Hillenbrand Book Published

Oral Health During The Nineties

Dental Economics Are Improving
Purposes and Objectives of the American College of Dentists

The American College of Dentists in order to promote the highest ideals in health care, advance the standards and efficiency of dentistry, develop good human relations and understanding, and extend the benefits of dental health to the greatest number, declares and adopts the following principles and ideals as ways and means for the attainment of these goals.

(a) To urge the extension and improvement of measures for the control and prevention of oral disorders;

(b) To encourage qualified persons to consider a career in dentistry so that dental health services will be available to all and to urge broad preparation for such a career at all educational levels;

(c) To encourage graduate studies and continuing educational efforts by dentists and auxiliaries;

(d) To encourage, stimulate and promote research;

(e) To improve the public understanding and appreciation of oral health service and its importance to the optimum health of the patient;

(f) To encourage the free exchange of ideas and experiences in the interest of better service to the patient;

(g) To cooperate with other groups for the advancement of interprofessional relationships in the interest of the public;

(h) To make visible to the professional man the extent of his responsibilities to the community as well as to the field of health service and to urge his acceptance of them;

(i) To encourage individuals to further these objectives, and to recognize meritorious achievements and the potentials for contributions to dental science, art, education, literature, human relations or other areas which contribute to human welfare—by conferring Fellowship in the College on those persons properly selected for such honor.

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The American College of Dentists has sponsored and published a new book about former ADA Executive Director Harold Hillenbrand entitled, "The Hillenbrand Era, Organized Dentistry’s Glanzperiode" (brilliant period). Authored by Dr. Clifton O. Dummett and his wife, Lois Doyle Dummett, the book covers a forty-year period in twelve episodes and 200 pages. This history of modern dentistry, as remembered by Dr. Hillenbrand and documented by ADA archives, covers the growth and emergence of dentistry as a fully respected profession during the 1930’s to the 1970’s.

The book is well-written from a historian’s perspective and should be of great interest to anyone involved with organized dentistry. The Hillenbrand tenure as Executive Director of the American Dental Association from 1945 to 1969 was one of the most decisive eras in the history of the dental profession. His actions and opinions greatly influenced the profession during that time.

Dr. Hillenbrand did his homework well and was always thoroughly prepared for a confrontation on the issues of the day. He also had a special ability to get to the heart of the matter and to articulate clearly either as a speaker or writer, so as to communicate accurately his ideas and opinions. He was a perceptive and effective organizer who frequently was able to get groups of people with dissenting views to work together for the good of the profession.

Observing the highly respected professional position enjoyed by dentistry in the U.S. Military Services today, it is hard to imagine that in the early 1940’s, dentists were drafted into the Army Medical Corps and assigned to duty as privates and orderlies. This was an example of the low public esteem that dentistry had at that time. A series of angry editorials by Hillenbrand spearheaded a vigorous outcry by the profession, and dentists soon received the military respect and recognition they deserved.

In the middle 1950’s, there was a hostile and adversarial relationship between the dental profession and the American Dental Trade Association. In a speech before the ADTA, Dr. Hillenbrand pointed out the obvious interdependence of the two groups. He strongly suggested that the ADTA encourage the public to seek more dental care through a series of radio and TV ads and to promote dental health. That was the start of a good working relationship between the profession and the ADTA that continues today.

Hillenbrand’s strong character was evident in the New York Waldorf Hotel incident in 1959 when he stood his ground and refused to relinquish the hotel ballroom to a government request for a reception for Khrushchev. This occurred during the ADA Centennial meeting.

Perhaps the most visible legacy Dr. Hillenbrand has left to the profession was his brainchild, the 23 story ADA Building in Chicago, completed in 1965, to provide the facilities to serve the growing needs of the dental profession. During his tenure as Executive Director, the ADA membership grew from 62,000 to 112,000.

As his reputation grew, frequent invitations from foreign countries sought him as a speaker. He was a spokesman for American dentistry and he brought international respect for the American Dental Association. He was awarded many international honors. After he retired as ADA Executive Director, he became president of the Federation Dentaire International.

This book does not try to paint Harold Hillenbrand as a legend in his own time or as a superman, but it does realistically portray him as the right man at the right time for dentistry.

The College can take due credit for the fine contribution it has provided to the profession by sponsoring and publishing this book. It was essential to record this history from the best source available, Harold Hillenbrand himself; and the authors have produced an outstanding job of presenting this information.

Dr. Hillenbrand died on May 31, 1986, shortly after the work was completed. He personally approved every word. △

Keith P. Blair
I want to talk to you today about the pace of progress in science—the cascade of technological developments and advances in knowledge and understanding that are influencing and changing our lives. These changes have affected every field of science—from astronomy to zoology—from economics to electronics. But the speed of change and the impact of major advances have been most profound in the health sciences—at least so it seems! We can hardly open the daily paper without reading about new conquests of old diseases, new technologies and treatments that promise a further prolongation of life, a steady increase in the life span, and gains in the quality of life. We are closer than ever before to understanding fundamental life processes, to unraveling the code of development, the enigma of aging, the mystery of selfhood, and the marvels of the brain.

Dental research has its share—and a role in these advances.

Just two weeks ago we heard the news here from Stockholm that the 1986 Nobel prize in Medicine would be shared by Stanley Cohen and Rita Levi-Montalcini for their pioneer studies of molecular substances that regulate human cell growth. Dr. Cohen himself has remarked that it was the premature eruption of teeth in newborn mice, after he had injected them with a crude cellular extract, that was one of the first clues that spurred him on to the discovery of the so-called epidermal growth factor (EGF). Later, dental investigators showed that EGF affected palate development and that the salivary glands were a major source of the growth factor. Today, epidermal and other protein growth factors figure in studies of embryogenesis, morphogenesis, wound healing, tissue regeneration and cancer. A recent article in Science offers evidence that in male mice the salivary gland-produced growth factor appears to be essential to spermatogenesis. Oral biology and salivary gland physiology are taking center stage!

I cite this example not only because of its timeliness, but also as an indication of how far dental research has come and how much it has broadened in scope and depth. Dental research is now a part of mainstream biomedical research. Our investigators bring the same expertise in cell and molecular biology to the study of oral tissues as others are bringing to the study of other cells and tissues of the body.

At the same time, we are witnessing spectacular progress in the more traditional areas of the clinical sciences. In America, 40 years of investment in fluoride research have paid off dramatically. Almost 40 percent of American school children under 17 are caries free; never had a cavity, never had a filling. And those who still have caries have only half as many cavities as their schoolmates a generation ago. Caries—a disease more common than the common cold—is for the first time in the history of mankind on a decline—and there is more to come.

Dental research holds the key to even more dramatic improvements in oral health worldwide. I say that not because I am an administrator of a research institute, but because of what I, as a clinician, see happening in the field today: an excitement and ferment that is unprecedented in the history of dentistry. We can look forward to a time—perhaps not the year 2000, but certainly within the next three to four decades—when not just young people, but the middle-aged and the elderly, need never lose a tooth to disease.

Those are not foolhardy aspira-
tions, but reasonable surmises based on trends in oral disease patterns combined with what's happening in the basic science laboratories and in clinical research.

I believe this is borne out by a just-completed National Survey of Adult Dental Health in the U.S. Between February 1985 and April 1986 we conducted oral examinations on 21,000 adults and children across America. The sample represents a cross-section of working adults—factory employees, white collar workers and government personnel—men and women who were seen at work sites. The elderly were examined at senior citizen centers. The youngest group were 17-year-olds; the oldest participant was 103 years old.

The initial data show a profound improvement in oral health in America; an enormous change compared to a generation ago.

Of the group, 17-65 years old, only 4 percent were edentulous. Half had lost, at most, one tooth. The adults averaged 23 decayed or filled coronal surfaces, with over 94 percent filled. The prevalence of root caries occurred in approximately 20 percent of the individuals. However, there was less than a single decayed or filled root surface per person. And close to half the root lesions had been treated.

The periodontal health was also impressive: While gingivitis was prevalent—and most had some loss of attachment, less than 2 percent of the pockets had a depth greater than 5 mm.

Approximately 40 percent of those 65 and over were edentulous. While this is a substantial fraction, it is significantly lower than a generation ago. Caries was comparable to what we found for the 17-65 adults, with an equally high percentage of surfaces filled. Root caries was more of a problem in the elderly, with 63 percent showing decay, and to an average of 3 decayed or filled root surfaces per person.

The prevalence of gingivitis was about the same as in the adults. On the other hand, only 4 percent of the pockets were deeper than 5 mm.

We will be fine-tuning our analyses in the next few months to get a sharper profile of oral health status by age, by socioeconomic level, and so on. Nevertheless, I am convinced that what we have here is evidence of a spectacular gain in the oral health of people living in a western industrialized society. I fully expect that if similar surveys were conducted in the Scandinavian countries, in the United Kingdom or in other technologically advanced societies, we would see similar trends.

So where does all this put us in relation to dental research and oral health in the nineties?

First, we must realize that dental research, like biomedical research in general, only really began to develop after World War II. It had taken all the previous century to move dentistry from a preoccupation with pain relief and exodontia to one of restoration and repair.

The 1940's and 50's saw dental research enter a second phase with a great leap forward, first with the work on fluorides and new materials, then the discoveries of caries causing bacteria; and next the causes of periodontal diseases. At the same time, the general level of education and health was improving, community water fluoridation was begun, and we reached a state where virtually everybody bought and used a toothbrush. So what research was discovering about the cause and prevention of disease was being implemented at the community and personal level through better oral hygiene practices, better understanding by the general public, and, of course, by the rapid adoption of the results of research by the practitioners themselves.

Now, dental research has entered a third phase, one in which we will continue to work to resolve the questions that remain open on the traditional diseases, but one in which we can expect to see a continued expansion in scope and depth. The challenge will be to understand the normal processes of growth and development, repair and regeneration of ALL the oral tissues, along with measures to treat or prevent any of the derangements that can occur in these processes.

With respect to caries and periodontal disease, we are going to go after the 20% who have 80% of the diseases—the high-risk individuals—people who for known or unknown reasons are more susceptible and will require special care or early intervention.

As a result of the sophistication of dental research today, we are now using the latest genetic or immunological approaches in epidemiological studies toward those ends. As I speak, my associates at home are using cDNA probes and monoclonal antibodies in microbiological tests to identify the caries-susceptible among 40,000 school children under study. The next adult study—the third National Health and Nutrition Examination Survey (NHANES III)—we will in addition be looking for biochemical substances in saliva and crevicular fluid as possible diagnostic markers for periodontal disease activity. New genetic linkage studies may provide answers to some of the outstanding questions in juvenile periodontal disease—perhaps leading to new preventive therapies for young people at risk. Epidemiological research will require much more sophistication in the future—for many reasons, but also because with less disease one needs more refined methodology.

Diagnostic research is growing by leaps and bounds. Investigators are perfecting techniques for 3-dimensional radiography—CAT scans of the mouth. There are clinical developments in holography, in the use of Compton scattering and other imaging techniques from electronic engineering and computer science. Digital subtraction radiography and nuclear medicine techniques are already moving into clinical application, and, along with magnetic resonance imagery, will enable earlier and better diagnoses of periodontal
and soft tissue disease.

We already have safe and effective oral devices that can be modified for the controlled release of fluoride or other agents to prevent or control disease. And we have powerful antibacterials for the treatment of early periodontal disease.

The era of sealants and composites is upon us, and composites for posterior teeth will be commonplace. Bonding to dentin will be routine. Implantology has come of age. Oral ecology including virology and the study of yeast as they relate to soft tissue diseases is increasingly coming under research attack—partly spurred by the crisis of AIDS, but also, in part, as a result of the challenges that the oral tissues present to immunologists, bacteriologists, and virologists. A vaccine against oral herpes will soon be ready for clinical testing.

Let me stop here to tell you another news-breaking story. In last week's issue of Science there was a report of a new method for making human monoclonal antibodies. This method was developed at NIDR in the same laboratory where the herpes work is being done. The problem has been that past techniques—the work that won Nobel prizes for George Kohler and Cesar Milstein—used hybridized mouse cells to produce the antibodies. The new method starts out with human white blood cells—B lymphocytes—and ends up with human monoclonals. The method is an ingenious combination of techniques for chemically labeling and incubating the lymphocytes with the antigen you're interested in, sorting out the antigen-bound cells with a laser beam in a cell sorter and then immortalizing them by infection with Epstein-Barr virus. I can't tell you exactly how the method will affect clinical dentistry, but I am sure it will—maybe by pinning down periodontal pathogens, maybe by identifying individuals at risk, maybe by diagnosing and treating oral infections and cancers—the possibilities are enormous.

We are excited, too, about progress in neurobiology and in pain research. We all know of dentistry's proud tradition in this area; what is so gratifying is that dental researchers continue to be leaders in the field. There is a lot of research today on the use of new kinds of drugs and drug combinations for the relief of acute and chronic pain. For example, clinical studies are showing that pre-treatment with tricyclic antidepressants before surgery reduces the need for opiates and extends the duration of pain relief. This is an example of the use of antidepressants to treat acute pain. These drugs have also shown effectiveness in cases of chronic, intractable pain from trigeminal neuralgia and diabetic neuropathy. Pain research, of course, is a classic example of how dental investigators are making discoveries that apply beyond the orofacial region to the control of pain wherever it occurs in the body.

Developmental biology is another broad spectrum field. Dental researchers studying craniofacial development are discovering the critical roles, not only of growth factors, but of basement membranes and other extracellular matrices. An exciting byproduct of the new research has been the synthesis of a reconstituted basement membrane gel which investigators are using as a culture medium, a stimulant for nerve regeneration, and as a rapid assay to measure the metastatic potential of cancer cells.

Extracellular matrices are also important in bone research. As you may know there is considerable interest in isolating and purifying a bone growth factor which could be used to fill, induce and accelerate bone growth in bony defects and make other repairs. Once this protein has been sequenced, biotechnology methods could be applied to produce the factor in abundance.

One area that we are undoubtedly going to be hearing more about in the decade ahead concerns the genetics of tooth and bone. There has been considerable talk about the mapping and sequencing of the human genome: determining the structure and function of all the human chromosomal DNA. A superambitious project—which everyone agrees would have a fantastic yield in information. Well, rather than tackle the whole job, we at NIDR are considering characterizing the tooth genome: identifying and localizing the genes coding for enamel, dentin and cementum matrix proteins. This would be a major undertaking, but the knowledge gained, just in terms of gene regulation and the normal programming of developmental processes, would be invaluable.

Another new area of dental research that will surely expand will be the use of supercomputers to mimic and model oral tissue interactions during health and disease. Right now, we are exploring the possibility of modeling the periodontium. Software programs can be written that incorporate essential information on biochemical interactions and tissue metabolism. Such programs could be used to study periodontal disease, inflammatory processes, the repair and regeneration of tissues and the effects of therapy.

These new avenues of dental research owe much to the revolution in biotechnology. We are now able to apply recombinant DNA and monoclonal antibody techniques to the study of oral pathogens and to generate harmless mutants forms to replace virulent organisms. We are using protein sequencers and other automated equipment to expand our knowledge of salivary proteins and to learn the intricate steps involved in exocrine gland secretion.

Well I don't want to use all my time citing examples. I do want to say to you however, that all these developments reflect a certain inevitability in the growth of science, in which each new discovery contains the germs that seed the next advance. Thus, by viewing the current scene, and exercising prudent foresight, the only conclusion I can come to is, that the impact of
These changes will not happen overnight. However, they are coming along at a time when there has been some agitation on the part of dental practitioners worldwide. It is certainly understandable for some to feel concerned. There are worries about the effects of changing patterns of disease and an oversupply of dentists. To compound these concerns there are the changes in demography in most industrialized countries. Populations just don't grow smoothly. We have baby booms and baby busts. I'm not saying anything profound when I note that the overall rate of population growth, as well as growth within age groups, will affect the need and the type of services demanded.

With all due respect to these variables, however, the most potent force for change in dental practice today and in the future will be dental research.

Filling of cavities will cease to be the mainstay of primary care practices. The need for professional preventive services will grow in importance.

The decline in caries and periodontal diseases will reverberate in other areas of practice as well. The need for endodontic care should go down. The need for removable prosthodontics will decline or disappear as a result of more teeth being saved. In their place will be fixed prosthodontics and implants.

Young people reaching maturity and middle age today are in far better oral health than their forebears, with most of them preserving all or nearly all of their teeth. There is every reason to believe that they will want to continue to maintain good oral health and that the spectre of becoming toothless in old age is unacceptable to them. Indeed, even the oldest groups we are seeing today are a lot healthier than their agemates a generation ago.

On the other hand, "rumors of the death of dentistry are slightly exaggerated." There will always be a need for dentists. But they will be a new breed of practitioner with a deeper, broader intellectual preparation; skilled at diagnosis, able to prevent or treat the full spectrum of caries and periodontal diseases as well as their sequelae. They will be expected to have superior manual skills in order to render complex restorative and prosthetic treatment. Their competence must be extended to the diagnosis and treatment of ALL the oral soft tissue diseases—including oral cancers and pre-cancerous lesions. They will attend to what I call the vast "orphan" areas of oral disorders—chronic orofacial pain, burning tongue syndrome, disorders of taste and smell and swallowing.

