Within a few years, these instruments were being used all over the world in various forms of practice and research. The worldwide professional community began to take notice of these inventions.

Dr Jankleson also introduced the use of transcutaneous electrical neuro-stimulators (TENS) for the muscles of the jaws and neck to the dental profession. His "Myo-monitor" could physiologically intervene into the complex muscular habits of a patient. This would physiologically interrupt the unconscious muscular habits that patients had become accustomed to believe was normal. The patients were harming themselves and didn't even know it. Finally his development and introduction of an instrument that measured the activity of these muscles provided the factual record that his instruments did indeed work. ⁷

Prior to electromyography, the only way that one could determine if an individual muscle was unhealthy was by the presence of pain or limited mobility, both of which were subjective indicators. The objective evaluation with instruments found the answers to lay hidden in the muscles and joints of the jaw and deeply ingrained muscular habits of the patients.

Of all of the recent discoveries in dentistry, the area that had the most significant impact was the role that nasal and throat obstructions played in the development and maintenance of the mouth, nose, head and neck. Finally a direct correlation was made between the presence of allergic responses in the nose and throat air passages and dysfunctional oral muscular habits. The allergic inflammation of these respiratory tissues caused an obstruction for the free passage of air from the nose and the lungs. These obstructions would force the patient to assume a forward head posture and lower jaw/tongue position in order to perform the simple task of breathing. These abnormal positions lead to deviant swallowing movements that mis-directed the primary intraoral equilibrating force, the tongue. The imbalance of these forces then would allow the cheek muscles to dominate the physiological molding of the facial growth. The lack of a proper counterbalancing force

from inside the mouth, normally provided by the tongue, would shape the teeth into a variety of crowded forms. This activity would cause the lower face to collapse, leaving the patient with a long and narrow jaw and crooked teeth. The mouth would literally take on the functional appearance of a nose. The previous explanations of these malformations that failed to explain these discrepancies on the basis of hereditary reasons or because of excessively large teeth, could now be discarded. The functional theory could now be proven when actual dysfunctional tongue movements could be accurately observed.

More and more evidence came forth that refuted the traditional concepts of treating the dental bite and developmental malocclusions. ⁸ Private individuals who wrestled with dissatisfied patients over what was considered to be a successful treatment, found themselves at loss with a concrete explanation. After all were they not doing what they had been taught by the schools? Gradually they began to discover the answers through the eyes of Dr. Jankleson's technology. Similar efforts in the medical specialties of otorhinolaryngology, physiatry, and sleep disorders drew attention to the role of the mouth in nasal and neck dysfunction. ⁹ Further research demonstrated that abnormal growth patterns that lead to facial deformities were also

affected by this technology. ¹⁰ Problems that defied solutions for centuries, such as whiplash and swallowing disorders, and insomnia, could be resolved by these medical specialties when they included these new dental methods into their treatments. ^{11 12}

The increasing number of failures in the classical orthodontic and dental reconstructive treatments began to find a way into the courtroom. The burden of proof in the Court of Law carried with it a far different meaning than what the profession had previously thought. Evidence had to be convincing in a manner that was easily understood by the lay jurors. No longer did a professional opinion serve as adequate explanation when a patient had demonstrable losses due to treatment. The increases in professional liability insurance premiums spurred the dentists to double check their methods of care.

Other health care areas became interested in applying these new techniques in the treatment of jaw, facial, head and neck pain. Psychiatrists, psychologists, and dentists who treated patients for pain problems that were thought to be caused by abnormal behavior were in many cases related to muscular disturbances. The often erratic nature of the patient's pain had often lead the professional to believe

that the pain was somehow a result of the patient's life circumstances. The application of accurate measurements of the physiology often found actual organic causes to the pain. Gradually, the professional attention shifted toward solutions that were offered by techniques that focused on the muscles of the jaw.

Dentistry would never be the same again. While the successes of the new technology began to exert an effect on the political structures of the profession, individual dentists began to become divided over authenticity of these measures. Traditionalists were faced with professional pressure to either resist with the standard arguments or succumb to the growing tide of support for this change. A scientific and economic revolution had begun.

ENDNOTES FOR PAGES 95 THROUGH 106:

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CHAPTER 5: TRADITIONALISM VS A NEW PROFESSIONALISM

The prevailing paradigm of the dental profession at the beginning of the 1960s was that the bread and butter of the dental practice was to be found in treating dental caries. The procedures that were common included dental restorations, extractions, and full or partial dentures. The economic advantages of specialization were not very well known primarily because most of the dentists were as busy as they wished and were living comfortable lives. The knowledge explosion of the late 60s and early 70s began to be felt in the market place when the number of dental graduates increased as a result of the federal government's programs that were designed to contend with an anticipated manpower shortage.

This increase of dental graduates lead to a change in the age distribution of dentists in the United States. This pattern has followed the general demographic characteristics of the post World War II baby boom. According to the ADA's 1982 survey of dentists in the United States, 53.2% of the practicing dentists were younger than 44 years old, with 25.2% under 35. The remaining 36.7% are evenly distributed into three groups;

45-54 yrs old	=	21.2%
55-64 yrs old	=	17.5%
65 and older	=	8.1 %

mean age = 45.3 yrs ¹

The forecasts of the estimated mean age of the professionally active dentists through 1994 continues to remain at 45 years old. ² This forecast however apparently has failed to reflect on the current large number of dentists that represents a noticeable bulge in the profession career span. From the aspect of sheer numbers, this group will have a unique impact on the affairs of the profession as it passes through its career life. The mean age of the profession would be expected to increase with that of the rest of the population.