More internal medicine, more clinical pharmacology, will be necessary in order to manage clinically the increasing number of patients with systemic disorders and those who are taking multiple medications. Such knowledge is also going to be increasingly important in treating older patients whose oral health must be seen in the light of co-existing medical conditions, physical or mental handicaps, the effects of medications, and other complicating factors. This more expanded approach to dental practice will also demand new levels of sophistication in communication skills and in clinical decision making.

Preparing dental students for this new role is one of the most exciting and challenging tasks we face today. But it is eminently doable. We have only to think of the history of the profession. We started out 150 years ago pulling ourselves up by the bootstraps. There were leaders then—those who spoke for quality education, the skilled and caring practitioners, the first researchers. Step by step they increased qualifications for enrollment in dental schools. They extended the years of study. They expanded studies in the basic sciences and introduced new materials technologies as they became available.

Over the years we have seen how dental school curricula have become integrated with the medical schools—at least in the basic sciences. The result of these evolutionary changes is evident today in the competence and professionalism of modern practitioners.

What I suggest is that we continue the evolutionary process: Enrich the learning programs so that we are more than ready to meet the demands of the 21st century.

Most dental schools are suffering today. Enrollments have dropped, there have been declines in the quality of students, and there are financial problems. Some talk about crisis in dental education.

In the past I have often spoken of the triad of research, education, and practice as dynamic elements—comparable to a Calder mobile. Stir one part and the whole is immediately set into graceful motion. Now the image that comes to mind is more like a Henry Moore sculpture: Touch it and you encounter an immovable solid full of holes.

My hope is that this state of affairs is only temporary and that we will see the emergence of new models of dental education, ones that are geared to the tempo and mode of contemporary dental research. I say this fully aware that it is easier to move a graveyard than to change dental school curricula! However, there are signs of changes; there are innovative dental educators who would like to move dental education beyond the millenium. Some of them are to be found among those institutions which are now heavily research-oriented.

Because dentistry is no longer an art—it is a science! ©

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The new biography of Dr. Harold Hillenbrand, sponsored and published by the American College of Dentists has the title of "Hillenbrand Era, Organized Dentistry's Glanzperiode". Well-written by Dr. Clifton O. Dummett and his wife, Lois Doyle Dummett, the book covers a forty-year period of dentistry's growth in America, a brilliant era for the dental profession. Harold Hillenbrand personally approved every word and was highly pleased with the way events were presented. The book is a history, in twelve chapters, of the growth and emergence of dentistry as a fully respected profession, with Hillenbrand as one of the main facilitators to achieve such recognition. It is written with a historian's perspective and should be of great interest to anyone involved with organized dentistry.

The first copy of the book was presented to Dr. Hillenbrand's widow, Marie, during the American Dental Association Memorial Service for Dr. Hillenbrand on October 20, 1986 in Miami at the ADA Annual Meeting. The presentation was made to Mrs. Hillenbrand by Dr. Norman Olsen, President of the American College of Dentists. A second copy of the book was presented to Dr. Abraham Kobren, ADA President.

Another copy of the Hillenbrand book was presented to the Federation Dentaire International (FDI) on November 10, 1986 at the FDI Opening Ceremony of the Annual Meeting in Manila. The book was presented by Dr. Erik Olsen, the President of Delta Dental Plan of California who represented the American College of Dentists. Dr. Olsen is the first recipient of the Hillenbrand Fellowship.
The Hillenbrand Era
Organized Dentistry’s Glanzperiode

Authors: Clifton O. Dummett and Lois Doyle Dummett
Published by the American College of Dentists, Bethesda, Maryland, 1986, 200 pp.
Obtainable from the American College of Dentists. The cost is $20, $5 of which is deductible as a contribution to the American College of Dentists Foundation.

An Excerpt from the Book

The celebration of the ADA Centennial occurred in 1959. There were excellent reasons for the Association to make this a commemorative event. All around there were tangible evidences of an enviable status, well-merited respect, continued growth, and a resplendent future. As a consequence, ADA leaders approved early, intensive planning for the event and insisted that no stone be left unturned in publicizing the occasion among other health professions, educators, industry, government, and the lay public. Moreover, the Centennial would have an international flavor since the Federation Dentaire Internationale was scheduled to meet concurrently thereby insuring attendance by world dental leaders. New York would be the host city and the Waldorf-Astoria would be the headquarters hotel. September was the designated time of convention. No effort was spared to make the 1959 Centennial demonstrate the preeminence of American dentistry to the estimated 25,000 persons expected to attend.

In the midst of these exciting preparations, Hillenbrand received a call from officials of the Waldorf-Astoria. A serious conflict had arisen. Hillenbrand was requested to relinquish the Waldorf’s Grand Ballroom on September 17, 1959, in order that the City of New York could convene a high-level luncheon honoring USSR Premier Nikita S. Khrushchev, scheduled to be in New York for a meeting of the United Nations.

The Waldorf had been reserved under contract by the ADA more than five years previously and the vast red and gold Grand Ballroom was considered the ideal site for the business-filled sessions of the House of Delegates.

Hillenbrand explained to the Waldorf officials all of the pertinent circumstances including the unparalleled importance of the Centennial to dentistry and the health professions worldwide. Confident of the tightness of the legal contract, he refused to relinquish the Grand Ballroom, thereby initiating the most diplomatically sensitive and politically explosive incident in which the ADA and American dentistry were ever embroiled.

Book Review

By George W. Teuscher

It is fortunate that this book was written and additionally fortunate that it was written well. The second part of the title describes the Hillenbrand era as briefly as it can be described and still do it accurately—organized dentistry’s Glanzperiode. Organized dentistry’s magnificent and scintillating era. Few who read the book will have lived in the pre-Hillenbrand era as dentists; few will remember the small headquarters building on Superior Street in Chicago, or the comparatively low status of organized dentistry among the organized professions.

All has changed, for the better, and in large part because of the leadership of Harold Hillenbrand, appointed as full-time editor of the American Dental Association in January, 1945, and as its General Secretary and chief executive in October, 1946. He served as editor until 1947 and as chief executive until December 31, 1969.

Reared in a family of dentists, Harold already had a sense of understanding for dentistry and its problems, when he was enrolled in the Chicago College of Dental Surgery, in 1926. Upon graduation in 1930 he was given an appointment on the School’s faculty and an opportunity to practice in his father’s general practice, in Chicago.

His predental education in the arts and a cultured family environment attracted him early in life to the classics and awakened in him a great love of art, music, and language. Coupled with intelligence and an exceptional sense of orderliness, his facility with the English language provided him with a powerful tool in exercising his qualities of leadership.

The authors deftly selected the elements of his early life and the qualities of his youthful experience that prepared him for the role of master sculptor of organized dentistry’s glanzperiode.
It is unlikely that anyone could fully understand the present status of organized dentistry or begin to predict its future without possessing the knowledge contained in this book.

The story of Harold Hillenbrand's life in organized dentistry is unerringly a story of organized dentistry, not only in the United States, but internationally as well. His long and active leadership role in the affairs of the FDI attest to his influence on international dental matters. The Hillenbrand Era is presented in twelve episodes, each focused on an important topic or series of topics in the saga of organized dentistry, in the Hillenbrand era.

Each episode is a vignette of dental history, an element in the chemistry that assured the matura-
tion of the dental profession. In each, the Dummetts skillfully describe the strong influence of Harold Hillenbrand on the mold, the character, and the direction of whatever area of dentistry or program was under study or in operation. Harold Hillenbrand was never unprepared. He knew the importance of thorough preparation, for any important issue has the potential of developing an opposition as strong as its proponent. Although never professing to be a researcher, he knew and understood the scientific method; he knew the need for valid and reliable data, whether considering a laboratory experiment or an educational or social issue. Anyone who had the honor of serving the ADA as a member of a council during the Hillenbrand years learned to appreciate his unrelenting emphasis on the preparation of work materials, to assure the maximum productivity at council meetings.

Virtually every facet of dentistry was importantly influenced by the Hillenbrand genius. Early in his ADA career, the public's health and the profession's sociopolitical responsibilities came under his influence, exposed editorially to a less discerning government and a frequently unresponsive profession.

The Hillenbrand influence was strongly felt in dental education. The Gies Report, published in 1926, motivated a series of important changes in the dental schools and dental education: among the changes, a reconstituted Council on Dental Education, in 1937; a National Board of Dental Examiners, established in 1928; and the beginning of dental school inspections, in 1942. As might be expected, the efforts to improve the standard of dental education led to stricter admissions requirements and higher scholastic standards. Hillenbrand's strong personal convictions and superb statesmanship resolved the sensitive religious and national origin issues that at one time threatened to divide the profession.

The story continues through a series of events that led to dramatic improvements in the image of the dental profession and in the public's acceptance of the dental profession as an important component of the health team. None of these events escape the personal input of Hillenbrand: new pathways in dental education led to stricter admissions requirements and higher scholastic standards; Hillenbrand's strong personal convictions and superb statesmanship resolved the sensitive religious and national origin issues that at one time threatened to divide the profession.

The story does not close here, for there is still much for Harold Hillenbrand to accomplish for the ADA and the profession of dentistry. He was closely involved with the study and promotion of fluoridation, suggesting caution until the facts were clear and then strongly promoting fluoridation at every level.

You will need to read this book to know of the important role played by the ADA and Harold Hillenbrand in serving dentistry's interests in the tangled health legislation of the sixties. Without knowledge of that story, the present legislative maneuvers will remain a puzzle. New financial supports for dental treatment, new dental school facilities, and fiscal support for greater dental school enrollments were part of the dramatic sixties.

Life, however, must come to a close for us all; so after twenty-three years of service extraordinary, Harold Hillenbrand retired from his post, in a rash of 'homages, testimonials, commendations, ceremonies, and honors throughout 1969 and beyond.'

In speaking of Harold Hillenbrand, Eric Bishop said, "A man may be wise, tough-minded, and eloquent but unless he is willing to spend as much time as is necessary to bring that wisdom, toughness, and eloquence to bear on the job at hand, his ultimate influence is likely to be peripheral and ephemeral."

Harold was willing to spend as much time as was necessary to get the job done, and do it with the flair of the great man that he was.

G. W. Teuscher
1986 CONVOCATION ADDRESS

Maynard K. Hine*

It is a rare privilege to be permitted to be on the program of the American College of Dentists, because I realize this organization is truly influential in elevating and maintaining high ethical standards in dentistry. I remember speaking before this group over 20 years ago, and at first I thought I might just repeat that speech since I knew no one would remember what I said including me. However, I decided against that for two reasons. I realized that a great many changes have occurred since the mid 60's and I couldn't find the darn thing.

As most of you may remember, one hundred fifty years ago last August 3, the father of scientific dentistry, Dr. Greene Vardiman Black, was born in rural Scott County in Central Illinois. I was tempted to limit my comments today to G. V. Black, because he had a truly remarkable career, and because he possessed so many of the characteristics I associate with a model fellow of the American College of Dentists.

I assume that most of you younger individuals are not too familiar with details of G. V. Black's history, so let me remind you that he was a most unusual self-taught individual. His formal education, if you could call it that, was limited to about 20 months in elementary school. He was not a robust child, so his parents excused him from the usual farm chores and permitted him to roam the countryside at will. He might well have remained a country bumpkin, but he was a keen observer, had an insatiable curiosity, an unlimited ambition and a "spark of celestial fire" which drove him ahead. Although he had both M.D. and D.D.S. degrees, the first lectures he heard in these fields he gave himself.

Although he had no organized education in the sciences, he learned, taught and published articles on anatomy, chemistry, histology, pathology and microbiology, operative dentistry, geology, botany and climatology. He also was a musician, an artist, an inventor, (he held many patents, incidentally including one for a repeating rat trap), a linguist, a physician, a dentist and a dental administrator.

As the sciences developed, G. V. Black realized that formal education for the health professions was necessary, so he entered the teaching profession, and you will remember he was Dean of Northwestern University School of Dentistry from 1897 till his death in 1915. He adapted to the changes brought about by the expansion and advances of the health sciences and became a recognized leader in his many fields of interest.

He recognized the necessity of establishing standards for licensing dentists, so he helped write the first Illinois Dental Practice Act, and was president of the Illinois State Board from 1881 to 1887.

G. V. Black recognized the importance of dental societies in elevating the standards of dentistry, and finally served as president of the Illinois Dental Society. He shared his knowledge freely with his colleagues by making innumerable speeches and publishing many books and articles on a variety of subjects. In one issue of the Illinois Dental Journal his name appeared in the Index 17 times.

Dr. Black was also a staunch supporter of continuing education. In 1907 he wrote: 

"A student may, under the influences thrown around him in school, do fair work both in his studies and in his operations, and after the last cramming for the state board examinations he may throw aside his books, fall into careless habits in operating, and within a few years become a thoroughly incompetent man. I have known such students to sell all of their books to the second-hand dealer the next week after passing these examinations. I wish to heaven they would sell their instruments also and seek other employment. The professional man has no right to be other than a continuous student."

Certainly if G. V. Black were living today he would be an active leader in the American College of Dentists and would be a model for us all to copy.

After a recent Dental School commencement ceremony, the mother of one of our graduates

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*Maynard K. Hine, DDS, Chancellor Emeritus Indiana University, October 18, 1986, Miami.
commented to me how unfortunate it was that her son was being graduated at a time when dentistry was facing so many serious problems. That statement reminded me of the time of my graduation, which was well over 50 years ago. I joined my father, a general practitioner in a small town in Central Illinois at about the deepest point in the depression. Most of you are too young to remember that then unemployment was really high, many banks were closed, and very few people wanted any dental care except to relieve severe pain. I did make a complete denture that first summer for a farm lady, and she paid me by putting a chicken and a dozen eggs in my “ice box” each week for 25 weeks—and I was glad to get the produce. Certainly *that* was not a good time to begin a dental practice and it was not a normal—typical—time.

What time would one select when the status of dentistry was “normal”? Certainly not during World War II years. Then problems of all kinds plagued the profession and the public. Starting in the mid 1950’s dentistry *did* enter a period of expansion and development, when all segments of dentistry grew steadily. Dental applications to dental schools increased, so dental schools expanded, funds for dental research became much more readily available, dental practices boomed, and fees for dental care increased accordingly. The 1950’s were good times for most dentists, but could *they* be called typical?

During the 1960’s and early 1970’s, dentistry continued to expand. The necessity of “building a practice” practically disappeared. Most members of the dental profession were doing well, and the expectations of dentists, particularly of the young dentists rose rapidly. Many recent graduates became specialists and most enjoyed truly fine practices. These were good years—some said golden years—for dentistry, but in retrospect I fear they were not normal either.

As you all know, during the 1970’s and 1980’s many adverse factors began to affect dentistry. Costs of dental education rose so rapidly that most graduates were leaving school heavily in debt, but since their expectations for a fine future were bright, they often invested in much modern equipment even though they had to pay high interest rates. During this time the number of practicing dentists increased rapidly, for several reasons, the incidence of dental caries, in children particularly, dropped dramatically. Inflation began to affect our economy, unemployment increased sharply. The demands for dental care dropped. As a result many dentists got into financial trouble and a lack of “busyness” became acute in many dental offices. One must admit that from an economic point of view, beginning a practice in the 1980’s has not been too easy, and I cannot accept this as a “normal” time either.

I have given my personal impressions of the general status and trends in dentistry these past 50 years, although statistics could be given to support my comments. It is true, of course, that my comments do not apply to every individual dentist. Some dentists have never been busier, and have maintained fine practices.

As has been true for decades, our dental profession does face many serious problems today—some old—some new:

For example, I am concerned about the trend toward division of our profession into more or less autonomous groups. A decade or two ago ADA leaders were the spokesmen for the dental profession. Now the American Association of Dental Schools, the American Association for Dental Research, the Academy of General Dentistry, the various specialty organizations, the dental hygienists and the dental assistants all want to carry on their own programs independently. All of these organizations are striving to accomplish the same general objective, better oral health of the public; their differences are usually a matter of emphasis. However, we should not give an impression of disagreement to outside observers. Rather, we should seek ways to prove that we are cooperating with one another. I am hopeful that we can settle our differences “among ourselves” and that dental organizations such as this one will take the lead. We should fight oral disease, not dentists or hygienists.

I am concerned about what I believe has been an overemphasis on “marketing” in recent years. I read with interest the results of a recent study of patient attitudes toward Arizona dentists as reported by W. E. Arnold of Arizona State University recently. Patients were asked several questions such as what was their greatest fear of a dentist (fear of pain and equipment was 62%, expenses 9%, 15% expressed no fear); how they selected their dentist (almost half took the recommendation of a friend, 21% took the advice of a family member, and only 2% choose a dentist on the basis of advertising). The author stated the sample tested might not be a truly random sample of the population, but it seems significant that of over 500 patients only 10 choose their dentist because of an
advertisement. While many of us are unhappy with blatant advertising in dentistry, perhaps we are worrying too much about its impact.

I am concerned about the persistent efforts on the part of some agencies not controlled by dentists to establish controls over dentistry. I don't have time today to expand on this concern, and anyway, we'll probably have to live with some governmental and insurance company regulations. But we must do what we can to resist regulations which can interfere with dental practice.

I am concerned about the increase in numbers of malpractice suits that are plaguing all professions. Incidentally, I am also concerned about the number of malpractice suits that seem to be justified. We must concentrate on developing better control of our few out-dated and/or unscrupulous colleagues.

I am also concerned about the marked increase in the number of dental specialists being educated today. I recognize the importance of dental specialties, of course. Each represents a segment of the profession which makes a concentrated effort to improve a special area of dentistry and that results in greater progress in that area. Without the activities of the specialists the high-quality of dental care in this country would have been slower to develop. Nevertheless, I do not believe it to be in the best interest of the public to have too many of our recent graduates go into specialty practice. The increased interest in general practice residencies is a good trend, in my opinion.

I have other worries also. As mentioned earlier, I am concerned about increased costs of dental education for the student and the dental school. In an ADA survey in 1985 the average debt of students entering dental school was $3,000 and at graduation $36,300. (28,000 + for graduates from public schools, and $56,000 + for private school graduates.) This has a detrimental effect on the recent graduate. Many would like to continue to study or open a new dental office, but cannot, so they join an established office, or take more complex cases than they really should. I know of no easy solution to this problem.

I am discouraged because so many of our dental colleagues are not "keeping up" with the rapid improvements being made in dental science. I applaud the American College for its emphasis on continuing education; certainly there are ample opportunities for practitioners to continue to learn new concepts and new methods. Dentists have the responsibility of encouraging dental societies and dental schools to provide continuing education courses.

I am convinced that the dental profession has an obligation to educate the public on the importance of preventive dentistry and periodontal therapy, and to convince dentists of the importance of emphasizing these areas in their practice.

By the way, prevention now includes prevention of disease transmission. The threat of transmission of hepatitis B, the herpes viruses and/or AIDS has been widely publicized, and has mandated the use of measures designed to protect both patients and dentists. Obtaining a thorough medical history, and the use of surgical gloves, eyeglasses and masks is being widely recommended. While it is possible that the projected increase in cases of AIDS and hepatitis has been too high, it is true that even one case of proved transmission of these diseases in a dental office would have a drastic effect on that dental practice. Dentists must be alert to developments in this new aspect of prevention in a dental office.

In the past much of the education of the public regarding the importance of oral hygiene has been included in dentifrice and toothbrush advertising by manufacturers. Remember the slogan "Brush your teeth twice a day, see your dentist twice a year" was used years ago to promote a dentifrice, but it also did much to convince patients of the importance of periodic dental care.

Unfortunately, some of the ads are misleading, and I believe it is dentistry's responsibility to help correct them. I was interested to hear the retiring president of the American Academy of Periodontology, Dr. Robert W. Koch, say in his president's address last month that the Academy's cooperation with various commercial concerns has been growing. I quote "Properly handled, the public and the American Academy of Periodontology can benefit from sound educational efforts provided by the Academy underwritten by commercial concerns."

Dentistry has the responsibility to provide accurate information to the public, and to supply accurate information to others who are dealing with the public.

It may be of some comfort to realize that other professions are facing the need for adapting to changing times. In medicine, for example, most authorities are convinced that there is an over-supply of physicians now, and that prob-
lems will become acute in the next decade. Also the costs of medical care are climbing alarmingly.

In a recent Robert Wood Johnson Foundation annual report, its president Rogers commented that Americans have one overriding concern about medical care. They think it costs too much. As Rogers pointed out, there is solid evidence that medical care is now more accessible to all who need it than in the past, and that death rates from most of our killers are on the decline. However, today only about 1/3 of our health care expenses are paid directly out of pocket by patients, the other 2/3 is paid by government programs and/or private health insurance companies. And these agencies want to reduce this cost. If the third party source of funds is reduced, will the quantity or quality of health care drop? Will over-production of physicians result in improving the distribution of physicians? Will they spend more time with their patients—even make an occasional house call?

President Rogers then asked this question: "Will an excess of physicians lead to health care costs being reduced, or will this surplus paradoxically escalate costs as physicians provide unnecessary health services to patients, or raise their fees as a way of sustaining their own financial well-being?" Please note I didn't say that—I quoted President Rogers!

But dentistry faces similar problems. The increased number of dentists and the reduced demand for dental care have tempted some dentists to consider some activities which border on the unethical. I saw a cartoon recently which showed a dentist holding an ax and in the foreground were two turkeys, one labeled "professionalism" and another "ethics". The legend on the cartoon was "It's tempting when you are hungry." And it is.

However, I hope—I believe—the majority of dentists will agree to continue to maintain the high standards of professionalism and ethics that have built the prestige of our profession to its present level. And finally, I fear many members of the dental profession will be forced to lower their expectations.

There is a good possibility that many members of the so called "baby boom" generation now in their 30's or early 40's are not, in a material sense, going to have as much as their parents had.

According to statistical studies in a publication called The Economic Future of the Baby Boom, the average American male who passed from age 40 to 50 between 1953 and 1963 increased his real earnings 36%. The average American male who passed from 40 to 50 between 1963 and 1973 increased his real earnings 25%. The average American male who passed from 40 to 50 in the decade between 1973 and 1983 experienced a 14% drop in real earnings. And in 1949, a worker earning the median income could buy a median priced home for 14% of his gross monthly pay. In 1984, buying a median-priced home would have taken 44% of the median paycheck.

Along the same line, an Indiana University study of what happened to the 3600 workers at International Harvester in Fort Wayne, Indiana, when it closed down showed that the workers who found jobs took, on the average, a $6,000 per year cut in pay. Similar figures probably apply to others including dentists. Nevertheless, the ADA's 1985 Survey of Dental Practice indicated that the average gross income for solo general practitioners was $160,770 and for solo specialists was $227,310. The mean net income for solo general practitioners averaged $57,850 and for solo specialists $86,690. The net income of independent dentists increased 7% in 1984. From an economic viewpoint I doubt if very many dentists would want to trade places with school teachers!

I have mentioned several problems facing our profession, and have suggested some solutions. I read recently a comment made by the late and most lamented Dr. Harold Hillenbrand when talking to a student conference. He said:

Above all, retain your generation's interest in the perplexing problems of the profession which has an ecology that needs your attention. Unless we look well after our own garden, the weeds will grow, rank, dishevelled and strong, until the green disappears and the flowers are no more."

I dislike ending on a pessimistic note, because there are many encouraging trends to be cited.

I noted in the American Dental Associations News of August 18, 1986, that the U.S. House of Representatives passed the Department of Health and Human Services 1987 budget appropriation, which included $116.3 million for the National Institute for Dental Research. The Senate appropriations subcommittee allows approximately the same funding. If finally approved this would be its largest appropriation the NIDR has ever received, and indicates to me the high priority being given to dental research. Of course, final figures will not be known until later, but I'm certain the future will bring additional improvements in dental science.
Back in the early days all too many dentists believed that to be a successful practitioner required only that one could place fillings that would last a few years, extract teeth quickly with a minimum of discomfort, and make plates that would not wobble. No more!

Dentistry today is much more complex and so it is more challenging. Dentists now have available better materials and more advanced technics than ever before and results are often more satisfactory. Dentistry today and in the future demands that dentists adapt to changing needs for dental care. There will undoubtedly be greater emphasis on periodontics, preventive dentistry, adult orthodontics, temporomandibular joint disorders, dental care for the elderly and less operative dentistry for children. Dentists must adapt to these changing trends, and it is most important that dentists give high priority to service for patients.

The dentists have an important work to perform, on the faithful execution of which depends the standing of the profession, not only for the present but for the future. And what a future!

That statement was made at a dental meeting in January, 1864. It is even truer today, and there should be two exclamation points after the last sentence.

For reasons that are not pertinent to this occasion I seldom quote our former President John F. Kennedy. However, I agree with one of his comments which I wish to paraphrase: Ask not what the American College of Dentists can do for you, but what can you do for the College.

For two reasons I compliment you new members for being elected to receive a fellowship in the American College. You have been judged worthy of this recognition. I also commend you for wanting to join this prestigious organization. It's objectives are designed to upgrade and maintain high ethical standards for the delivery of dental care.

I hope all of you fail in some ways. Fail in the same fashion that Moses failed. Many of you remember that Moses was a great Jewish leader who led his people to the brink of the Promised Land, but he didn't get to lead the Israelites across the river Jordan. Moses had a comprehensive and ambitious vision that could not be accomplished in his life time. Martin Luther King had a dream that couldn't be accomplished in his time. I hope your vision is equally broad that it will take generations to achieve.

If we set our goals to develop a better filling material, or dentifrice, or a better implant, we might succeed, and that would be a noteworthy contribution. But we should also set our sights for higher goals. For example, optimal oral health for all is really unattainable now, but we should work toward that goal. As the poet Browning wrote:

"Ah, but a man's reach should exceed his grasp, or what's a heaven for?"

We should help develop a profession whose members are all dedicated, highly ethical practitioners, completely up to date with their only concern the welfare of the public. I fear that this is an "unfinishable" task, but we can make progress toward these goals by our own actions, and this I challenge you to do.

You new members bring to the College a valuable gift of hope to the dental profession. I urge you to support this organization's objectives—and if you do, the future of dentistry will be brighter.

In the future, dental practitioners must be prepared to adapt to advances in dental science and to changes in demands for dental care. I believe the practice of dentistry in the foreseeable future will resemble current practice more than it will differ, but there will be a change in emphasis. There will be newer and better technics and materials to be used in administering dental care. I believe the thoughtful, conscientious, energetic dentist who "keeps up to date" and gives the welfare of his patients high priority, will enjoy a successful and satisfying career. I do agree with the comment made by that well-known philosopher W. C. Fields—"The future just ain't what it used to be". It is going to be different, and can be better and more gratifying to both the patients and dentists.

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INNOVATIVE NEW FLORIDA LAWS AFFECT DENTAL PRACTICE, MALPRACTICE VERDICTS AND TORT REFORMS

Tom Gustafson*

During the 1985 and 1986 Sessions, the Florida State Legislature passed a wide range of issues affecting the practice of dentistry. The three major legislative issues were: the Comprehensive Medical Malpractice Reform Act of 1985, the Tort Reform and Insurance Act of 1986, and the Dental Practice Act.

The House Committee on Health Care and Insurance handled the first two issues which culminated in the passage of key legislation relating to medical malpractice as well as tort and insurance reform. In 1985, the committee addressed the multifaceted medical malpractice problem with a balanced and wideranging approach focusing on prevention of malpractice and resolution of claims. More substantial reforms in the area of insurance regulation and tort law were enacted in 1986. The House Committee on Regulatory Reform undertook the sunset review and passage of the Dental Practice Act during the 1986 Special Session.

Medical Malpractice

In recent years, Florida's physicians, dentists, and other health care providers have been faced with significant premium increases and difficulty in obtaining coverage for malpractice. The Comprehensive Medical Malpractice Reform Act of 1985 implemented major changes in the areas of risk prevention, claims resolution, and malpractice insurance. Some of these changes, especially in the area of claims resolution, were superceded by the Tort Reform and Insurance Act of 1986. Other provisions were expanded during the 1986 Special Session by the passage of the sunset bill relating to dentistry.

The Comprehensive Medical Malpractice Reform Act was designed to reduce the risk of malpractice occurring, to encourage parties to settle their claims and to more fairly compensate victims. Such changes to the system should result in lower and stabilized premiums. Neither the physicians nor the attorneys were supportive of these legislative efforts. The physicians believed that the act did not go far enough to provide relief and the attorneys felt it went too far. That is probably a good indication that the act embodies a valid objective of avoiding medical malpractice claims and improving the system of resolving claims which arise.

To prevent the occurrence of malpractice, the Medical Malpractice Act extended liability from lawsuit to persons involved in the peer review process of the physician's competence. In order to encourage persons to participate on such committees, the act provided immunity from such actions as libel or slander so long as the person does not intentionally or fraudulently act to defame a physician under review. Without such a provision, the fear of reprisal suits by physicians discouraged participation on review committees. The Dental Practice Act, which passed during the 1986 Special Session, clarifies that similar protection is afforded to members of any professional organization or association of dentists which sponsors, sanctions, or otherwise operates or participates in peer review activities.

The Medical Malpractice Act increased the informational requirements in the closed claim reports required to be filed by malpractice insurers with the Department of Insurance. The act required reporting the names of all defendants, the name of the facility involved, a detailed description of the injury, any misdiagnosis, and risk management steps taken to avoid similar injuries. This act also gave the public access to these reports. Upon receipt of these reports, the Department of Insurance is required to notify the Department of Professional Regulation (DPR) of any physician having three or more paid claims for malpractice within...
a five-year period. DPR is then required to investigate the occurrences upon which these claims were based and determine if disciplinary action is warranted. The Sunset legislation which passed during the 1986 Special Session specifically indicates that these provisions also apply to dentists and that DPR will investigate dental malpractice claims which meet the thresholds required by law (3 claims/5 years/indemnities paid in excess of $5000).

The peer review and closed claims reporting provisions are aimed at the prevention of medical malpractice. Members of the medical community have argued that the occurrence of malpractice is not really the problem. To balance this concern, the Medical Malpractice Act also makes reforms in the area of malpractice claims resolution. It is the balancing of these concerns that will bring about the resolution of the medical malpractice crisis.

The Medical Malpractice Act included some innovative approaches concerning the actual processing of a medical malpractice case. The act requires claimants to give potential defendants 90 days notice prior to filing a malpractice action. During this time, the potential defendant and his insurer must review the claim. The insurer is entitled to require the claimant to appear before a review panel and to undergo a physical examination. The claimant must cooperate or risk later dismissal of his claim. After the review, the defendant may respond to the claimant by requesting arbitration on damages. An attorney representing a claimant must advise his client, in writing, of the terms of the defendant’s response, the costs of proceeding to trial, and the likelihood of success. If the claimant accepts the defendant’s admission of liability and offer to arbitrate the damages, the arbitration process becomes binding on both parties.

If a case is subject to arbitration, each party selects one arbitrator, and these two arbitrators select the third. The decision of the arbitration panel on the issue of damages is binding on all parties. Through this process, the Legislature is encouraging early and more frequent settlement of meritorious claims.

The Medical Malpractice Act imposes penalties on attorneys who bring frivolous suits. If the parties do not agree to arbitrate and the claimant wishes to file suit, the act imposes a duty on the claimant’s attorney to certify that he or she has made a reasonable investigation to determine that there are grounds to believe there has been negligence in the care or treatment of the claimant. If the court later determines that this certification was not made in good faith and that no justifiable issue was presented, the court must award attorney’s fees and costs against claimant’s counsel and submit the matter to the Florida Bar for disciplinary review.

One of the most controversial issues in the malpractice debate is the issue of attorney’s fees. The act recognized the Florida Supreme Court’s authority to establish a reasonable fee schedule, but the act established a statutory fee schedule which would have been adopted if the Supreme Court failed to adopt its own guidelines. This provision, which established a range of fees based on percentages of the award and the stage at which the case was settled or otherwise resolved, was to take effect on July 1, 1986. The Supreme Court adopted its own guidelines on June 30, 1986—the day before the effective date of the statute. The guidelines established by the court utilize the same approach as that set forth in the Medical Malpractice Act. For example, the court would limit attorney fees to 25% of recovery, regardless of amount, prior to filing suit. After suit is filed, the attorney fees would be between 33% to 40% as the case progressed to trial in cases up to $1 million. The fee in cases between $1 million and $2 million is limited to 30%. Cases in excess of $2 million are limited to a 20% fee of the recovery. Both the act and the court recognize that a lower fee schedule may fairly be imposed on attorneys in the earlier stages of a case since less work is usually involved and where larger verdicts were involved but no greater time was involved in final preparation.

Large verdicts were also addressed in the Medical Malpractice Act by giving the medical defendant the right to pay a judgment on a periodic basis, rather than in a lump sum, in those cases in which future damages exceed $500,000. However, the Tort Reform and Insurance Act of 1986 replaced this section with a statute applicable to any civil action for damages, which provides for periodic payment of
that portion of a judgment in excess of $250,000 for future economic losses, such as future medical bills and lost wages. In these cases, defendants would be entitled to pay the excess portion on a scheduled basis as medical bills are incurred and as wages are lost.

These and many other provisions of the malpractice legislation represent a significant effort to deal with the medical malpractice problem. In combination with the broader based insurance and tort reform legislation, this legislation should prevent malpractice from occurring, improve the claims resolution process, and generally improve the delivery of health care in Florida.

**Tort Reform and Insurance**

One of the most difficult and far reaching legislative initiatives was addressing the liability insurance crisis facing Florida policyholders, culminating in the Tort Reform and Insurance Act of 1986. Although not specifically a health care issue, liability insurance and tort reform substantially affect health care providers who have faced significant rate increases and difficulty in obtaining liability insurance coverage. Clearly, the liability insurance problems directly affect the cost and quality of the delivery of health care. In addition, many provisions of the Comprehensive Medical Malpractice Reform Act of 1985 served as model language for the broader Tort Reform and Insurance Act of 1986.

In the area of tort reform, major changes included a $450,000 cap on non-economic damages, elimination of joint and several liability in certain cases, provision for periodic payment of future economic damages in excess of $250,000, and restrictions on recovery of punitive damages. All of these reforms are applicable to most civil actions, including malpractice actions.

The $450,000 cap on non-economic damages limits the amount that can be recovered by any one person for non-economic damages due to injury, including compensatory damages equal to or less than $25,000 regardless of the type of damages.