As governmental support has faded from dental education the tuition costs have risen. The average debt of graduating dental students rose from \$15,000 in 1979 to \$36,300 by 1985. ³ As the costs increased and a market glut developed, the number of students began to decline. The number of applications for entry positions into the dental schools dropped from 81,765 in 1977 to 29,060 by 1986. The applicant to first year enrollment ratio changed from 2.16 in 1977 to 1.26 in 1986. ⁴ The schools were facing a financial crunch caused by the declining tuition income through the reduced

numbers of students. By 1986, three of the dental schools had closed. The attitude towards the future career expectations was undergoing a similar change in the students already in school. The climbing educational debts combined with the rising costs of establishing a dental practice were becoming prohibitively high. This attitude is reflected in the dropout rate of the students. These attrition rates rose progressively as pictured in the following table.

TABLE 1. Dental School Attrition Rates by School Year
{per cent of total enrollment} ⁵

78	79	80	81	82	83	84	85
1.8	1.9	1.7	2.1	2.3	2.5	2.8	3.1

This attitude has been carried over to the profession in general as the ADA membership nonrenewal rates climbed to 10.5% for 1980 graduates. ⁶ A new attitude towards the traditionally organized profession was emerging along with the new graduates.

As the ranks of the general practitioners began to swell, the extra job security offered by the additional credentialing of a specialty became more and more attractive. The ratio of specialists to general practitioners rose from 6.5 per 100 in 1965 to 11.6 per 100

by 1975, a 56% increase in ten years! The estimated projections for 2000 are 18.5 specialists per 100 general practitioners. ' The insurance carriers reinforced this view by offering higher fees to specialists for identical procedures that could be performed by the general practitioners. Dental societies that were founded on the common interests of the profession at large became more and more specialty oriented. Many of the policies emerging from these groups gave further support to the developing hierarchy of a top heavy profession.

The dental schools reinforced this hierarchy by preferring to employ the specialist. The higher positions in education became filled with only board-certified specialists. The general dentist in dental education found himself to be confined to teaching only the basic dental techniques. In private practice the increased numbers of specialists sought to limit the general dentists from performing treatments that were considered to be specialized care. Meanwhile the increasing ranks of dental hygienists sought to expand their portion of the market by demanding exclusivity for delivering preventative care. The bewildered general dentists were caught in an economic squeeze between sub-specialists of their field. This power play within the profession was performed with the authority of superior

knowledge. The general dentist was being forced into a smaller portion of the market that left only the simplest form of treatment such as simple extractions, restorations, and dentures as a source of income.

As new technologies began to offer practice alternatives, the 25 year old policy of the ADA on specialty protection, began to meet opposition from the growing expertise that lay outside of the traditional practice boundaries. The growing market demand for new treatment methods was willing to support the many dental adventurers who attempted to supply the market with the latest technology. As the new discoveries gradually revealed new knowledge, more and more general practitioners flocked to the seminars in an effort to expand their market capabilities. The official limitations of practice by the ADA's specialty turf restrictions did not apply in these new practice areas. With the general dentist facing the decline in dental caries caused by fluoride and other preventative means the new technologies promised a growth area that was unrestricted. Just as the gold miners looked to California for the source of new wealth, the general practitioners flocked to hear the word of new knowledge.

The ramifications of these discoveries in the dental profession left many established practitioners confused. How could this technology be incorporated into busy dental practices without altering the structure of the entire practice, including the business aspects. Entrepreneurs risked financial stability as they boldly moved forward with the latest innovations. But, the innovations drew controversy, and controversy was not good for the conservative nature of the profession. Others choose to ignore the developments, hoping that these new ideas were nothing more than a passing fad, while still others actively sought to disprove the new claims. The knowledge void between the professionals created a professional friction between the old guard and the new professional.

Since the dissemination of this technology has primarily been along private efforts of education, uniform educational standards were still evolving. The Academy of General Dentistry (AGD) eventually developed two advanced certificates for its members, through continuing dental education. The educational requirements were similar to the traditional approach to dental education, but the demand for practical knowledge of the specialty areas became most attractive. The lure of the AGD's programs increased the membership to over 30,000 dentists by 1985. The AGD had

become the second largest dental organization in the United States by representing the concerns of the general practitioner. The ADA had begun to lose its grass roots support while it persisted in defending the specialized control of the market issues on the age-old quality of care argument.

The spread of this technology followed the private preceptor path, contrary to the established and publicly financed universities. Resistance to the developing scientific revolution came from the bastions of scientific and educated communities. These institutions were stable professional organizations with an established authoritative hierarchy. To incorporate such dramatic change into their ideologies meant to risk the security of their positions. It was simply unthinkable.

In the new knowledge fields, the preceptor form of dental education flourished. The obvious absence of organized support from the traditional groups left the field open to individual interpretations. One institute which offered courses in dental implants, took the initiative to developed its own standards of care. One 15 day seminar series would provide a certificate of completion that is recognized as an entry-level substitute for fellowship in the International

Congress of Oral Implantologists. ^a The adequacy of this training has been demonstrated in clinical practice by over 15,000 dentists. The developing field of musculo-skeletal dental occlusion offered a similar option for dentists. The International College of Cranio-mandibular Orthopedics confers a certificate of Fellowship to individuals who meet the requirements of their organization. These educational efforts are also outside of the traditional hierarchy of the ADA. Notice that these credentialing methods resemble the preceptor system of the 1800s!

The impact of these innovations began to be felt in the marketplace as the new knowledge became economic power for the new professional. This trend ran contrary to the economic interests of the profession. When the pressure of a crisis began to be demonstrated, dentists began to look for other options for their financial security. In response to these pressures, the individual practitioners began to look to the professional associations for solutions to their economic woes. Since the professional organizations lack legislative authority, they could do little more than offer advisory opinions. They simply lacked the legal authority to act on the behalf of the membership's interests in any significant fashion. They could however influence those who did have this authority; the state boards and legislatures.

The professional societies began to work in the political environment in an attempt to develop protective measures for the professional membership. In some instances Political Action Coalitions (PACS) were drawn with other groups of similar interests to increase their lobbying clout. The emphasis was clear. Professional organizational dollars were being used to promote policies that secured the interests of the organized profession.

Realizing the importance of the organizations to properly effect the economic woes of each practitioner, the profession's efforts turned towards the state's authority via licensure. It became conceivable that the dental boards could serve as a broker of the economic interests of the established dentists by enforcing more rigid standards in the name of quality. Since the established practitioners had already developed a regular business the newcomers were the ones who would be most affected by a greater enforcement of the restrictions. The past board policies made the task of becoming established more difficult, to the delight of the established status quo. In a broad sense, it appears that the profession had been desperately seeking a solution to the major trends that were descending onto the individual practitioner. The future would be far different from the past, no one really knew where it was going.

In general, professional organizations have historically identified the following types of legislation as being in their interests.

1. Legislation that increases the demand for the member's services.
2. Legislation that increases the price of services that will substitute for existing member services.
3. Legislation that limits entry of new members.
4. Legislation that supports the prevailing fee schedules by limiting competition.
5. Legislation that lowers operational costs by changing state laws to permit greater productivity.

The dental profession was undergoing a scientific and economic revolution caused by the transformational power of new knowledge and a changing market. The paradigmatic shift from a traditional philosophy of the profession to the new professionalism has created a crisis in the formerly stable political arena. Some of the traditionalists have become insecure about their political positions and careers. Following the path of a true scientific revolution as defined by Thomas Kuhn in The Structure of Scientific Revolutions, the traditionalists prepared a strategy that would protect their interests until they could safely and gracefully exit from the scene.¹⁰ Techniques that created confusion and delays were typical of their efforts of subverting and frustrating the growth of the new

professional. The status quo was not going to give up their career gains without a fight. They were going to challenge every aspect of this emerging professional paradigm. Unknown to the traditionalists, their efforts only further set the determination of the new dentists. The battle began with questions of simple verification of the effectiveness of the new knowledge. It intensified into technical arguments that demanded absolute proof until this method of attack was exhausted. The beginning of the end came into view when the traditionalists began to resort to less than fair tactical maneuvers. Some attempted to control the reimbursement industry's purse strings by affecting the private policies of third party payers. The new professional could be economically starved without the help of the insurance carriers to pay for the market substitutes. Others entered the governmental arena and attempted to control the profession by additionally restrictive regulations or legislation. The conflict has not yet been concluded as lengthy litigation tangles the issues in legal red tape. The prize of future economic security was at stake. To the victor would come the spoils of authority derived from the new knowledge.

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CHAPTER 6: POLICY RECOMMENDATIONS

In the preceding chapters, the problems facing the dental profession from within and without were discussed. The literature that was reviewed revealed evidence of the influence of changing scientific and knowledge in the structure and practice of the profession. An analysis of current policies indicates the controlling influences of a traditional, specialty-oriented organizational hierarchy in the professional organizations and the state dental regulatory boards. The rigidity of these restrictions and the adamant attitude found in the political circles which determine these professional policies and regulations, has increasingly alienated large numbers of competent dentists. The failure of the current political hierarchy to recognize and translate the emerging changes into policy has divided the profession into two different paradigms of philosophy. This has resulted into a progressively deteriorating 'esprit de corps' among dentists that strongly suggests the need for a significant reassessment of the affairs of the profession. The factional nature of the current leadership has created a wound that will be slow to heal.

The division within the profession has become great enough to initiate the process of socio-political change on

a national scale. The dynamic nature of the recent technological innovations has caught the attention of those dentists who have sought innovative solutions to the economic problems in the dental market. The swelling tide of professional political dissention has not yet been successful in altering the governmental policies of the state dental boards. The change is, nevertheless, inevitable.

This paper has identified the areas that have restricted the profession from responding to the current population shifts that have recently occurred within our society. Along with the major migration trends, the nature of the demand for dental care has also changed. These regulatory restrictions have been identified as; excessive educational qualifications that limit practice boundaries and market entry options, policies which limit the interstate migration of dental manpower, advertisement restrictions on new technology and non-ADA approved educational methods, practice structure and ownership, and the efficient utilization of dental auxiliaries. This chapter will address these policies and propose some policy solutions.

RESTRICTIONS ON PROFESSIONAL "TURF":

The professional turf boundaries are generally defined by the dental laws, with interpretations being left to the members of the state dental boards. These interpretations have not been consistent from one locale to another. Just as the profession had once understood the value of uniform standards for dental education in the 1800s, the entire profession would benefit from the adoption of nationally uniform practice law. A model of this could be;

The practice of dentistry is the diagnosis and treatment of diseases, conditions and deformities of the human mouth and functional structures that are related and adjacent to the oral cavity. This act permits the administration of systemic agents or treatment for the proper and responsible management of the oral condition.

The adoption of this model would ensure a constitutional alignment and reflect the state's interest in the public health. This model would provide a penumbra under which the dentist could comfortably practice his/her professional skills under the guidance of conscience, education, and experience. Since an optimal regulatory scenario depends on a willful individual compliance at the moment of action, the professional conscience is the only safeguard towards ensuring public safety. When this personal method of control

has lost its sense of direction, the best that the state can do is to prevent damage. It cannot reverse the effects of adverse professional behavior. Although the effects of a professional mishap may be dramatic and appalling, the few instances should not be used as an excuse to constrain the dental market at large. Unfortunately, unpleasant events do happen.

Another educationally restrictive method that has been used lies in the licensure examinations. It is conceivable that a board examiner could exert an entry control measure at the time of evaluation. One study found a relationship between the pass rate of entry exams and the market demand.¹ The imposition of stumbling blocks before the dentists who are attempting to enter into a market area constitutes a questionably lawful infringement of the individual rights of the dentist. This interference could be masqueraded as a quality of care concern when in fact it represents the personal bias of the examiner. Dental examiners should be selected from the ranks of dental education simply because educators are more familiar with evaluation techniques. Because the selection methodology for the current examiners has not been clearly defined by most of the state practice acts, the opportunity to select these people on the basis of political affiliation or ideological persuasion is certainly

available. The private regional boards are even more mysterious. However, the private ownership of these regional boards does not alter the public obligation of their work.