By eliminating joint and several liability for non-economic damages and for economic damages when defendants are less at fault than the plaintiff, the Legislature shifted the risk of loss for an insolvent defendant from the co-defendants to the plaintiff. Again, this was an attempt to reduce liability costs to that class of defendants and it also represents partial acceptance of the argument that one defendant should not be accountable for another defendant’s negligence. From the plaintiff’s viewpoint, retaining the doctrine of joint and several liability for economic damages unless the plaintiff is more negligent than a particular defendant ensures that recovery of medical bills and lost wages will not be altered when the plaintiff is less guilty than the defendant.

A third major tort reform measure provides for periodic payment of awards for future economic damages in excess of $250,000. A defendant is now entitled to pay the excess amounts on a scheduled basis, generally as medical bills become due and lost wages are incurred. However, all non-economic damages, economic damages already incurred, and the first $250,000 of future economic damages are still required to be paid in a lump sum unless otherwise agreed to by the parties.

A plaintiff’s recovery of punitive damages was also limited. Punitive damages are not intended to compensate the plaintiff, but are designed to punish the defendant for gross misconduct. Since they are in the nature of a penalty or fine, the new law allocates 60% of punitive damages to the State Public Medical Assistance Trust Fund for personal injury actions and to the State General Revenue Fund for non-personal injury actions. Also, the law limits punitive damages to three times the amount of the compensatory damages unless the plaintiff is able to show by clear and convincing evidence that a greater amount is not excessive.
Other tort reform measures adopted in the act were largely based upon reforms initiated in the previous year's Comprehensive Medical Malpractice Reform Act, including encouragement of good faith settlements by allowing judges to require a pre-trial settlement conference and imposing penalties for the rejection of reasonable settlement offers; providing authority and procedures for courts to reduce excessive awards and to add to inadequate awards; and reducing awards by the amount of collateral sources of indemnity available to the plaintiff. Provision is also made for a five-member task force to study the effects of the bill and other issues linked to reducing the costs of insurance, self-insurance, and the tort-liability system.

In many ways the insurance reforms enacted in the Tort Reform and Insurance Act were even more substantial than the tort reforms discussed above. Property and liability insurance policyholders will benefit by increased protection against excessive insurance rates and by expanded self-insurance and joint underwriting association alternatives.

Greater rate regulatory authority is provided to the Insurance Commissioner to disapprove rates that are excessive, inadequate, or unfairly discriminatory. The Department of Insurance may take full consideration of investment income on unearned premiums and loss reserves in determining an appropriate rate, even if the result is an underwriting loss from the standpoint of paid claims. This was believed to be appropriate in view of investment income that would more than make up for such liability losses. Procedurally, an insurer can either allow the Department to review a rate before it is used, or use a rate during the review process and risk being ordered by the Department to refund that portion of the rate later found to be excessive.

An excess profits law was also enacted to review the actual underwriting profits realized over a four-year period by commercial property and casualty insurers. This provides an after-the-fact review that operates as a backstop to the earlier determination of the appropriate rate. If the rate produces an excessive profit, defined as the anticipated underwriting profit plus more than four percent of earned premiums, then this amount will be refunded at the end of the four-year period to those policyholders who followed approved risk management guidelines and had an acceptable loss ratio. In this way, policyholders whose claims' costs were below the average would be entitled to a refund from the amount determined to be excess profits. It should be noted, however, that the applicability of the excess profits law as to medical malpractice insurance is delayed until 1990 due to the significant underwriting losses of recent years and the limited number of insurers writing the coverage.

For those who are unable to find insurance, a joint underwriting association (JUA) was created to guarantee the availability of property and casualty insurance. If Florida law requires that insurance be maintained but it is unavailable in the voluntary market, then any person subject to the insurance requirement may obtain coverage through the JUA. If a particular type of insurance is not mandated by Florida law, it still may be obtained from the JUA if it is unavailable in the voluntary market, if the insurance is substantially necessary to conduct business, and if the person is not determined to be uninsurable by the JUA's risk underwriting committee. These provisions will help ensure that a residual market will be available for the appropriate risks who cannot find insurance in the voluntary market.

Another important insurance reform authorized group commercial self-insurance funds and expanded medical malpractice self-insurance authority to a variety of health care professionals, including dentists. Two or more businesses will now be entitled to form a self-insurance fund for any property, casualty, or surety risk and will be subject to less stringent regulation than an insurance company. In exchange for reduced regulation and cost, members of a commercial self-insurance fund will be subject to assessments for deficits that are realized while the members belong to the fund. The bill provides that a group or association of health care providers composed of any number of members may furnish self-insurance for medical malpractice liability. This self-insurance is subject to certain statutory provisions and to regulation by the Department of Insurance. Similar revisions allow easier and wider use of other self-insurance mechanisms such as the limited commercial reciprocals and professional liability self-insurance trusts. Along with the provision for banks to enter the reinsurance business, the JUA and the self-insurance alternatives will provide a market for risks that are abandoned by the insurance industry.

Late in the development of this act, the amount and implementation of a mandatory rollback on commercial liability insurance rates became an issue of great concern to both the House and Senate members. Ultimately, the law provided that during the last 6 months of 1986, all commercial property and casualty insurance rates are frozen at the May 1, 1986 level. In addition, any policy in effect during the last quarter of 1986 will receive a special credit equal to 40% of the May 1 rate. The bill also prohibited companies from cancelling or refusing to renew policies for the purpose of avoiding the rate rollback or freeze. In this way, the public will get an immediate and identifiable reduction in insurance rates, rather than depend upon the speculative savings resulting from tort reform or future savings resulting from rate regulation.

In its final form, the legislation contained all elements of reform necessary to comprehensively address the liability insurance prob-
Florida's insurance buying citizens should be happy with this legislation which sets a high mark for state legislative efforts to control the insurance rate and availability crisis.

**Dental Practice Act**

House Bill 5-B, which passed during the Special Session, continues the regulation of dentistry, dental hygiene, and dental laboratories. The Dental Practice Act, Chapter 466, Florida Statutes, was one of a number of statutes relating to the regulation of professions which underwent Sunset review during the 1986 Session. In addressing a chapter subject to Sunset review, the Legislature carefully reviews each provision of the law to determine if regulation is still needed, if the police power of the state is appropriately balanced with protection of the public health, safety, and welfare, if there are less restrictive methods of regulation available which would adequately protect the public, and if any increase in cost based on regulation is more harmful to the public than the harm which could result from the absence of regulation.

Throughout the session, the question of utilization of dental hygienists and representation of dental hygienists on the board was discussed. The final bill improves the input of dental hygienists into the regulation of their profession.

A Dental Hygiene Advisory Council was created for the purpose of developing recommendations to the board on matters pertaining to the practice, licensure, discipline, education and regulation of dental hygienists. A Council on Dental Assisting was also created.

The size and composition of the Board of Dentistry was increased from nine to eleven—adding one dentist and one dental hygienist to the board.

The new law also permits hygienists to work in schools, upon the prescription of a dentist, as well as in nursing homes, private homes, HRS programs, and other facilities as allowed by law.

The bill basically maintains the current system of licensure by examination in lieu of a system of licensure by endorsement. The bill clarifies the clinical skills required for licensure, especially in the area of the clinical practical exam which requires use of live patient procedures for demonstration of clinical skills.

Although major changes were not made in the area of continuing education, the Legislature reaffirmed its commitment to requirements that professionals maintain current skills by maintaining the requirement that each licensed dentist be required to complete biennially not less than 30 hours of continuing education in dental subjects. Continuing education for dental hygienists is also included in the legislation.

Provisions regarding the administration of anesthesia were strengthened in the Dental Practice Act. Dentists who administer or employ the use of anesthesia are required by the Act to have CPR certification and to be recertified every two years. Additionally, every dental office which uses any form of anesthesia must have immediately available such resuscitative equipment and drugs as specified by board rule.

The section of law relating to patient's records is amended to provide for accountability and continuity of patient records in multidentist practices. The act ensures that one person is responsible for an individual's patient record rather than collective responsibility.

The bill balances consumer protection with the needs of the profession in provisions relating to advertising. The current list of advertising practices which are permitted was replaced with language permitting only those restrictions necessary to protect the public from false, misleading or fraudulent advertisements.

As mentioned earlier, members of peer review organizations and records of such organizations are afforded greater protection. The bill provides immunity from civil suit to members of peer review committees, and protects confidentiality of their records under certain circumstances.

The bill enhanced both the criminal penalty and disciplinary sections of the Dental Practice Act. Stricter criminal penalties may be imposed for giving false testimony or forged evidence to the department and for selling or offering to sell a diploma from a dental college or dental hygiene school. Modifications to the disciplinary section of the law include a procedure through which impaired professionals may submit to certain tests related to use of drugs or alcohol, dental malpractice and providing presigning blank laboratory work order forms as grounds for disciplinary action.

The bill continues provisions prohibiting control of the practice of dentistry by a non-dentist. However, a non-dentist may own dental equipment or facilities as long as the dentist retains practical control of the equipment and the practice.

Although final adoption of the dental bill involved days of discussion and great compromise among members of the Legislature and representatives of various lobbying groups, the final product of the Dental Practice Act is a piece of legislation which will protect both the public and the interests of the profession.

As you can see, through the medical malpractice, tort and insurance reform and sunset legislation, the Legislature has been actively focusing on issues which are of great interest to your profession. We have made significant progress during the past few years and will continue to work for improved legislation which addresses the needs of both the dentists and the people which they serve. △
The officers of the American College of Dentists for 1987: left to right are Editor Keith P. Blair, President-Elect Robert W. Elliott, Jr., Incoming President H. Curtis Hester, Immediate Past President Norman H. Olsen, Vice President James A. Harrell, Sr., Treasurer Robert C. Coker and Executive Director Gordon H. Rovelstad.

Outgoing President Norman H. Olsen, left, with Incoming President H. Curtis Hester.

Executive Director Gordon H. Rovelstad.
The prestigious William John Gies Award was presented to four honorees this year. Left to right, L. D. Pankey of Coral Gables, Florida; Robert B. Shira of Lexington, Massachusetts; Irving E. Gruber of Baldwin, New York; and Wilmer B. Eames of Aurora, Colorado.

Giving the Convocation address was Maynard K. Hine, above, who is Chancellor Emeritus at Indiana University.

Left to right, Richard J. Reynolds, Mace Bearer in the procession, President Norman H. Olsen and Torch Bearer Kanemi Kanazawa.
Recipients of the American College of Dentists Distinguished Service Award were Lindsey D. Pankey, left, of Coral Gables, Florida and Harry Lyons of Richmond, Virginia. Dr. Pankey has been a Fellow for 50 years and Dr. Lyons has been a Fellow for 53 years.

Flag Bearers Syrus E. Tande, left and Paul T. Dawson, right, are pictured with President Norman H. Olsen.

Assistant Marshall Robert E. Doerr, left, and Marshall James A. Harrell, Sr., direct fellows who are lining up for the procession.
Certificates to Awardees

Lindsey D. Pankey of Coral Gables, Florida receives Gies Award presented by President Olsen.

Wilmer B. Eames of Aurora, Colorado receives Gies Award presented by President Olsen.

Muriel J. Bebeau of Minneapolis is presented with an Honorary Fellowship by President Olsen.

Robert B. Shira of Lexington Massachusetts receives Gies Award presented by President Olsen.

Irving E. Gruber of Baldwin, New York receives Gies Award presented by President Olsen.

Hazel Wallace of Atlanta receives the Award of Merit presented by President Olsen.
Symposium on Professional Liability in Dentistry

Leslie W. Seldin of New York, Program Moderator.

Mr. Walter Wisniewski discussed the position of the insurance industry.

Incoming President H. Curtis Hester opens the Symposium meeting that will discuss Professional Liability in Dentistry.

Florida State Representative Tom Gustafson described new Florida laws on liability and insurance that his committee sponsored.

Attorney Carl E. Jenkins presented the attorney's view on liability as it affects the health professions.
Sections Representatives Meeting

Former ACD President Odin M. Langsjoen reported on the teaching of ethics in a dental school curriculum.

Henry J. Heim, panelist and Committee Member.

Ralph R. Lopez, panelist and Sections Committee Member.

Regent Joseph P. Cappuccio addressed the group regarding better communications.

Leslie B. Bell, chairman of the Sections Meeting Committee who presided.

Prem S. Sharma from Wisconsin involved in discussion from the floor.

Morris L. Barrington spoke on ethics and professionalism.

Muriel J. Bebeau of Minnesota elaborates on the ethics program she designed and developed.

Varoujan A. Chalian spoke on the effects of fragmentation on the public and Sections responsibility.
Faces In The Crowd

Thomas W. McKean, standing, proudly sponsored his father, Gorman F. McKean to ACD Fellowship.

Photos By Edward F. Leone
Thank you for inviting me to be with you today. The American College of Dentists holds a very special place in my heart, as I believe this organization truly represents excellence in dentistry! Your membership in the ACD distinguishes you, the organization, and the profession itself. Your commitment to dentistry’s purpose and ongoing mission provides dentistry with an unparalleled standard of excellence.

These are challenging times for dentistry. I don’t need to tell you the many issues we face as we attempt to secure the best possible future for our profession.

The applicant pool for dental schools is shrinking; recently, two dental schools closed their doors on the undergraduate level. Most schools have reduced the size of their entering class by at least a third. Academicians and the practicing dentists alike are in somewhat of a quandary about the days and months ahead, and much of the media spreads gloom with reckless abandon on facts based upon questionable information.

Alternate delivery systems challenge the future of the traditional fee for service private practice of dentistry and these systems, for the most part, are here to stay. Members of the dental team are striking out for unsupervised practice and the privilege of providing dental care—without the benefit of a dental license.

The professional liability situation endangers the very practice of dentistry for many of our members. As it was in 1986, it is an issue whose prominence has risen to the national level, not only for dentistry but for other learned professions, and for groups as diverse as municipalities and school districts. The need for legislative action both at the state and federal levels is self-evident and will be one of dentistry’s most urgent priorities in the coming months.

Yet, with all it, I sincerely believe that dentistry has a bright and productive future.

But I believe that in these challenging times we cannot allow ourselves the luxury of sitting back and waiting for someone else to take care of our problems. I firmly believe that these times demand the active involvement and participation of all members of the profession.

And that’s what I want to talk about with you today. Because I think there are some important things the American College of Dentists can do to help assure the bright and successful future of our profession.

The future of dentistry rests on the young people who are in dental school today, and the young people who will make dentistry their career of choice in the years ahead. As a practitioner and an educator, I know how important those dental school experiences are, and so do you, you’ve been there. Everything that we can do to enrich those years, to help those young people become the kinds of dentists you and I strive to be, will have a critical impact on the profession. But do we just think that way? Do we just say that? Do we truly believe how symbiotic a relationship we must have with the new professional to guarantee the profession’s future; a better and brighter tomorrow?

And for that reason, I think the time has come for the American College of Dentists to consider expanding its influence and involvement with our dental students. By playing a more active role with tomorrow’s practitioners during those important educational years! The College could and should serve as an important role model for professionalism for the young people in our dental schools. How do we do this? Individually? By the written word? By hearsay? By giving an award to a handful of graduates during commencement exercises, who may or may not know anything about the American College? Yes and no! We must do this together as a group and make our presence felt, to be seen as well as heard! Are we involved with the dental schools that are in our states or cities? Do we know about their curriculum changes with advanced programs? Have we dared to discuss these matters as a group or Section with their Deans to see what input is necessary to inform students already immersed in new knowledge and new technologies as to how that relates to professionalism and ethics? You are the role models, you are the teachers, lecturers, researchers, and practitioners. Wouldn’t it now make sense to establish student chapters of this
As leaders of the profession, you can assure that dentistry's high standards of professionalism will be continued by serving as role models—to students and associates.

I urge you to consider this program, all of you, its goals are most worthy. Your commitment, your dedication and your professionalism serve as ideals for young dentists and for all dentists across the country. They should all know the American College of Dentists.

By stressing professionalism, encouraging research and working to improve the image of dentistry, the American College of Dentists has contributed greatly to the esteem in which our profession is held. Why not reorganize their potential to become leaders, earlier than later, and invite them to membership, student membership, as they mature and grow. Their early involvement and interest in dentistry will increase with you at their side.

As a result, you will enrich the profession and all of us who are proud to be a part of it.

I also encourage our prestigious organization to lend its support to the ADA's Associateship Placement Program. I believe that this program is beneficial to recent dental school graduates, to established practitioners and to the profession of dentistry alike.

The Associateship Program helps dental school graduates make the transition from academia to dental practice by working for and with an established practitioner. Such programs can add an element of vitality to dentistry because they enable practitioners to share professional viewpoints and create a more stimulating working environment.

On the practical side, associates can help relieve excessive patient loads, expand the scope of a dental practice, permit the extension of office hours or provide an eventual buyer for the practice.

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JO CLARK RETIRES
Secretary to Executive Director

Mrs. Jo Clark, Executive Assistant and Secretary to the Executive Director of the American College of Dentists, retired from office on January 1st, 1987. A dinner was held in her honor by the Board of Regents of the College in Miami Beach on October 16th and by the Executive Office staff on December 31st.

Mrs. Clark completed sixteen years of loyal service to the College, first as an assistant and secretary to Dr. Robert Nelsen and later to Dr. Gordon Rovelstad. During this period the Executive Office of the College was established in the Washington, D.C. area having moved from its former office location in St. Louis, Missouri. All books, records and activities of the College were thus brought into a new environment and Mrs. Clark, working with the Executive Director from the very beginning, was instrumental to the re-establishment of office procedures and organizational activities. Developing new procedures were also introduced so as to meet the changing responsibilities of the College. It was also during this period that a major review of the College was carried out through a planning committee and many new programs were introduced and activated.