There is definitely a need to enforce quality control measures in the selection of dental examiners since they are representing the public interest during the examination process. After all it is the responsibility of the examiner to certify the qualifications of each applicant. The variability of criteria for the examiners has been a topic of much debate.² The same could be said for the overall numbers of applicants into the state. If a state board wished, it could keep the supply of dentists in check by issuing excessively difficult exams to the applicants, in the name of quality control. This high pass/fail ratio has been postulated to correlate with higher dental fees.³ These mechanisms although admittedly difficult, demonstrate potential gatekeeper focal points in the regulatory process. Ideally the emphasis should be on the provision of examination objectivity not on the preconceived or personal views of potential adverse market effects. This attitude of controlling the number of dental practitioners coming into a particular state by overemphasizing minor technical faults in the applicant's clinical examination, amount to a flagrant abuse of public authority. Apparently this practice

has become well known. According to the Health Policy Agenda for the American People, licensure or other forms of accreditation, should not be used for regulating the health manpower supply. ⁴

Disciplinary efforts of the state dental boards are directed towards penalizing the economic power of the offending dentist. This is an appropriate measure because it serves to reverse the privileges of licensure. These regulations cannot be relied upon to prevent a dentist from abusing his/her dental privileges. An appropriate state response to violations of dental practice standards would be to institute some sort of disciplinary action against the offending individual in order to protect the public from further damages. A policy model for the variety of disciplinary options that are utilized throughout the United States could be as follows;

- (1) Permanently revoke a practitioner's license to practice.
- (2) Suspend a practitioner's license.
- (3) Censure a practitioner.
- (4) Issue a letter of reprimand.
- (5) Place a practitioner on probationary status... ⁵

The broad adoption of these disciplinary measures would permit a uniform standard of disciplinary criteria that

would facilitate the identification of unlawful activity. Under the current system, a censure, reprimand or probation could have an entirely different meaning between two states. So, before one could consider the adoption of reciprocal licensure, it would be important to differentiate between the significance of any previous disciplinary activity. An example could be in the area of misleading advertising. Where a one state may take a harsh view on advertising by disciplining an individual, while another may simply overlook the offense. Uniformity would work to solve these kinds of problems.

The overwhelming consensus of the literature that been reviewed for this paper suggests that the effective protection of the public interest lies in the adequate enforcement of regulations not the proliferation of excessive legislation. ⁶ ⁷ The effectiveness of any policy depends on a proper execution of the policy directive, otherwise, legislation is nothing more than rhetoric. Any legislation that cannot be reasonably executed is poor policy planning that only serves to confuse and complicate the real issues at hand. ⁸ Enforcement means time, money, and training for the dental board members in the affairs of regulatory government. The ability of the board to provide executive, judicial and legislative authority over the

profession demands a level of competence in performance that should equal if not exceed the standards imposed on the professional. The unique character of the personal property of licensure requires the dental board members to be knowledgeable about substantive due process, rules of evidence, confidentiality, simple economic principles, and the public interest. These board members should be examined for their knowledge to administrate the affairs of the government.

The financing of regulatory prosecution should come from the licensure fees. Considering all of the advantages offered by this state sanctioned monopoly, the profession should be made to pay for the protection of the public interest. An annual fee of \$250 would only begin to provide the necessary funds to achieve this goal. This amount should not be surprising to the dentist. The annual license and inspection fees for the ordinary automobile in many cases are greater than the fee for the privilege to earn a sizeable personal income. ' It would serve both the profession and the public that it serves by financially supporting the adequate enforcement of practice standards.

RESTRICTIONS ON INTERSTATE MOBILITY:

Since 1976, the American Dental Association's policy on reciprocal licensure between states is that the evaluation of a dentist's performance record could adequately substitute for re-examination as a method of assuring a level of quality in dental care. This substitution is called licensure by credentials. The specific policy is recommended for the candidate who;

- a. Is currently licensed in another jurisdiction.
- b. Has been in practice or full-time dental education for a minimum of five years immediately prior to applying.
- c. Is endorsed by the state board of dentistry in the state of current practice.
- d. Has not been the subject of final or pending disciplinary action in any state in which he is or has been licenced.
- e. Has not failed the clinical examination of the state to which he is applying within the last three years. ¹⁰

Since the educational standards for dentistry are basically uniform throughout the states because of the National Dental Boards and the American Dental Association's accreditation process for the dental schools, the restrictions on interstate mobility of dental manpower could be virtually eliminated without a reduction in quality. The chance that a student could graduate from dental school with less than adequate clinical skills under the current set of

requirements is remote. If this were ever to be true, the responsibility would be that of the school, not the graduate.

The New Hampshire statute is an example of a policy that reflects the most desirable market conditions for entry options while still preserving the quality of care concept. Section A:24 of Chapter 317 as revised states;

Applicants from Other States. The board may license any applicant for a dental or dental hygienist who is licensed in any other state, provided the other state's licensing requirements are substantially equivalent to or higher than those of this state. ¹¹

The defense of this position has been elegantly expressed by Mary Jane Ploof, a public member of the Minnesota Board of Dentistry; "It is really not the business of dental boards to manipulate the dental marketplace. What we are attempting to do is ensure competent practice with public benefits". ¹²

An alternative policy that could substitute for some of the limitations which the states place on out-of-state applicants, would be to issue temporary licenses for a probationary period, possibly one year. This would give the state an opportunity to assess the quality of patient care under a trial by fire arrangement that would test the quality under actual practice conditions rather than stressful and expensive test conditions. There is little to

gain for the public by interfering with the constitutionally protected individual right of a educationally qualified practitioner who has earned the property of a dental degree, to exercise his/her skills before the general public, wherever that may be.

Uniformity of statutes and regulations for dentistry across the United States would permit a redistribution of manpower to where the market is expanding. This migration has been shown to have little effect of the price of dental services, however it would drastically change the manpower supplies from states with high dentist to population ratios to areas of shortages. Given the uniformity of training, evaluation criteria, advertising claims, and disciplinary criteria the public interest would be best served by permitting free market movement within the states.

ADVERTISING RESTRICTIONS ON NEW TECHNOLOGY AND TRAINING:

The prohibition of advertising the availability of new techniques and instruments on the basis of deceptive promises in delivering a superior quality of care is policy nonsense. It has become a routine practice in this country for innovative market introductions to be advertised in the public media. The market suppliers depend on a timely return on their venture capital outlays in order to finance the

high costs of innovation. How else can the market effectively incorporate new technology? To prohibit this practice in dentistry can only serve to preserve the status quo. It is not in the public or private interest.

The most desirable policy would state;

Professional advertisements that contain information that is substantively false or deceptive shall be shall constitute a violation of the public interest.

This policy proposal has avoided the statement 'misleading' because it is too ambiguous to be legally useful. Any disgruntled individual could claim to have been misled over any advertisement. Furthermore, the burden of proof for falsehood should require an actual instance where an individual has suffered economic or physical loss because of the fraudulent advertisement. To subjectively rule that an advertisement is false based on the value criteria of politically appointed board members, reinforces the entrenched professional paradigms of what is considered to be appropriate. The dentist, so accused, could suffer a significant loss of professional stature and business over a simple difference in legal opinion. At minimum, a careful assessment of the rights of the dentist in light of recent interpretations of constitutionally protected "due process" would be necessary to protect the dentist from excessive police action under the color of the law. A study of the Federal Trade Commission has shown that the publication of 'cease and desist' orders from this agency has a dramatic

impact on the business cited. ¹³ The threat of these disciplinary measures that are not founded in direct evidence stifles the growth and development of novel advertising tactics of the already restricted market. Furthermore, other legitimate constraints on the quality of care have already addressed this issue.

In the states where dental specialists enjoy a state-sanctioned restriction in the advertisement clauses, the proposed model would not interfere with their claims of superior knowledge or skill. The specialist and generalist alike should be held to the same advertising standard. It is simply redundant to complicate the rules of the marketplace with additionally burdensome regulations.

LIMITATIONS OF PRACTICE OWNERSHIP:

The ownership of a dental practice is unrelated to the quality of care concerns of the public. The lack of significant educational exposure to practice management methods negates the argument that this privilege was somehow earned in the educational process. The enormous costs that face the dentist who is contemplating a private dental practice can only create pressures to generate income that could interfere with quality of care concerns. The security of business experience and financing from nondentists would

remove the threat of personal and business failure from the minds of the novice dentist. The successes of retail practice settings has demonstrated that this business approach will, in fact, benefit the patients and dentist alike. The long held belief that someone will somehow be hurt by this approach has not been demonstrated in any of the literature reviewed. The standards of quality still apply equally to the professional practice of dentistry regardless of where the treatment has been performed.

The limitation of practice clauses for specialists to provide only specialized dental care is ridiculous. This practice restraint constitutes the epitome of monopolistic regulation. It is a literal waste in the investment in human talent and resources, to the ultimate loss of the consumer/patient. This provision forces the patient to get on the merry-go-round of referrals in order to satisfy their dental needs.

DENTAL AUXILLARY UTILIZATION:

Through out the survey of the state dental practice laws, one thing became clear, dental hygienists have a disproportional advantage over other dental auxiliaries with similar academic exposure. The restriction of licensure on these auxiliary skills greatly compromises the efficient

utilization of skills within the concept of the dental team. The marginal dental office that cannot afford the luxury of an additional auxiliary is forced by law to inefficiently ignore the capabilities of the expanded function dental assistant in providing prophylactic dental care to the patient. The argument that the dental hygienist is more qualified to polish the clinical crowns of teeth than a dental assistant is not educationally and economically sound. In states where dental assistants are permitted to polish dental restorations, the procedures are identical. In addition, the licensed capability of the hygienists to perform invasive dental procedures such as root planning and subgingival curettage is not based on any biologic standards of practice. Any procedure that removes tissue or causes moderate bleeding should require a thorough understanding of human physiology and the disease process. By all of the other standards that have been demonstrated in the dental laws, the privilege to intervene into the sanctity of human physiology, is reserved for the attention of the individual trained at the doctoral level. The dental market would be greatly relieved by the creation of only one dental auxiliary with expanded capabilities. The duplicity of training is an inefficient utilization of manpower resources.

A policy model for the definition of a uniform dental auxiliary law could be as follows;

The licensed practice of dental assistance shall consist of the performance of those dental procedures that are reversible and noninvasive in nature, as prescribed by a direct written order from a licensed dentist, and executed under the general supervision of a similarly licensed dentist.

This examined and licensed individual would serve as an all around dental auxiliary, being trained and licensed to perform all of the noninvasive and reversible tasks that are necessary to efficiently support the skills of the dentist. The delegation of specific dental tasks could be under the general supervision of the dentist. A requirement for documented orders similar to those given to the nurse on the floor of any of the hospital would ensure a clear audit trail of professional accountability, thus the interests of the state would remain secure.

In the field of dental technology, a similar examination and licensure requirement would provide all of the necessary controls that are defined by the public interest. An example would be;

The practice of dental technology shall consist of the fabrication of dental appliances as prescribed by a written order from a licensed dentist.