Over 8,000 nominations for Fellowship have been passed through her hands. She has not only provided continued support for the Credentials Committee but also for the Board of Regents throughout this period of time and has been most instrumental in maintaining the integrity of the credentialing process. She has participated in sixteen annual meetings and convocations and personally registered all of those candidates and sponsors participating in each of the convocations. Her careful attention to detail and exceptional efficiency has been largely responsible for the success of the annual convocation.

Mrs. Clark has been very active in the Professional Secretaries International Association, Bethesda Chapter. She served as the Chairman of the Social Committee two years, Vice President in 1975 and 1977 and President from 1977 to 1978. She also has participated in volunteer work at local hospitals as well as for campaigns of some government officials. Her hobbies have been involved in golf, tennis, bridge, backgammon and needlework. She has been a very active participant in the Women’s Golf Association in the Washington area and has maintained a regular place in the area tournaments. Examples of her needlepoint, bargello, knitting and crochet are prized by her many friends in the Washington area.

Mrs. Clark, in her service to the College, has unquestionably contributed immeasurably to the growth of the profession and its service to the public. Her quiet manner and careful attention to detail has provided all who have worked with her admiration and respect.
Creating Positive Student Learning Attitudes in Preclinical Operative Dentistry

Leopold H. Klausner*
Thomas G. Green**
Charles E. Strawn***

Dental curricula comprise a multitude of skills to be learned and developed within rigid schedules. The demand for a certain level of performance may quickly result in frustrating and confidence shattering experiences for students. The desire to standardize and improve the educational experience has encouraged some faculty to shift from a tutorial method to a method of instruction which may be heavily based on the use of audiovisual materials, computerized learning modules, and large lecture dissemination of information. Grading the end product as a documentation of either success or failure does not assess the performance process and does not create a favorable learning environment. These and other factors tend to create a negativism on the part of faculty and students and an ineffective environment for learning to occur.

Introduction

The educational process and environment is a well documented stressor for dental students. Sources of stress include a heavy work load, unfavorable student-faculty relations, inconsistent feedback, lack of time to develop outside interests, and lack of social support. Students bring into the existing dental school environment a set of expectations based on their previous learning experiences. For many of them the formal evaluation of behavioral and psychomotor skills in conjunction with cognitive skill development is a first-time experience. They are unaccustomed to the subjective methods of instruction and evaluation of nonconceptual skills within preclinical and clinical courses. The demand for performance up to a level of acceptability necessary to perform dentistry may very quickly become a frustrating and confidence shattering experience. Grading the student's end product independent of the performance process, as a documentation of either success or failure on a daily basis, does not create a favorable learning environment for student practice. In these instances the faculty's role is perceived by both students and faculty, not as a learning resource to facilitate and direct learning, but as a checker and grader of the student's end product. Instructional feedback, informing the student in specific detail where they did well and where they did not do well and how they can improve, is crucial for learning to occur. By contrast grading, a symbolic representation of the total evaluation of student achievement is limited in scope. When instructional feedback is perceived as grading, performance mistakes are hidden by some students rather than analyzed to enhance learning. Within these individuals the motive to avoid failure greatly exceeds the motive to achieve. Such patterns of behavior form emotional blocks that interfere with the effectiveness of the instructional and learning processes.

As a result of increased class sizes, the increasing volume of information and the desire to standardize instruction, dental schools have come to rely heavily on the use of audiovisual materials, computerized learning modules, and lecture dissemination of information as the primary sources of efficient and standardized instructional activity. Coupled with the pressures from administrative demands, increases in curricular load and remedialization activity, and academic pressures for research, it has become increasingly difficult for faculty to function as primary learning resources. A primary resource being defined as a mentor who is a source of information,
reinforcement, and provider of constructive feedback for improvement. As a consequence, the learning environment has appeared to become depersonalized, creating and perpetuating an incipient negativism on the part of faculty and students.

Symptoms of this negativism include many detrimental student behaviors, such as being afraid to ask questions, being afraid to make mistakes, and being afraid of not measuring up to expectations. The basis for these fears is the perception that faculty view student questions as inappropriate, that they will not accept certain mistakes as part of the learning process, and that they will invariably punish failures. Environments characterized by decreased interpersonal competency, including poor student-faculty communication, foster negative attitudes and behaviors. The incipient negativism of this environment also contributes to a low level of morale among faculty. Faculty, who have identified their interaction with students as being the greatest intrinsic reward in their dental education career, begin to experience not only the breakdown in relationships with students, but with other faculty as well.

Six months prior to the onset of this program, faculty from the clinical departments which participate in the preclinical program were asked at a faculty retreat to develop a statement of the mission of the dental school which would define the universal objectives of the preclinical program. The adopted mission statement reads: "The mission of the preclinical program is to prepare students to treat patients in the clinical portion of dental education. More specifically, to develop in students the ability to demonstrate adequate conceptual, motor, perceptual, and organizational skills. Further, to develop in students ethical behavior, sound professional judgment, and effective interpersonal communications in a positive learning environment." During the development of the mission statement, an addendum was generated which identified skills believed to be important in the dental student, which were to be used in student and faculty assessment of student development and performance (Figure 1). Using these skills as a framework, a committee of faculty developed an instrument with detailed criteria for the assessment of these performance skills. The committee comprised the course director, a management psychologist, and an instructional specialist in conjunction with the chairman of Operative Dentistry and the Director of Preclinic. In order to be consistent with the practice management curriculum the students would study during their third and fourth years, these skills were categorized and labeled to match standard management literature protocol. Through discussion the content validity and clarity of each item were agreed upon through consensus by departmental faculty and by faculty participating in the course prior to its introduction into the course. The format was designed to allow for daily assessment as related to an expected level of performance. The symbols + (above the expected level), 0 (at the expected level), and – (requires improvement) were used in lieu of numbers to discourage the numerical summarization of performance. This Management Skills Assessment Form provides faculty and students with a format in identifying, organizing, and summarizing daily observations of student performance in all aspects of professional development (Figure 2).

With the desire to improve the quality of the educational environment by creating positive student learning attitudes, changes were introduced within the freshman preclinical operative dentistry course for the Class of 1986. These changes were in keeping with the goals of the preclinical program.

Methods

An introductory lecture for the entire class preceded the course orientation lecture and was intended to help students understand 1) how their new role and responsibilities differed from their prior student role as undergraduates, and 2) how they could best use preclinical faculty as learning re-
sources. During this session the Management Skills Assessment Form was introduced.

Three instructor-student workshops were held during regularly scheduled course time throughout the term and coincided with the rotation of instructors. The design of these workshops followed accepted small group dynamics protocol for facilitating interpersonal development. These were structured, experiential sessions designed to improve the quality of the relationship between the students and their assigned faculty. Following introductions students worked individually and then in pairs or trios and were given tasks aimed at self-disclosure. At the first workshop they were asked to identify and list the fears and anxieties they had about the preclinical amalgam course. They also listed aspects of the course about which they were excited. These responses were then shared with the total group. The instructor then discussed his or her role as a learning resource and emphasized the desire to maintain a positive interpersonal relationship with each student during the instructional period by being aware of their concerns and expectations. The session concluded with a discussion of the course objectives, course requirements, and instructor expectations. At the second workshop students were asked individually what they had discovered to be their major strengths and weaknesses in the course (using the Management Skills Assessment Form as a reference), and how they felt about their progress to date. The students then paired themselves and were asked to identify what they needed from their new instructor that would be most helpful to them in achieving the course objectives. At the same time they were to indicate what they believed were their own responsibilities for maintaining a positive learning environment. These responses were shared with the total group. The instructor emphasized the desire to be a learning resource in a collaborative relationship with the students as the course objectives and requirements were restated. During the third workshop the student group was asked to imagine that they were a group of students preparing a statement to the faculty on the topic "What instructors need
to be aware of in order to be more helpful to students during the balance of this preclinical course. Their new instructor sat outside the group and listened without comment. Following the student discussion the instructor paraphrased what the students had said and revised that paraphrase until a consensus was obtained that was an accurate representation of the students' “message to the faculty”. (This information was discussed at a subsequent faculty meeting so that all course faculty could benefit from the collective information.) The students then individually prepared a statement of their individual learning objectives for the rest of the term in light of feedback that they received from their previous instructors. These objectives cited those areas of the management behaviors and treatment product performance in which they wanted to improve. This sheet was given to the new instructor who met with each student to review their objectives.

In-service training sessions for faculty are effective in improving teaching skills and were conducted during the course to assist faculty in: directing the workshops, developing interpersonal skills for giving critical feedback in non-threatening ways, and understanding the use of the management skills assessment form.

Just prior to rotations instructors held conferences with each of the students they had instructed for the preceding period. Time for these conferences was allotted within the course schedule. In preparation students completed a self-evaluation, an essential part of the learning process, on a Management Skills Assessment form and specified a grade that they believed accurately represented their performance status during the preceding period of instruction. Instructors also completed an evaluation and specified a grade on the departmental copy of the assessment form. During their conference these forms were compared and differences in assessment or grade were discussed to the student’s understanding. The students were encouraged to copy instructor comments and to retain their copy for future reference.

At the conclusion of the course both students and faculty were surveyed as to their perceptions of the impact of the attempt to improve the learning environment.

**Results**

The results of the student and faculty surveys indicated an appreciation for the changes in the course. On a written student survey 128 out of 134 students responded (95 percent). Two questions related directly to the attempt to improve the learning environment (Table 1). In response to a question about the overall success of this attempt, 82 percent rated it good to excellent while 18 percent believed it was fair to poor. In open-ended comment the most frequent response gave encouragement to continue the

| Table 1. Student Evaluation of the Attempt to Improve the Learning Environment |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| This year a special attempt was made to improve the learning environment. To what extent do you think this was successful? |
| Excellent | Very Good | Good | Fair | Poor | No Response |
| 18 (14%) | 43 (34%) | 42 (33%) | 15 (12%) | 8 (6%) | 2 (2%) |
| Please rate the value of the three “introduction seminars” held when you were assigned new instructors? |
| Excellent | Very Good | Good | Fair | Poor | No Response |
| 15 (12%) | 40 (31%) | 36 (28%) | 27 (21%) | 8 (6%) | 2 (2%) |

number of respondents (percent of respondents), n = 128

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## Preclinical and Clinical Operative Dentistry
### Management Skills Assessment

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning</strong></td>
<td></td>
</tr>
<tr>
<td>Prepared for clinic session</td>
<td></td>
</tr>
<tr>
<td>• clear knowledge of objectives, criteria, procedures and supporting basic principles</td>
<td></td>
</tr>
<tr>
<td>• required materials, instruments and equipment assembled</td>
<td></td>
</tr>
<tr>
<td>Uses time efficiently</td>
<td></td>
</tr>
<tr>
<td><strong>Organizing</strong></td>
<td></td>
</tr>
<tr>
<td>Exhibits neat, clean, and professional personal appearance</td>
<td></td>
</tr>
<tr>
<td>Maintains neat, clean work areas</td>
<td></td>
</tr>
<tr>
<td>Arranges materials, instruments, and equipment systematically</td>
<td></td>
</tr>
<tr>
<td>Records are ordered, legible, and complete</td>
<td></td>
</tr>
<tr>
<td><strong>Staffing</strong></td>
<td></td>
</tr>
<tr>
<td>Uses faculty as learning resource</td>
<td></td>
</tr>
<tr>
<td>• asks questions appropriate to task</td>
<td></td>
</tr>
<tr>
<td>• informs faculty of self-assessment and corrective action before requesting instructor intervention</td>
<td></td>
</tr>
<tr>
<td>• responds to and uses instructional feedback</td>
<td></td>
</tr>
<tr>
<td>Exercises active role in learning process</td>
<td></td>
</tr>
<tr>
<td>• demonstrates attitude of commitment to positive learning environment</td>
<td></td>
</tr>
<tr>
<td>Seeks to identify and resolve interpersonal problems</td>
<td></td>
</tr>
<tr>
<td>Demonstrates ethical and professional behavior</td>
<td></td>
</tr>
<tr>
<td>Treats others courteously</td>
<td></td>
</tr>
<tr>
<td><strong>Implementing</strong></td>
<td></td>
</tr>
<tr>
<td>Uses techniques as directed by the Course Director</td>
<td></td>
</tr>
<tr>
<td>Demonstrates independence and dependence at a level expected for stage of development</td>
<td></td>
</tr>
<tr>
<td>Performs task at a motor skill level expected for stage of development</td>
<td></td>
</tr>
<tr>
<td>Accomplishes the treatment product with student input at a level expected for stage of development</td>
<td></td>
</tr>
<tr>
<td><strong>Evaluating</strong></td>
<td></td>
</tr>
<tr>
<td>Initiates self-evaluation of performance</td>
<td></td>
</tr>
<tr>
<td>Uses recognized criteria effectively for quality assessment of performance</td>
<td></td>
</tr>
</tbody>
</table>

**Performance Level:**
- + Above the expected level of performance
- 0 Expected level of performance
- — Requires improvement

Faculty ___________________________ Student ___________________________
Course ___________________________ Date ___________________________
Bench or Cubicle No. ___________________________

Figure 2. Management Skills Assessment Form
effort. The most frequent negative comment related that the effort took too much time. The three workshops were rated good to excellent by 72 percent of the respondents, while 28 percent believed they were fair to poor. The most frequent comment was that the workshops eased tension setting the stage for learning. Negative comments related that the workshops are a good idea but took too long and that some instructors appeared to be forcing the attempt to create a favorable environment. During a course review meeting, faculty who participated in the course indicated that the efforts to improve the learning environment had been successful and not only made it better for students but more enjoyable for faculty. They indicated a preference for streamlining the lectures, integrating the workshops, and continuing use of the Management Skills Assessment form.

Discussion

Both students and faculty received modifications in the course design very well and believed that the result was successful. Inclusion of the workshops into the course design emphasized to the students a faculty commitment toward the establishment of an instructional rapport. They appear to have value in improving the learning attitude and environment as supported by students comments that the workshops eased tension and set the stage for learning. By easing tension these workshops served to decrease the negative impact of fear on the learning environment. Further investigation is necessary in evaluating the performance anxiety of students. By way of suggestion, some students felt that the workshops should be streamlined to allow for more laboratory time. This reflected the anxiety produced by the demands of the laboratory requirements as the course progressed. Some students interpreted their instructors' attempts to promote a positive learning environment as being forced. This behavior may result from a feeling of discomfort by some instructors and indicate the need for additional in-service. Some faculty suggested that the lectures be streamlined to maximize laboratory time for the students. Through discussion it was disclosed that faculty desired to be more active participants in the educational process. (Currently this is being accomplished through the transfer of specific lecture information and certain administrative tasks to the instructors.)

Faculty supported the use of the Management Skills Assessment Form as a detailed performance instrument for self-assessment and instructor feedback which gives direction to the development of desired professional behavior. Currently its use has been expanded into all other preclinical and clinical operative dentistry courses. In addition to initiating feedback interaction, it provides a basis for grade development based on performance trends and changes rather than isolated, anecdotal evaluation. Deemphasizing the grading of daily end products allows for these to remain neutral practice activities and at the same time puts the emphasis of end product evaluation on practical examinations. There is a collaborative effort on the part of the student and faculty towards a common goal of successful performance on the examination. Students and faculty who perceive their relationship as cooperative are likely to be open and undefensive in their communications, approaching conflicts as a mutual problem. On the other hand, competitive relationships result in defensive communication, the escalation of conflict, the use of coercion and tactics of power when controversy develops. With deemphasization of end product performance on a daily basis, shared attention may be focused on performance skills, an area not often evaluated during practical examinations.

There were other results that suggested this effort to improve the learning environment was successful. A letter was received signed by all of the members of the Class of 1986 which expressed class support for the direction the Department of Operative Dentistry was taking in instituting these changes. Two years following the introductory
course, during their clinical operative dentistry course, this class had fewer failures than previous classes. This was attributed by the clinical faculty to an increased ability of the students to communicate problems and learning needs to instructors before failures occurred. This may be the result of the communication skills and attitudes or a superfluous finding related to differences in the student populations. Preclinical and clinical faculties of several departments have begun inservice programs for faculty for improving communication and interpersonal relationships with students and the assessment of performance skills.

Anecdotal information from the Director of Faculty-Student Relations reported that students from this class who presented for counseling seemed to have lower levels of interpersonal hostility and fear than those from other classes and spent their time in counseling improving personal coping skills rather than venting hostility.18

The complexity of the dental school learning experience makes it difficult to assess the individual impact of the workshops and the Management Skills Assessment form on student attitudes or the learning environment. Subjective assessment of the impact of the workshops and performance process skill emphasis suggest that they contribute favorably, however, further research and testing of these instructional strategies are necessary.