It is the recommendation of this writer that the profession align its purposes through appropriate legislation with the public interests as the optimal professional and social goal. This alignment would permit the profession to easily assimilate the introductions of new technologies and techniques as they are discovered. The broad adoption of uniform licensure laws such as the proposed policy models would allow the economic forces of supply and demand to effect the quantity and prices of dental services in a competitive manner. These models would not reduce any of the necessary quality control measures, but it will separate the economic interests of the consumer from professional quality of care concerns.

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CHAPTER 7: CONCLUSIONS

This paper has attempted to identify the major policy factors that are present within the dental profession in the United States. It has initially reviewed the literature from a historical perspective, and then from a contemporary view. This work has then demonstrated economic theories as it relates to the various aspects of regulatory policy on the dental care market. A survey of the state dental practice acts found these types of restrictions to be present in a majority of the states. Next, the role of innovative dental technology and a growing dental manpower surplus was discussed within a political and organizational context. From the previous discussions, the paper has identified a classic scientific revolution and the birth of a new dental professional. Finally, proposals were drawn to offer policy solutions to blend the major trends into a workable policy that could serve as a model for state legislatures through the country. The development of these measures would ultimately serve the profession and the public alike.

The presence of the current restrictive legislation on the dental market as expressed in the state dental practice acts has prevented the implementation of a necessary change within the profession and on the public market. These

policies have traditionally depended on quality of care arguments that have been stretched so thin that they have become substantively transparent. The large amount of energy that has been expended by the conservative status quo to maintain these policies clearly demonstrates how deceptive the measures have become. This activity constitutes a misleading and false message to the profession and the public, while little is done to resolve the growing problems of the profession, notwithstanding, the dental market. This behavior simply does not belong in the professional arena. Given the political nature of the dental board appointments, the tendency to continue the traditional method of formulating or maintaining state dental policies appears to be well established. However, it cannot go on forever. Eventually the strength of the collective public interest will prevail with or without the support of the presently organized profession.

This is a different view of the dental profession. It is an attempt to define the role of the profession in the American society at large. The public need for affordable quality dental care really can meet the economic needs of the dental professional. It is all in the way the market pie is to be divided.

The equitable resolution of any dispute requires solutions that arise from a collective value consciousness. Equitable solutions require equitable amounts of cooperation. The task of developing this cooperation lies in the ability to identify the broad value interests of the community. These interests will have an universal appeal to the commonality of human nature and successful social discourse. It is the task of the leader to present these measures to the community in a clear and concise fashion, so they may make a knowledgeable choice. In this particular instance, it is in the long range interests of the profession to begin to align itself with the interests of the people upon which the profession depends for its livelihood; the patient/consumer. It is imperative for the dentists to initiate this effort on their own. The failure to do this will most surely result in measures that are going to be very unpopular with the profession. When one considers how radically the past governmental interventions have changed the nature, the size, and shape of the profession, it become clear that it could happen once again. A rational choice would be to begin to create the future of the profession rather than waiting to react to external factors. This involves a philosophical shift in the priority of the profession's interests from self to others, before any significant progress will be made.

Whatever direction the profession decides to take in response to the many external pressures that it now faces, it will require a significant commitment from the majority of the members towards a common goal. The leadership within the profession must be willing to accept the process of change as a natural result of a viable and flexible society. Immediate sacrifices must be viewed in the light of long term alternatives. The current strategy of relying on the methods of a bygone era to somehow bring back the good days, is simply inappropriate. Today's leaders must search for a future that contains the essence of the most important professional values. Once these goals have been identified, the leaders must begin to create this future by acting now. This can be achieved only when the leaders can wholeheartedly trust in their ability to visualize their future directions. (1)

A quote by Dr. C. H. Patton in 1961, a former president of the American Dental Association, literally sums it up;

The greatest danger...is not the invasion of health fields by the government, but rather the loss of leadership by the health professions. We have a heavy responsibility to demonstrate the faults of certain proposals or plans to suggest alternatives that will better meet the needs of the public interest. (2)

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APPENDIX 1. STATE DENTAL LAWS AND BOARDS:

Alabama, Code 34-9-1 et seq. as amended.
State Board of Dental Examiners of Alabama,
Administrative Secretary
2308-B Starmount Circle
Huntsville, Alabama 35801.

Alaska, Dental Hygeine, Chapter 32, Dentistry, Chapter 36.
State of Alaska Board of Dental Examiners
Dept of commerce and Economic Development
Pouch D. Lic.
Juneau, Alaska, 99811-0800.

Arizona Dental Law, Chapter 32.
Arizona State Board of Dental Examiners
Executive Director,
5060 N. 19th Ave., #406
Phoenix, Arizona 85015.

Arkansas Dental Law, Chapter 32.
Arkansas State Board of Dental Examiners
Director
926 Donaghey Bldg.
Little Rock, Arkansas, 72201.

California State Board of Dental Examiners
Executive Director
1430 Howe Ave., Ste. 85B
Sacramento, California 95825.

Colorado, Dental Practice Law of, Title 12, Article 35.
Colorado State Board of Dental Examiners
Administrator
128 State Services Bldg.
Denver, Colorado 80203.

Connecticut, Dental Law, Chapter 379.
Connecticut Dental Commission
CT. Dept. of Hlth Serv.
150 Washington St.
Hartford, Connecticut 06106.

Delaware, Dentistry and Dental Hygiene.
Delaware State Board of Dental Examiners
Director
P.O. Box 1401
O'Neill Bldg.
Dover, Delaware 19901.

District of Columbia, Title 2, Chapter 33
District of Columbia
Board of Dental Examiners
Contact Representative
Department of Con. & Reg. Affairs.
P.O. Box 37200
Washington D.C. 20013-7200.

Florida, Laws relating to the Practice of Dentistry, Chapter
21 G -1
Florida Board of Dentistry
Executive Director
130 N. Monroe St.
Tallahassee, Florida, 32301.