**Conclusion**

Within the constraints of an information filled course it is possible to set time aside to create and develop interpersonal relationships and to establish faculty as learning resources. The fostering of good interpersonal relationships between students and faculty and the creation of corroborative effort toward instruction and evaluation of process and end product performance contributes to positive student learning attitudes and improvement in the quality of the learning environment.△

**References**


Reprint requests to:
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School of Dentistry
University of Michigan
Ann Arbor, MI 48109

SPRING 1987
A TREASURY OF DENTISTRY

Dental Care Can Be Key to Success

Gardner P. H. Foley

One of my favorite dental literary interests is the story of a person who has been greatly helped in achieving a high level of recognition by the vitally important contribution made to his health and welfare by the dental services he received. The publicity usually given to this type of dental care by the lay press is of a nature to create in the minds of the readers an increased respect for the services rendered by members of the dental profession.

In 1938 a writer seeking information on the early bands in New Orleans, interviewed Louis Armstrong. "Satchmo" suggested that the writer look up Bunk Johnson in New Orleans. Bunk had originated the New Orleans style of trumpet playing and had become one of the all-time great jazzmen. A jazz group located Bunk in New Iberia, La. After giving a review of the early history of jazz, Bunk said that he would still be a great trumpeter if only he had the money to get a good set of false teeth. The money for the dentures was quickly raised and Bunk, at 60, was able to return to his former greatness for several years of classical performance. Because of the dentures his playing was recorded and will stand as part of the heritage created by those musicians who led the way in "the development of what has become one of this country's few contributions to world culture."

Willie Mays very probably would not have made it to the baseball Hall of Fame but for the dramatically effective dental treatment he received early in his career. When Willie came to Minneapolis to join the minor league Millers, his teeth were in woeful condition: many of them abscessed and some of them mere stumps. Rosy Ryan, former major league pitcher and then general manager of the Millers, guided his star player through a program of oral rehabilitation that eliminated the conditions that undoubtedly would have led to more general afflictions. Thus did dentistry contribute most valuably to the progress of a great player that led to Cooperstown.

The third in this shining series that celebrates by incidence the worth of the dental profession in its dedicated services to the public has as its memorable subject a famous football player. Richard Dent was an eighth-round draft choice of the Chicago Bears in 1983—the two hundred and third pick. He became a star defensive end and in one season had seventeen sacks. In the 1986 Super Bowl his superb playing won for him national recognition. Dent, from Atlanta, had been an all-state player in high school. At Tennessee State he set a record of thirty-nine career sacks. But there was a question whether he would be big enough to make the Bears team as a defensive lineman. In his senior year in college he weighed only 224. When he appeared at his first Chicago meeting, the coaching staff observed that he was in critical need of dental care. At Tennessee State he had not had enough money to secure dental treatment; the result of total neglect was a large number of enlarging cavities and other oral problems. Dent was taken that first day to a dentist, with the coaches hoping that complete treatment of his dental needs would solve his weight handicap. With his mouth restored to a healthy condition, Dent soon grew to 256 pounds—"a real monster of the Midway." Certainly it may truthfully be said that the expert services of a dentist made an important contribution to the creation of a great football player.

The Rejected Volunteer

The subject of this note is Dr. William Henry Richards, who merits distinction as the only American dentist to have a published poem written about him. Richard was born in Salem, Va., the son of Dr. William M. Richards, a well educated and skillful physician. The son entered the Baltimore College of Dental Surgery in 1874. Following a rather common trend in formal dental education of that period, Richard began practice in 1875. However, he returned to the B.C.D.S. in 1877 and completed the
A two-year course, receiving the D.D.S. degree in 1878.

Dr. Richards had achieved fame as a lad of twelve who sought to enlist in Company E, Eighth Virginia Infantry, Pickett's Division. When told that he was too young to carry a gun or walk with a drum, the juvenile patriot replied: "I can cheer and carry water." Impressed by the boy's eagerness to join them, the men of the company decided to take him with them. After the war, Lucy D.A. Tipton wrote the poem "Rejected Volunteer" in honor of the little fellow who became the idol of the soldiers of Company E. The Tipton poem became widely known from its selection by anthologists of Southland poetry. The fact that Dr. Richards became a resident of the Tennessee home for Confederate soldiers in Nashville indicates the official recognition accorded him by the state veterans administration.

For many reasons dentures have been the subject of lively anecdotes that are to be found only in the peripheral sources of dental history. Most of them have appeared in the lay literature, for the formal presentations of the story of dentistry have not included them. Perhaps the writers of the latter classification have deemed them to be unworthy of their attention, or they have failed to realize the possible interest of their readers in the anecdotes as a relatively minor but instructive (and entertaining) element of their professional embracement. As for this writer, I collect dental anecdotes, and I have used scores of them in my writings.

There are many stories of the use of dentures to impress or astound natives who were threatening the civilized wearers. One of them concerns an encounter between a lady missionary in Africa and a powerful witch doctor. The missionary made the witch doctor publicly admit that persons cannot move their teeth. Then with a slight pressure of her tongue on her upper plate she caused her false teeth to descend.—General McCarver, the primary founder of Tacoma, Wash., was highly regarded by the Indians in that area. They accidentally observed his ability to take out and replace his teeth. This feat profoundly impressed them and increased the awe in which he was held.Δ

Special Uses For Dentures
CURRENT AND PROJECTED DENTAL ECONOMICS ARE IMPROVING

H. Barry Waldman*

A review of current annual dental expenditures and projections of expenditures, together with a study of IRS dental practice gross receipts and national reports on use patterns of dental services, demonstrate improvements in the economics of dentistry.

"Determining dental practitioner income is more than just a statistical exercise. The reports of variations... impact on all aspects of the profession..." (1)

The periodic reports on practitioner earnings presented by the American Dental Association, federal agencies and the profession's trade publications provide a complex picture which can raise more questions than they answer. In addition to the variations in reported earnings which arise from differing and at times questionable survey procedures and data presentation, the determination of "actual earnings" is complicated by the system of allowable deductions for tax purposes.

"The dental profession has learned some valuable lessons from corporate America. The name of the game is to get the money into (sic) the overhead of the practice—health benefits, vacations, the company car, tax shelters, IRAs, Keogh Plans. Dentists have learned to place these items into overhead and make it tax deductible." (2)

Thus, any effort to describe the evolving economics of dental practice since the mid 1970s (a period of both profound change in the profession, as well as discord between practitioners, dental educators and third party administrators) could be complicated by complex business accounting procedures. Nevertheless, it is essential to describe accurately the developments in dental practice economics as the number of dental school graduates decline, traditional practice configurations give way to a host of commercial forms and practice combinations, dental needs change and third party payments systems provide increased coverage for dental services.

To this end, the following review will use the inter-related but independently developed information from the:

1) Health Care Financing Administration—annual dental expenditures,
2) Internal Revenue Service (IRS)—dental practice gross business receipts, and
3) National Health Interview Survey—statistics on the use of dental services.

Such an approach does provide a mechanism to review the evolving economics of dental practice without the complex problems of tax accounting procedures. While the...
accuracy of the information is limited by sampling procedures, these data should reflect more accurately the changing economics of dental practice, as well as the changing patterns of demand for dental services. For example, IRS gross receipts data are based on samples of actual tax returns from all dental offices; rather than approximations (which could be subject to intentional or unintentional variations) by respondent practitioners to particular surveys by the American Dental Association or trade publications. However, one must consider the reality that business receipts may be under-reported on tax returns.

**National Dental Expenditures**

There have been dramatic percent increases in national dental spending since the last recession. For example, between 1983 and 1984, dental expenditures increased between 1 1/2 and 2 1/2 times the rate of increase of other components of the health services economy. Despite a continuing increase in number of professionally active dentists,* current and constant dollar** expenditures per professionally active dentist are now greater than pre-recession expenditure rates. The decrease in constant dollar expenditures per professionally active dentist during the recession between 1979 and 1981 has been reversed. And most significant, the increase in constant expenditures per dentist is projected to continue to even greater levels through 1990—once again, despite increasing numbers of dentists. (Table I)

**Changing Practice Arrangements**

In response to the evolving economics and delivery requirements of dental services, there has been continuing decrease in the number of dentists in sole owner practices and an increase in the number of dental partnerships and corporations. (Table II) However, because of limitations in IRS summary tax reports, comparison of various practice modalities is not possible. For example, IRS reports on dental corporations do not permit a review by the number of dentist or general staff employees.

**Business Receipts**

Current dollar business receipts for sole owner, per partner and per corporation practices increased throughout the recession of the late 1970s and early 1980s. However, a review of business receipts in terms of constant dollars more accurately

*Includes: clinical practitioners, dental school faculty, armed forces dentists, government employed dentists, hospital staff dentists, etc. The number of professionally active practitioners is based upon reports by the Bureau of Health Professions and is used by the Health Care Financing Administration for projecting number of active dentists. However, such data are overestimates of practitioners who would provide clinical service. In addition, it does not take into consideration variations in practice patterns; e.g. female vs. male practice activity. Therefore, expenditures per active dentist should be considered as conservative estimates of expenditures per clinical practitioner.

**Constant dollar presentations reflect expenditures with the effects of inflation eliminated.**
Table I. Number of professionally active dentists, current and constant dollar national expenditures per active dentist: selected years 1975-1984; projections 1988, 1990.3-5,7

<table>
<thead>
<tr>
<th>Year</th>
<th>Professionally Active Dentists*</th>
<th>National Expenditures (Billions)</th>
<th>Expenditure Per Active Dentist</th>
<th>Consumer Price Index</th>
<th>Constant Dollar Expenditure Per Dentist</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>112,450</td>
<td>$8.2</td>
<td>$72,921</td>
<td>161.3</td>
<td>$45,208</td>
</tr>
<tr>
<td>1979</td>
<td>123,500</td>
<td>13.5</td>
<td>109,312</td>
<td>217.6</td>
<td>50,235</td>
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<tr>
<td>1980</td>
<td>126,240</td>
<td>15.4</td>
<td>121,989</td>
<td>246.9</td>
<td>49,408</td>
</tr>
<tr>
<td>1981</td>
<td>129,180</td>
<td>17.3</td>
<td>133,921</td>
<td>272.2</td>
<td>49,199</td>
</tr>
<tr>
<td>1982</td>
<td>132,010</td>
<td>19.5</td>
<td>147,716</td>
<td>288.5</td>
<td>51,201</td>
</tr>
<tr>
<td>1983</td>
<td>135,120</td>
<td>21.7</td>
<td>161,338</td>
<td>297.3</td>
<td>54,267</td>
</tr>
<tr>
<td>1984</td>
<td>137,960</td>
<td>24.6</td>
<td>178,325</td>
<td>311.1</td>
<td>57,320</td>
</tr>
<tr>
<td>1985</td>
<td>140,770**</td>
<td>27.1</td>
<td>192,512</td>
<td>322.2</td>
<td>59,749</td>
</tr>
<tr>
<td></td>
<td>Projected</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>147,730</td>
<td>35.2</td>
<td>238,272</td>
<td>364.4</td>
<td>65,387</td>
</tr>
<tr>
<td>1990</td>
<td>151,320</td>
<td>40.5</td>
<td>267,644</td>
<td>390.0</td>
<td>68,626</td>
</tr>
</tbody>
</table>

* Includes: clinical practitioners, dental school faculty, armed forces dentists, government employed dentists, hospital staff dentists, etc.

** Projected number of practitioners

reflects the evolving economic developments of practice. During the general period of the last recession, there was a decrease in constant dollar business receipts per practitioner (sole owner and partner) and per corporation. By the end of the recession, per practitioner and per corporation constant dollar business receipts have once again increased. (Table III)

Use of Dental Services

During the past 20 years, there has been a progressive increase in the use of dental services by virtually all segments of the population. In particular, since the last recession, the increase in the annual number of per capita dental visits and percent of the population with a dental visit in the past year was reported by:

a) young, middle age and older age individuals,
b) both men and women,
c) white and non-white racial groups,
d) individuals of all income categories,
e) residents of different geographic regions of the country, and
f) metropolitan and non-metropolitan residents.

In 1983, for the first time, it was reported by the National Health Interview Survey that,
a) one half of male respondents (49.9%) visited a dentist in the previous year,
b) over 70 percent of the population with an income of $35,000 or more visited a dentist in the previous year,
c) women, individuals between 45 and 64 years, and residents of the western geographic section of the country and standard metropolitan statistical areas averaged two or more annual dental visits.

In addition, the percent of non-white respondents that reported a visit to the dentist in the previous year decreased to 33.8 percent in 1980. By 1983, it increased to its highest rate—37.7 percent. (Tables IV and V)

Future Prospects

Federal government projections through 1990 for the overall growth of current dollar expenditures for dental services are somewhat tempered "due to a slow down in economy-wide inflation and the moderating rate of increase projected for dental insurance." Nevertheless, between 1983 and 1984, dental expenditures increased by 15.1 percent; between 1984 and 1985 they increased by 7.8 percent.

But projected overall developments in national dental expenditure patterns must be considered in terms of the anticipated number of dentists and the work activities of these practitioners. Thus, the impact of changing national expenditure rates on individual practitioners surely will be affected by the progressive decrease in entering places in dental schools. For example, between 1978 and 1985, there was a decrease of 1,458 entering places (a 23.1% decrease).

In addition, by the 1985/1986 academic year, the percent of women in the entering dental school classes had increased to 27.3 percent. It is projected that by the years 1990 and 2000, women den-

<p>| Table II. Tax return information: numbers of sole owner, partnership dental practitioners and corporations, selected years 1975-1983*&lt;sup&gt;8-13&lt;/sup&gt; |</p>
<table>
<thead>
<tr>
<th>-----------------------------------</th>
<th>----------------</th>
<th>----------------</th>
<th>----------------</th>
<th>----------------</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sole owners</td>
<td>82,735</td>
<td>82,265</td>
<td>85,517</td>
<td>71,918</td>
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<tr>
<td>Number of partnerships</td>
<td>2,241</td>
<td>3,609</td>
<td>4,834</td>
<td>8,722</td>
</tr>
<tr>
<td>Number of partners</td>
<td>4,863</td>
<td>5,055</td>
<td>12,364</td>
<td>13,022</td>
</tr>
<tr>
<td>Number of corporations</td>
<td>15,029</td>
<td>32,179</td>
<td>35,745</td>
<td>26,021*</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>*Fiscal year July to June</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Table III. Tax return information: current and constant dollar business receipts per sole owner and partner practitioner and dental corporation: selected years 1975-1983*<sup>8-13</sup> |
|---------------------------------------------------------------|----------------|----------------|----------------|----------------|
| Current Dollars:                                             |                |                |                |                |
| Sole Owner Per Partner Per Corp.                            |                |                |                |                |
| 1975 $62,410 $75,523 $179,920                                |                |                |                |                |
| 1979 83,850 85,726 238,188                                   |                |                |                |                |
| 1980 85,768 87,657 241,042                                   |                |                |                |                |
| 1981 89,780 87,915 278,384                                   |                |                |                |                |
| 1982 98,693 99,244 287,469*                                   |                |                |                |                |
| 1983 106,713 106,549 326,763*                                 |                |                |                |                |
| Constant Dollars:                                            |                |                |                |                |
| Sole Owner Per Partner Per Corp.                            |                |                |                |                |
| 1975 $38,691 $46,821 $111,544                                |                |                |                |                |
| 1979 38,534 39,396 109,461                                   |                |                |                |                |
| 1980 34,737 35,503 97,627                                    |                |                |                |                |
| 1981 32,983 32,297 102,196                                   |                |                |                |                |
| 1982 34,209 34,400 99,642*                                   |                |                |                |                |
| 1983 35,894 35,838 109,910*                                  |                |                |                |                |
| *Fiscal year July to June                                    |                |                |                |                |
tists will constitute 9.0 and 15.8 percent respectively, of the total active dental workforce. Estimates by the Health Resources and Services Administration (using ADA data), regional studies on the dental activities of female dentists, 1980 U.S. Census earnings data, and information from other countries, all indicate that, on average, female dentists are less available and provide less services than their male counterparts. Thus, in line with estimates of general population growth, and despite a forecasted national increase of professionally active dentists by approximately 10,000 dentists between 1985 and 1990, and 24,000 between 1985 and 2000, "the effective dentist to population ratio for the year 2000 could range from minimal change to an approximation of the 1982 ratio."

Yes, compared to many other health services, dental care is subject to more consumer cost-sharing, competitive forces in the industry and vagaries of the economy. Yes, there are particular practitioners and particular locations that are experiencing difficulties. But overall, in the mid 1980s and at least for the rest of the decade,

the economics of dentistry are favorable! △

References
4. U.S. Department of Health and Human Services, Bureau of Health Professions. Fifth Report to the President and Con-

Table IV. Number of per capita annual dental visits by selected demographic characteristics: selected years 1964–1983

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>All ages</td>
<td>1.6</td>
<td>1.6</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Less than 17 years</td>
<td>1.4</td>
<td>1.6</td>
<td>1.7</td>
<td>1.9</td>
</tr>
<tr>
<td>17–44 years</td>
<td>1.9</td>
<td>1.7</td>
<td>1.7</td>
<td>1.8</td>
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<tr>
<td>45–66 years</td>
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<td>1.8</td>
<td>1.8</td>
<td>2.0</td>
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<tr>
<td>65 years and over</td>
<td>0.8</td>
<td>1.2</td>
<td>1.4</td>
<td>1.5</td>
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<tr>
<td><strong>Gender</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>All males</td>
<td>1.4</td>
<td>1.5</td>
<td>1.5</td>
<td>1.7</td>
</tr>
<tr>
<td>All females</td>
<td>1.7</td>
<td>1.7</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
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<tr>
<td>White</td>
<td>1.7</td>
<td>1.7</td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Non-white</td>
<td>0.9</td>
<td>1.0</td>
<td>1.0</td>
<td>1.2</td>
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<tr>
<td><strong>Family Income</strong>*</td>
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<td></td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>0.9</td>
<td>1.1</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>$10,000–$14,999</td>
<td>0.9</td>
<td>1.2</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>$15,000–$19,999</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>$20,000–$34,999</td>
<td>1.9</td>
<td>1.6</td>
<td>1.7</td>
<td>2.2</td>
</tr>
<tr>
<td>$35,000 or more</td>
<td>2.8</td>
<td>2.2</td>
<td>2.4</td>
<td>2.7</td>
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<tr>
<td><strong>Geographic region</strong></td>
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<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>2.1</td>
<td>1.9</td>
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<tr>
<td>North Central</td>
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<td>1.7</td>
<td>1.6</td>
<td>1.8</td>
</tr>
<tr>
<td>South</td>
<td>1.2</td>
<td>1.3</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>West</td>
<td>1.8</td>
<td>1.8</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Location of residence</strong></td>
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<tr>
<td>Within SMSA***</td>
<td>1.8</td>
<td>1.8</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Outside SMSA</td>
<td>1.2</td>
<td>1.3</td>
<td>1.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>

*Income categories are adjusted for inflation in each recorded year
**SMSA = Standard Metropolitan Statistical Area
### Table V. Percent of population with a dental visit within the last year by selected demographic characteristics: selected years 1964-1983

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All ages</td>
<td>42.0%</td>
<td>50.3%</td>
<td>49.8%</td>
<td>51.8%</td>
</tr>
<tr>
<td>Less than 17 years</td>
<td>41.6</td>
<td>51.4</td>
<td>50.1</td>
<td>50.6</td>
</tr>
<tr>
<td>17-44 years</td>
<td>50.0</td>
<td>55.8</td>
<td>54.3</td>
<td>56.6</td>
</tr>
<tr>
<td>45-64 years</td>
<td>38.4</td>
<td>48.1</td>
<td>49.4</td>
<td>51.9</td>
</tr>
<tr>
<td>65 years and over</td>
<td>20.8</td>
<td>30.3</td>
<td>32.8</td>
<td>37.8</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>All males</td>
<td>40.0</td>
<td>48.1</td>
<td>47.7</td>
<td>49.9</td>
</tr>
<tr>
<td>All females</td>
<td>43.9</td>
<td>52.4</td>
<td>51.9</td>
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<tr>
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<td>44.7</td>
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<tr>
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<td><strong>Family Income</strong></td>
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<td>$10,000-$14,999</td>
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<td>49.5</td>
<td>52.2</td>
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<td><strong>Location of residence</strong></td>
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<tr>
<td>Outside SMSA</td>
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<td>45.1</td>
<td>45.5</td>
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</tr>
</tbody>
</table>

*Income categories are adjusted for inflation in each recorded year

**SMSA = Standard Metropolitan Statistical Area

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HIGHLIGHTS FROM REGENT REPORTS

A condensation of comments, highlights, projects and special events as reported in the comprehensive Regent Reports to the ACD Board of Regents on October 17, 1986

Regency 1: Sumner H. Willens

Attendance at meetings is a problem with all Sections. Most Sections have good attendance only at meetings when the meeting is associated with large dental meetings such as the Yankee Dental Congress or the Greater New York Meeting.

An exception is the Western New York Section where attendance is good and activity is high. With only 96 members, the Section produced nine candidates for induction into the College at the 1986 Convocation.

Regency 2: Joseph P. Cappuccio

The New Jersey Section has been extremely active and successful. It runs an excellent placement service for graduating seniors, with the cooperation of the New Jersey Dental Association and the various dental colleges in the state of New Jersey. It has been a very successful program.

The Maryland Section held its Fourteenth Annual student all-day meeting at the University of Maryland Dental School. The meeting features about twenty table clinics by Section members for approximately 100 students. The student day has proven to be a very successful venture for the Section.

The Metropolitan Washington DC Section takes advantage of its location to invite speakers who are prominent members of Congress or are otherwise involved in legislative affairs of interest to the dental profession. This Section has a very successful newsletter and a student award program.

Regency 3: James A. Harrell, Sr.

Every Section should have an annual meeting which is separate from any other organization. Sections need to offer more social and scientific benefits to their members. The College should investigate the possibility of sponsoring Junior American College Sections in each dental school; this would promote better ethics and professionalism starting in the schools and promote early exposure to other ideals of the College. Many Sections now have annual student awards but we should also establish an annual faculty award for professionalism and ethics at each dental school.

Regency 4: W. Robert Biddington

The Illinois Section held its annual Midwinter Luncheon with its usual large attendance and impressive VIP list. Four senior dental students, one from each of the four Illinois dental schools, were presented with the ACD Award of Merit. The awards were presented individually by the deans of the four dental schools.

This year the Illinois Section inaugurates its dental fellowship for a graduating senior dental student. The program is a one-year clinical experience in the office of Dr. Joseph Morganelli, a respected general practitioner and a member of the College.

The West Virginia Section has planned its second conference on the SELECT Program for recruitment of quality students to the dental profession.
Regency 5: Robert E. Doerr

The Iowa Section has a program of contacting recent graduates who locate in Iowa so that Fellows can act as volunteer advisors to help new practitioners. This is called the "Silent Adoption" program.

The Michigan Section has a special committee to study the complex problems related to practice and ethics.

The Upper Midwest Section has its ethics project which has become the primary activity for the Section. Entitled, "Senior Dental Student Feedback Sessions—American College of Dentists," the course at the University of Minnesota Dental School has proven to be popular with the students. Section Fellows are appointed annually to serve as consultants and expert assessors. The course is the responsibility of Dr. Muriel Bebeau.

The Wisconsin Section has initiated a newsletter, edited by Dr. Prem Sharma, with much information for the membership. The first issue also contained a questionnaire soliciting information from the Section Fellows.

Regency 6: Robert E. Lamb

It was a privilege for me, along with Past Regent Robert Coker, to charter the new Arkansas Section.

The Texas Section sponsored its Ninth Annual ACD Continuing Education Program at Baylor College of Dentistry in Dallas. This program, which rotates each year to one of the three Texas dental schools, is open to all dentists with no registration fee.

Regency 7: Thomas W. Slack

The College is in a unique position to devote itself to the problems of ethics and education. We should direct our energies to upholding ethical standards and to placing quality controls on continuing education programs.

The Southern California Section presented its annual achievement awards to senior dental students from the three area dental schools. The Section is in a state of re-organization and resurgence; it has enlarged its Executive Committee,—its scope of activities and has a new publication called the "ACOLADE" edited by an experienced dental editor, William E. Dahlberg. Its first issue was impressive.

The Arizona Chapter of the Southern California Section met in Phoenix to organize their group.

The Colorado Section Meeting heard ADA President—Elect Joseph Devine and honored Gordon Christensen as the Section "Man of the Year."

The New Mexico State Dental Meeting was dedicated to Ralph Lopez. This Regent had the distinct honor of also presenting to Dr. Lopez a plaque from the College to recognize his many contributions to the profession.

Regency 8: Albert Wasserman

The opportunities that Regents have in visiting various Sections are not only personally rewarding and provide an enlarged perspective of the College, but the advantages of personal communications and contacts assist the Regents to do a better job in carrying out their duties.

The Hawaii Section plans to continue its Operation Bookshelf, an ongoing project that the Section has worked on for many years. Dental books and periodicals are donated by Section members, packaged up and shipped to Southeast Asia, with assistance by the U.S. Navy.

The Oregon Section, in conjunction with the University of Oregon School of Dentistry, held its 2nd Annual American College of Dentists Program. All of the faculty members conducting the program were members of the College. The all day continuing education course on periodontics was followed with a dinner meeting.

In an effort to make dentists more aware of ethics in practice, the Montana Section will distribute the ACD Booklet, "Dentistry—A Health Service," together with a cover letter to all dentists in the Montana District 1 area. All candidates for the Montana State Board will also receive the booklet. Section members were to write articles on the subject of ethics for the Montana Dental Association Newsletter.

The Washington-British Columbia Section maintains a scholarship fund to help provide a scholarship to each of the two area dental schools each year.

The Northern California Section has presented its annual Outstanding Student Awards to students from each of the dental schools in the San Francisco area. In addition, it has contributed $1,000 to each of the schools annually. The Section also has donated $500 to the ACD Foundation, an annual contribution it has made for several years.

The Northern California Section has organized a network of local Fellows throughout the Section's geographic area to contact Fellows in their area to support the Section's lecture programs, to encourage new graduates and offer them guidance and support, to maintain contact with inactive ACD members and to encourage Fellows to submit nominees for Fellowship.
Charles W. Fain, Jr. recently received the Emory University 1986 Dental Alumni Association Award of Honor in recognition of a career devoted to children's dental care. Dr. Fain was also one of ten alumni who received an honorary degree in recognition of his extraordinary professional achievement in service to Emory and its community. Dr. Fain is a past president of the Florida Dental Association, the Florida Society of Pedodontists and the American College of Dentists.

William S. Brandhorst of St. Louis, was recently honored by being presented the 1986 Distinguished Alumnus Award of the Washington University Dental Alumni Association. Dr. Brandhorst has served as president of the St. Louis Dental Society, the Missouri Orthodontic Society and the Missouri Dental Association. He has also served as vice president of the American Cleft Palate Association.

Prem S. Sharma was elected president-elect of the American Society of Dentistry for Children at the Society’s annual meeting in Dallas recently. Dr. Sharma is the Associate Dean for Academic Affairs at Marquette University School of Dentistry.

Jose Medina recently received the Florida Blue Key Distinguished Faculty Award in honor of nearly two decades of leadership at the University of Florida College of Dentistry. In 1967, Dr. Medina helped start the University of Florida College of Dentistry where he was named dean in 1969. He was appointed director of the J. Hillis Miller Health Center in 1974 and was named University of Florida assistant vice president for facilities planning in 1976.

Frank J. Romeo was recently installed president of the Maryland State Dental Association. Dr. Romeo is a Diplomate of the American Board of Oral and Maxillofacial Surgery and has served as the president of the Baltimore City Dental Society and the Maryland Dental Society of Anesthesiology. He is also the president-elect of the Maryland Society of Oral and Maxillofacial Surgeons.

Burton S. Wasserman was recently installed president of the American Association of Hospital Dentists. Dr. Wasserman is director of Dentistry, Booth Memorial Medical Center, Flushing, New York, as well as a clinical professor of dentistry, Division of Community Dentistry, Columbia University School of Dental and Oral Surgery.

Bashar Bakdash, professor of Periodontology and Public Health at the University of Minnesota
School of Dentistry, was recently named the 1986 School of Dentistry Century Club Professor of the Year. The club is an organization of the University of Minnesota School of Dentistry's Alumni Association. Dr. Bakdash was honored for his extensive teaching, research, and service activities.

Robert E. Gaylord

Robert E. Gaylord was recently honored by the Baylor College of Dentistry when it announced the establishment of the Dr. Robert E. Gaylord Endowed Chair in Orthodontics. Dr. Gaylord enrolled the first class in graduate orthodontics at Baylor College of Dentistry in 1961 and served as chairman of the department from 1965 to 1979. He has served as the president of the American Association of Orthodontists and is currently a member of the part-time faculty of the Baylor College of Dentistry.

Albert Wasserman of San Mateo, California, and ACD Regent, was recently elected Secretary of the California State Board of Dental Examiners. Dr. Wasserman was also appointed chairman of the Enforcement Committee of the Board.

Charles F. Bouschor, Lynden M. Kennedy and Phillip Earle Williams, were recently inducted into the Baylor College of Dentistry Hall of Fame in recognition of their distinguished service to the Baylor College of Dentistry and to the dental profession. Dr. Bouschor, professor emeritus, served as chairman of the Department of Operative Dentistry at Baylor College of Dentistry from 1949 until his retirement in 1973. Dr. Kennedy has served as the president of the American Dental Association, the American College of Dentists, the...
Texas Dental Association, the Texas Academy of General Dentistry and the Texas State Board of Dental Examiners. Dr. Williams has served as president of the American Board of Oral Surgery, the American College of Dentists and the Texas Dental Association. He was national president of Psi Omega Dental Fraternity and first vice president of the American Dental Association.

Faustin N. Weber was recently honored by the University of Tennessee College of Dentistry by the establishment of the Weber Orthodontic Research Fellowship. Dr. Weber is professor emeritus of Orthodontics at the University of Tennessee College of Dentistry where he initiated the first graduate program in Orthodontics in 1941.

Anthony S. Mecca was recently honored by the Dental Associates and Patrons of the New York University College of Dentistry for his 60 years of continuous distinguished service as a faculty member of the college of dentistry. Dr. Mecca is a clinical professor of Oral and Maxillofacial Surgery at New York University College of Dentistry. Active in alumni and civic affairs, he is a founder and two-time president of the Italian Dental Society and a past president of the First District Dental Society.

James A. Saddoris was elected president-elect of the American Dental Association and will be installed president at the Association's annual meeting in Las Vegas in October, 1987. He is presently, also, serving as the treasurer of the American Fund for Dental Health. Dr. Saddoris, a general practitioner from Tulsa, Oklahoma, has served as the trustee for the 12th District of the American Dental Association, as well as the president of the Oklahoma Dental Association.

Abram I. Chasens was recently honored by the American Academy of Periodontology by being presented a gold medal and check for $1,000 in recognition of outstanding contributions to the field of Periodontology. Dr. Chasens, who is a professor and chairman of the Department of Periodontics and Oral Medicine and director of Graduate Periodontology at Fairleigh S. Dickinson, Jr. College of Dental Medicine, donated the money to the Periodontics Post-Doctoral Advancement Fund of the college. Dr. Chasens was also presented with a plaque by the American Board of Periodontology for his services as a Director of the Board from 1980 to 1986, and as the Chairman of the Board in 1986.

Dr. Chasens is a Diplomate of the American Board of Periodontology and of the American Board of Oral Medicine. He has served as the president of the New Jersey Society of Periodontists, the Northeastern Society of Periodontists and the American Academy of Oral Medicine.
Metropolitan Washington

The Metropolitan Washington section held its fall meeting at the Naval Medical Center in Bethesda with Dr. William Allen, ADA Director of Legislative Affairs as the speaker. Executive Director, Gordon Rovelstad, was presented a check of $500 for the American College of Dentists’ Foundation. The Metropolitan Washington section provides this support to the Foundation on an annual basis. The Section officers are: Joseph R. Salcetti, Chairman; James T. Jackson, Vice Chairman; Stanley P. Hazen, Secretary/Treasurer and Aida A. Chohayeb, Editor.

New Jersey

The New Jersey Section has implemented a program to assist recent graduates and residents in obtaining employment, associate-ships or in purchasing practices. The program, conceived by ACD President Dr. H. Curtis Hester, is in its third year and has already proven to be quite successful. Senior dental students and graduate students from the two dental schools in the state are invited to submit resumes which are then published in a booklet. A full page advertisement is placed in two issues of the New Jersey State Dental Association Journal each year, informing practitioners of the program and asking those interested to submit resumes for inclusion in the booklet.

Further information on this innovative program may be obtained from the Section Secretary/Treasurer, Dr. Anthony La Forgia, 35 Woodmont Road, Upper Montclair, New Jersey, 07043.

Western New York

The Western New York Section capped off a busy year on Saturday, November 15, with a business meeting followed by a fun-filled “Night at the Races”.

Earlier in the year, 25 fellows, accompanied by their spouses, attended the section’s spring meeting at the Owasco Lake Home of Section Chairman, Dr. Thomas A. Clary.

Dr. Newton E. White was presented with the “Honor Man of the Year” award for the Section. The business meeting was followed by a dinner cruise on Skaneateles Lake.

Wisconsin

The Wisconsin Section recently co-hosted a Continuing Education seminar in Milwaukee with Marquette University School of Dentistry for practicing dentists, dental hygienists and other health care professionals. Dr. Juan M. Navia, Professor of Nutrition University of Alabama, gave a presentation on “Nutrition and Dietary Habits Compatible with Good Oral Health”. The presentation was followed by a reception. This Continuing Education seminar is one of two meetings conducted by the Section annually.
A strong element of similarity exists between military and civilian dental practice, however, differences do exist. The typical civilian dentist is self-employed and provides care in a private practice on a fee-for-service basis. In contrast, the Army dentist is an employee, providing care in a group practice for a salary. In addition, the Army dentist has dual roles as a clinician and a military officer. The American Dental Association provides current information on civilian practice. The same type of information has not been available for Army dental practice. Previous studies have focused on military specific problem areas. The purpose of the Survey of Army Dental Practice was to obtain data with which to compare civilian and Army dental practice.

During May 1984, all Army Dental Corps officers were requested to complete a Survey of Army Dental Practice. This survey, in optical mark-read format, was patterned after the 1982 American Dental Association Survey of Dental Practice. The completed forms were read and analyzed using an SPSS statistical package. For the purposes of this paper, the term "general dentist" refers to a "general practitioner"; a dentist without residency training. The term "solo practitioner" was defined in the ADA survey as a dentist who worked in a "solo dental practice." An "independent dentist" was defined "as one who is an owner, full or in part, of a private practice." The Army dentist trains several weeks each year to prepare to live and work under field conditions and to provide acute trauma life support to augment the physician's efforts during mass casualty periods. This time is not included in the comparisons made between civilian and Army dental practice.