Georgia, Laws Governing Dentists and Dental Hygienists,
Title 43, Chapter 11.
Georgia Board of Dentistry
Executive Director
166 Pryor St. S.W.
Atlanta, Georgia 30303.

Hawaii, Title 16, Chapter 79, Rules Relating to Dentists and
Dental Hygienists
Hawaii State Board of Dental Examiners
Dept. of Com. & Consumer Affairs
P.O. Box 3469
Honolulu, Hawaii 96801.

Idaho, Dental Law Title 54-901-934
Idaho State Board of Dentistry
Administrator
701 W. Franklin St.
Statehouse Mall
Boise, Idaho 83720.

Illinois, Title 68: Professions and Occupations, The
Illinois Dental Practice Act, Ill Rev. Stat 1985, Chapter
111.
Illinois Dental Examining Committee
Department of Reg. & Education
320 W. Washington, 3rd Floor
Springfield, Illinois 62786.

Indiana State Board of Dental Examiners, Section 828.
Indiana State Board of Dental Examiners
Hlth. Prof. Serv. Bur.
One American Square #1020
Box 2067
Indianapolis, Indiana, 46282.

Iowa, Code of, Practice of Dentistry, Chapter 153.
Iowa State Board of Dental Examiners
Executive Director
Executive Hills West
1209 East Court
Des Moines, Iowa 50319.

Kansas, The Practice of Dentistry and Dental Hygiene,
Chapter 65.
Kansas Dental Board
Administrator
4301 Huntoon
Topeka, Kansas 66604.

Kentucky, The Practice of Dentistry and Dental Hygiene,
Chapter 313
Kentucky Board of Dentistry
Executive Director
2106 Bardstown Road
Louisville, Kentucky 40205.

Louisiana State, The Practice of Dentistry, Title 37.
Chapter 9.
Louisiana State Board of Dentistry
Administrator
1515 Poydras St. Ste 2240
New Orleans, Louisiana 70112.

Maine, Practice of Dentistry, Dental Hygiene, and Dental
Technology, Title 32, Chapter 16.
Maine Board of Dental Examiners
Administrator
Box 104
West Minot, Maine 04288.

Maryland, Dental Laws of, Title 4.
Maryland State Board of Dental Examiners
Administrator
201 W. Preson St.
Baltimore, Maryland 21201.

Massachusetts, Dental Laws, Chapter 13, Section 112.
Massachusetts Board of Registration in Dentistry
Ass't Secretary
180 Cambridge St.
Boston, Massachusetts 02114.

Michigan, Article No. 368 of the Public Acts of 1978 as amended, R 338.

Michigan Board of Dentistry
Dept. of Lic. & Reg. Bur. of Health Services
P.O. Box 30018
Lansing, Michigan 48909.

Minnesota, Dentistry, Chapter 150A.
Minnesota Board of Dentistry
Executive Director
2700 Univ. Ave. West. Ste. 109
St. Paul, Minnesota 55114-1055.

Mississippi, Dental Practice Act, Code of 1972, Title 73, Chapter 9, Section 61.
Mississippi State Board of Dental Examiners
Administrator
P.O. Box 1960
Clinton, Mississippi 39056.

Missouri, Dental Board, Chapter 332 RSM Rules & Regulations,
Missouri Dental Board, Administrator
P.O. Box 1367
Jefferson City, Missouri 65102

Montana State Board of Dentistry, Department of Commerce,
Title 37.
Montana Board of Dentistry
Administrative Asst.
Dept of Commerce
1424-9th Ave.
Helena, Mt. 59620-0407.

Nebraska, Uniform Licensing Law. Title 71.
Nebraska Bureau of Examining Boards
Director
Bureau of Examining Boards
301 Centennial Mall South
P.O. Box 95007
Lincoln, Nebraska 68509.

Nevada Dental Law, NRS 631-005-631.400.
Nevada State Board of Dental Examiners
Administrator
P.O. Box 12460
Reno Nevada 89510.

New Hampshire Dental Law, Chapter 317, as amended 1983.
New Hampshire Board of Dental Examiners
Health and Welfare Building
6 Hazen Drive
Concord, New Hampshire 03301.

New Jersey, Title 45, Dentistry, Chapter 6.
New Jersey State Board of Dentistry
Executive Secretary
1100 Raymond Blvd. Rm. 321
Newark, New Jersey 07102.

New Mexico Dental Act. chapter 61-5-1 to 61-5-9.
New Mexico Board of Dentistry
Bureau Chief
P.O. Drawer 1388
Santa Fe, New Mexico, 87504-1388.

New York State, The Education Law, Article 133.
New York State Board of Dentistry
Cultural Education Center
Albany, New York 12230.

North Carolina, Dental Laws of, Chapter 90, Section 22-234.
North Carolina State Board of Dental Examiners Administrator
P.O. Box 17044
Raleigh, North Carolina 27619.

North Dakota Dental Law, Chapter 43-28.
North Dakota State Board of Dental Examiners
Box 117
Jamestown, North Dakota 58402.

Ohio Revised Dental Code, Chapter 4715, Dentists.
Ohio State Dental Board
Executive Director
65 S. Front Street. Ste. 506
Columbus, Ohio 43266-0366.

Oklahoma Dental Act, Title 59. O.S. 328.1 as amended, S.B.
682, H.B. 1181.
Board of Governors of Registered Dentistry
Executive Secretary
2726 N. Okalahoma Ave.
Oklahoma City, Oklahoma, 73105.

Oregon Dental Practice Act as amended, ORS Chapter 679-680.
1983.

Oregon Board of Dentistry
Administrator
620 S.W. Fifth Ave. Suite 405
Portland, Oregon 97204.

Pennsylvania, The Dental Law of the State Board of Dentists,
P.L. 216, No. 76 as amended 1985.

Pennsylvania State Board of Dentistry
Administrative Assistant
P.O. 2649
Harrisburg, Penna 17105.

Puerto Rico, Chapter 5.
Board of Examiners in Dentistry
Director of the Examining Boards
Department of Health
Box 9342
Santurce, Puerto Rico 00908.

Rhode Island, Dentists and Dental Hygienists, Chapter 5-31.
Rhode Island State Board of Examiners in Dentistry
Administrator
75 Davis St. Rm. 104
Providence, R. I. 02908.

South Dakota
State Board of Dentistry
2210 Jackson Blvd.
Rapid City, South Dakota 57702.

South Carolina, Code of Laws, Title 40-41, Chapter 15.
South Carolina State Board of Dentistry
Executive Director
1315 Blanding St.
Columbia, South Carolina 29210.

Tennessee, Board of Dentistry, Chapter 460.
Tennessee Board of Dentistry
Regulatory Boards Administration
283 Plus Park Blvd.
Nashville, Tennessee 37219-5407.

Texas, Laws Relating to the Practice of Dentistry, Dental Hygiene, Dental Technology and Dental Laboratories, Title 71, Chapter 9.

Texas State Board of Dental Examiners
Executive Director
8317 Cross Park Dr. Ste. 400
Austin, Texas 78754-5124.

Utah, Dentists and and Dental Hygienists Act. Title 58, Chapter 7.

Utah Board fo Dental Examiners
Division of Regulation
160 E. 300 South
P.O. Box 45802
Salt Lake City, Utah 84145.

Vermont, Title 26, VSA, Chapter 13, Dentists and Dental Hygienists.

Vermont State Board of Dental Examiners
Director of Licensing
Secretary of State's Office
Pavilion Office Building
Monpelier, Vermont 05602.

Virgin Islands Board of Dental Examiners
Box 88
St. Thomas, Virgin Islands 00801.

Virginia Board of Dentistry, Title 54, Chapter 8.

Virginia Board of Dentistry
Executive Director
1601 Rolling Hills Dr.
Richmond, Virginia 23229.

Washington State, Dental Practice 18.32 RCW.

Washington State Board of Dental Examiners
Program Manager
P.O. Box 9649
Olympia, Washington 98504.

West Virginia State Dental Law. Chapter 30.

West Virginia Board of Dental Examiners
Administrator
P.O. Drawer 1459
Beckley, West Virginia 25802-1459.

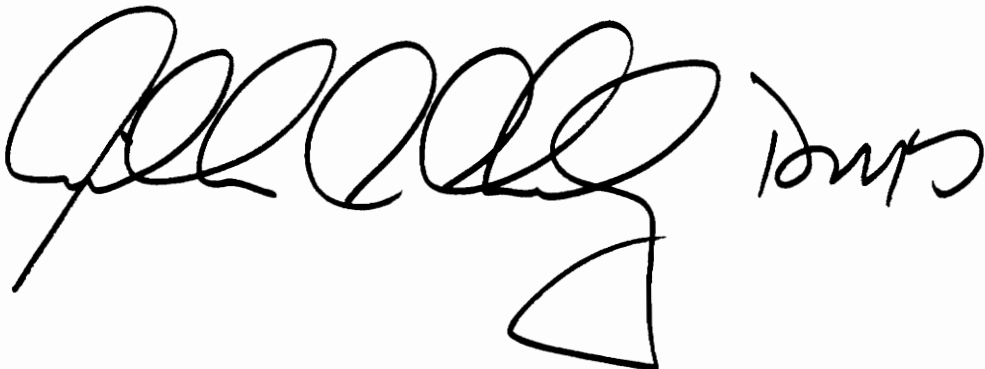
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Practice of Dentistry and Dental Hygiene, Chapter DE 1.
Wisconsin Dentistry Examining Board
Program Asst.
P.O. Box 8935
Madison, Wisconsin 53708.

Wyoming, The Dental Practice Law of, W.S. 33-15-128.
Wyoming Board of Dental Examiners
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Rawlins, Wyoming 82301.

VITAE:

Willeam A Choby was born in Johnstown, Pennsylvania on April 23, 1951. He received his primary and secondary education in his hometown. He completed a Bachelors of Science in the Natural Sciences at the University of Pittsburgh at Johnstown in 1972. After earning a Doctor of Dental Medicine degree from the University of Pittsburgh in 1976 and completing a residency in General Dental Practice at the Brookdale Hospital Medical Center in Brooklyn, New York in 1978, the author entered into private dental practice with his father. During the next seven years he witnessed a rapid change occurring in the profession. The impact of preventative measures and third party reimbursements had altered the business of dental practice to where it was no longer recognizable as the traditional general practice. The entire Dental profession was experiencing the effects of an increased manpower supply caused by Congressional interventions in the health professional education fields. Led by curiosity and facing a declining economic environment in his town, the author searched for market diversifications offered by the latest advances in dental technology and knowledge. After completing a Fellowship and a Mastership in the Academy of General Dentistry by the age of 33, he discovered the

makings of a scientific revolution occurring in the profession. Space-age technology had challenged age-old theories of oral function and the impact had far reaching economic and socio-political effects. Simultaneously, the traditional standard bearers of the profession found themselves faced with a knowledge deficiency that threatened their established power base. Like others, the author's acquisition of the latest techniques and instruments eventually threatened the established credibility of the local and state dental communities. Facing ostracism from his local community he developed a formidable expertise in the clinical applications of these innovations. However the material presented innumerable professional and legal disputes over this knowledge that eventually forced him out of business and into bankruptcy. The experience drove him to seek an understanding of the current state of affairs in the profession. The author subsequently enrolled in the Center for Public Administration and Policy at the Virginia Polytechnic Institute and State University in the fall of 1986. This thesis is a summation of his findings.

A large, stylized handwritten signature in black ink, followed by the initials 'DM' written in a similar cursive style to the right.