**Results:**

Seventy seven percent (1359) of Army Dental Corps officers responded to the survey. Because the distribution of dental officers is highly skewed toward recent graduates (Figure 1), median values are to be used to characterize Army dental practice in Part 1. Comparisons of Army and civilian dental practice, in Part 2, are made on the basis of means since this is how the data were reported in the ADA survey.

**PART 1: Army Dental Practice.**

A profile of Army dentists is given in Table 1. It shows that the "typical" Army general dentist is 31 years old, has had no civilian practice experience, and has had four years of military practice. He has moved twice, and has 16 more years to a 20 year retirement. The "typical" Army specialist is 40 years old, and like the general dentist, has had no civilian practice. He has had 13 years of military practice, seven years experience in his specialty, moved six times, and has eight more years to retire. As seen in Figure 2, virtually all Dental Corps officers who have more than 10 years of service are dental specialists. Preliminary data from a related study indicate that specialty procedures commonly performed by both general dentists and specialists are done by specialists faster. This leads to increased productivity and less cost per procedure since the Army specialist is paid no more than his non-specialist peer of the same years of experience and rank.

**PART 2: Army and Civilian Dental Practice.**
The proportion of Army dental specialists is shown in Figure 3. Thirty-one percent have achieved diplomate status. Three percent have received special "professorial-level" recognition from the Surgeon General for their professional achievements. (Figure 4)

Professional activities of Army general dentists and dental specialists are shown in Figure 5. Eighty-four percent of Army general dentists have at least one state license, 75 percent belong to a professional organization, and 95 percent reported attending at least one dental meeting during the past year. Figure 5 also shows that specialists are more likely than the general dentists to have more than one state license, belong to more than one professional organization, and to have published in a professional journal.

The distribution of Army dentists' primary duties is shown in Figure 6. The majority of dental officers listed "clinical dentist" as their primary duty assignment. (Table 2) On the other hand, more specialists cited other categories such as "clinic director" or "program director" which require greater experience and training.
Table 1. Selected Characteristics of Army Dentists

<table>
<thead>
<tr>
<th></th>
<th>All Dentists</th>
<th>General Dentists</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean</td>
<td>median</td>
<td>mode</td>
</tr>
<tr>
<td>Age of Respondent</td>
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<td>Years of Civilian Practice</td>
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<td>Years of Military Practice</td>
<td>8.18</td>
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<td>2</td>
</tr>
<tr>
<td>Year Awarded Specialty</td>
<td>****</td>
<td>****</td>
<td>****</td>
</tr>
<tr>
<td>Years Left to Retire</td>
<td>12.09</td>
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<td>15</td>
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<tr>
<td>Number of Moves</td>
<td>3.8</td>
<td>3</td>
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</table>

***Data were not appropriate for that cell.

Figure 2.

Figure 3.
Figure 4.

Figure 5.

Figure 6.
Army Dental Corps officers are frequently assigned additional administrative duties. (Table 3) After "other duties," "preventive dentistry officer," was listed more often by general dentists as an additional duty, while more specialists indicated "mentor."

**PART 2: Army dental practice versus civilian dental practice.**

Comparisons between the Army survey and the ADA survey were made on the following items:

- year of graduation
- hours per week in selected activities
- percentage of time treating patients by type of procedure
- number of auxiliary personnel per doctor
- equipment included in practice
- patient scheduling
- perceived practice busyness

The average Army dentist officer graduated in 1974, approximately ten years after his civilian counterpart in private practice. (Figure 1) How dental officers spend their practice time in comparison to civilian dentists is presented in Tables 4 and 5. Table 4 contains estimates for time spent in practice

<table>
<thead>
<tr>
<th>Table 2. Duty Assignment (%)*</th>
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</thead>
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<tr>
<td>All Dentists</td>
</tr>
<tr>
<td>Clinical Dentist</td>
</tr>
<tr>
<td>Program Director</td>
</tr>
<tr>
<td>Clinic Director</td>
</tr>
<tr>
<td>Unit Commander</td>
</tr>
<tr>
<td>Laboratory Officer</td>
</tr>
<tr>
<td>Headquarters Staff</td>
</tr>
<tr>
<td>Academy Instructor</td>
</tr>
<tr>
<td>Research Position</td>
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<tr>
<td>Other</td>
</tr>
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</table>

*Percentage of responses listed. Respondents are assigned one primary duty which is exclusive of other duties, thus total of responses, in each category equals 100%.

<table>
<thead>
<tr>
<th>Table 3. Additional Duties (%)*</th>
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<tr>
<td>All Dentists</td>
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<tr>
<td>Preventive Dentistry Officer</td>
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<td>Physical Training Officer</td>
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<tr>
<td>Deputy Commander</td>
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<tr>
<td>Supply Officer</td>
</tr>
<tr>
<td>Education Officer</td>
</tr>
<tr>
<td>Precious Metals Officer</td>
</tr>
<tr>
<td>Program Mentor</td>
</tr>
<tr>
<td>Other Duties</td>
</tr>
</tbody>
</table>

*Percentage of cases listed. Respondents may be assigned several additional duties; total of responses may exceed 100%.
activities, and Table 5 gives the proportion of treatment times spent in performing selected dental procedures. Army dentists reported they spend 33.4 hours per week treating patients, while the ADA Survey reported that civilian solo dentists and independent dentists spend 32.0, and 32.4 hours per week, respectively. Army general dentists had the longest amount of patient treatment time: 35.4 hours versus 32.4 for the independent civilian dentist and 32.1 for the solo civilian dentist. Army specialists report spending slightly less time per week treating patients (30.3 hours) than either solo specialists (31.3 hours) or independent specialists (31.7 hours). Professional reading accounted for 4.7 hours of the Army specialist’s week, almost twice as much time spent than either the solo specialist or the independent specialist (2.4 and 2.5 hours respectively). All categories of Army dentists reported spending more time in administrative and clerical activities than their civilian counterparts. Army dentists said they spent an average of 3.2 hours per week completing records compared to independent dentists who reported 1.9 and solo dentists who reported 1.8 hours per week filing pre-payment forms and bookkeeping.

Army dentists reported spending more time in diagnosis and less time in preventive activities (10.8 percent and 3.6 percent) than did the solo civilian (9.6 percent and 9.5 percent) or the independent civilian dentist (9.6 percent and 8.6 percent). Civilian dentists reported spending more time in operative dentistry (38.0 percent and 37.5 percent) than Army practitioners (27.7 percent). Dental officers spent more time in prosthodontics (17.6 percent) than either category of civilian dentist (14.4 percent and 14.8 percent). The same trend was evident in the practice of oral surgery with Army dentists spending more of their time in surgical procedures (11.0 percent) than both categories of civilian dentists (6.5 percent and 6.5 percent). Army specialists reported spending almost twice as much time in diagnostic procedures: 14.3 percent versus 7.5 percent and 7.9 percent for the solo and independent specialists.

Table 6 makes comparisons for number of chairside assistants, types of equipment available, number of operators utilized, and work simplification techniques. Army dentists report having slightly more dental assistants than do civilian solo dentists (1.5 versus 1.2 respectively). More Army dentists report using “four-handed dentistry” techniques (62.4 percent) than either solo or independent dentists (54.2 percent and 57.3 percent), although Army dentists also reported they had fewer operating rooms available to them (1.8) than did their civilian counterparts (2.6 and 3.2).

There was little difference between civilian and military dentists in the use of light cured composite restorations. More Army dentists, however, use fiber optic handpieces and panoramic X-ray units than civilian dentists. On the other hand, fewer Army dentists use electrosurgical units and nitrous oxide analgesia than do their civilian counterparts.

Table 7 compares the number of patients seen per week by civilian and Army dentists. Although Army and civilian dentists spend about the same amount of time per week treating patients (Table 6), Army dentists see a larger number of non-scheduled patients than either civilian category; Army dentists also schedule fewer patients per week than solo and independent dentists (43.4 versus 58.1 and 58.9). Civilian specialists reported scheduling twice as many patients per week within virtually the same amount
Table 4. Hrs/Wk in Selected Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>All Dentists</th>
<th>General Dentists</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Army Solo*</td>
<td>Indep*</td>
<td>Army Solo*</td>
</tr>
<tr>
<td>Treating Patients</td>
<td>33.4</td>
<td>32.0</td>
<td>32.3</td>
</tr>
<tr>
<td>Laboratory Procedures</td>
<td>2.8</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Completing Records**</td>
<td>3.2</td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Professional Reading</td>
<td>3.9</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Personnel Matters</td>
<td>1.9</td>
<td>***</td>
<td>1.9</td>
</tr>
<tr>
<td>Personal Time/Other</td>
<td>***</td>
<td>4.6</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**The Army survey asked for time to complete dental records and forms. The ADA survey times for bookkeeping and filing prepayment forms were combined.
***The Army survey asked for time required for administrative purposes such as maintenance of the dental officer's personnel records.

Table 5. Percentage of Time Spent in Selected Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>All Dentists</th>
<th>General Dentists</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Army Solo*</td>
<td>Indep*</td>
<td>Army Solo*</td>
</tr>
<tr>
<td>Diagnostic Procedures</td>
<td>10.8</td>
<td>9.6</td>
<td>9.6</td>
</tr>
<tr>
<td>Prevention</td>
<td>3.6</td>
<td>9.5</td>
<td>8.6</td>
</tr>
<tr>
<td>Adjunctive Services**</td>
<td>5.9</td>
<td>6.4</td>
<td>6.3</td>
</tr>
<tr>
<td>Palliative/Emergency**</td>
<td>6.3</td>
<td>6.3</td>
<td>6.3</td>
</tr>
<tr>
<td>Operative Dentistry</td>
<td>27.7</td>
<td>38.0</td>
<td>37.5</td>
</tr>
<tr>
<td>Endodontics</td>
<td>7.6</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Prosthetics</td>
<td>17.6</td>
<td>14.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Periodontics</td>
<td>5.8</td>
<td>5.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>3.7</td>
<td>7.6</td>
<td>7.6</td>
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<tr>
<td>Oral Surgery</td>
<td>11.0</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>General Practice***</td>
<td>3.4</td>
<td>3.4</td>
<td>3.4</td>
</tr>
</tbody>
</table>

**The Army survey asked for ADJUNCTIVE and PALLIATIVE/EMERGENCY SERVICES in separate categories.
***The ADA survey asked for GENERAL PRACTICE activities.

Table 6. Selected Practice Characteristics

A. Use of selected equipment and techniques (%)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>All Dentists</th>
<th>General Dentists</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Army Solo*</td>
<td>Indep*</td>
<td>Army Solo*</td>
</tr>
<tr>
<td>Composite Light Cure</td>
<td>50.3</td>
<td>47.7</td>
<td>49.3</td>
</tr>
<tr>
<td>Fiber Optic Handpiece</td>
<td>61.7</td>
<td>26.0</td>
<td>27.8</td>
</tr>
<tr>
<td>Panoramic X-ray</td>
<td>81.4</td>
<td>27.3</td>
<td>31.5</td>
</tr>
<tr>
<td>Electrosurgical Unit</td>
<td>29.7</td>
<td>36.8</td>
<td>39.5</td>
</tr>
<tr>
<td>Nitrous Oxide Analgesia</td>
<td>28.6</td>
<td>45.4</td>
<td>49.6</td>
</tr>
<tr>
<td>% &quot;4-Handed Dentistry&quot;</td>
<td>62.4</td>
<td>54.2</td>
<td>57.3</td>
</tr>
</tbody>
</table>

B. Mean number of chairside assistants and operators

<table>
<thead>
<tr>
<th></th>
<th>No. of Chairside Asstn.</th>
<th>No. of Operators Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Dentists</td>
<td>1.5</td>
<td>1.6</td>
</tr>
<tr>
<td>General Dentists</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Specialists</td>
<td>1.7</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Data given only for "all dentists."
Table 7. Number of Appointments, Patient Visits Per Week, and Waiting Times For Patients of Record

<table>
<thead>
<tr>
<th></th>
<th>Army mean</th>
<th>Army median</th>
<th>All Dentists Solo* mean</th>
<th>All Dentists Solo* median</th>
<th>Indep* mean</th>
<th>Indep* median</th>
<th>General Dentists Solo* mean</th>
<th>General Dentists Solo* median</th>
<th>Indep* mean</th>
<th>Indep* median</th>
<th>Army mean</th>
<th>Army median</th>
<th>Specialists Solo* mean</th>
<th>Specialists Solo* median</th>
<th>Indep* mean</th>
<th>Indep* median</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Appointments:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Appointments/Week</td>
<td>43.4</td>
<td>40</td>
<td>58.1</td>
<td>50</td>
<td>59.9</td>
<td>50</td>
<td>45.5</td>
<td>43</td>
<td>53.6</td>
<td>50</td>
<td>54.1</td>
<td>50</td>
<td>40.3</td>
<td>30</td>
<td>90.4</td>
<td>70</td>
</tr>
<tr>
<td>2. Walk-In Patients/Week</td>
<td>8.9</td>
<td>5</td>
<td>2.5</td>
<td>1</td>
<td>2.6</td>
<td>1</td>
<td>8.7</td>
<td>5</td>
<td>2.6</td>
<td>1</td>
<td>2.7</td>
<td>1</td>
<td>9.3</td>
<td>5</td>
<td>2.0</td>
<td>0</td>
</tr>
<tr>
<td>3. Emergency Visits/Week</td>
<td>9.2</td>
<td>5</td>
<td>4.7</td>
<td>4</td>
<td>4.9</td>
<td>4</td>
<td>10.1</td>
<td>6</td>
<td>4.7</td>
<td>4</td>
<td>4.9</td>
<td>4</td>
<td>7.7</td>
<td>5</td>
<td>4.9</td>
<td>3</td>
</tr>
<tr>
<td>4. Patient Failures/Week</td>
<td>4.7</td>
<td>4</td>
<td>3.0</td>
<td>0</td>
<td>3.4</td>
<td>0</td>
<td>4.8</td>
<td>5</td>
<td>2.9</td>
<td>0</td>
<td>3.2</td>
<td>0</td>
<td>3.0</td>
<td>2</td>
<td>3.6</td>
<td>0</td>
</tr>
<tr>
<td>5. Number of Patients/Week**</td>
<td>56.8</td>
<td>46</td>
<td>62.1</td>
<td>55</td>
<td>63.0</td>
<td>55</td>
<td>59.5</td>
<td>49</td>
<td>58.1</td>
<td>54</td>
<td>58.7</td>
<td>54</td>
<td>54.3</td>
<td>44</td>
<td>92.2</td>
<td>70</td>
</tr>
<tr>
<td><strong>Patient Waiting Times:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. First Appointment (Days)</td>
<td>18.2</td>
<td>14</td>
<td>6.7</td>
<td>5</td>
<td>6.8</td>
<td>5</td>
<td>16.1</td>
<td>14</td>
<td>6.8</td>
<td>5</td>
<td>6.9</td>
<td>5</td>
<td>18.2</td>
<td>14</td>
<td>5.9</td>
<td>3</td>
</tr>
<tr>
<td>7. Time in the Waiting Room (Minutes)</td>
<td>6.3</td>
<td>5</td>
<td>7.5</td>
<td>5</td>
<td>7.8</td>
<td>5</td>
<td>7.5</td>
<td>5</td>
<td>7.4</td>
<td>5</td>
<td>7.7</td>
<td>5</td>
<td>7.8</td>
<td>5</td>
<td>8.7</td>
<td>8</td>
</tr>
</tbody>
</table>
of treatment time as Army specialists: 90.4 and 91.0 for solo and independent specialists versus 40.4 for Army specialists. Civilian patients wait only half as long as Army patients for an appointment (7.7 days versus 18.2 days). Patients waiting time in the reception room after arriving for an appointment is about the same for both modes of practice.

Dentists' perceptions of practice busyness are compared in Figure 7. Fifty-nine percent of all Army dentists said they were too-busy or over-worked versus 15.4 percent of the solo and 14.6 percent of the independent dentists. (Table 8) Army specialists rate their practices even busier: 65.4 percent said they were too busy or overworked versus 7.8 percent and 7.5 percent for solo and independent specialists, respectively.

Discussion

A comparison of the ADA survey with the Army survey shows that while these two modes of practice are similar, differences do exist. The Army Dental Corps has more recent graduates than civilian practice. This is not surprising for two reasons: a greater proportion of graduates choose working for the

<table>
<thead>
<tr>
<th>All Dentists</th>
<th>General Dentists</th>
<th>Specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army Solo*</td>
<td>Solo*</td>
<td>Indep*</td>
</tr>
<tr>
<td>Too Busy to Treat All</td>
<td>21.3</td>
<td>5.5</td>
</tr>
<tr>
<td>Was Overworked</td>
<td>38.5</td>
<td>9.9</td>
</tr>
<tr>
<td>Provided Care/Not Overwked</td>
<td>38.1</td>
<td>50.2</td>
</tr>
<tr>
<td>Not Busy Enough</td>
<td>2.1</td>
<td>34.5</td>
</tr>
</tbody>
</table>

federal services initially, (4) and Army dentists are precluded from serving more than 30 years in the Dental Corps. Certain types of equipment such as panoramic X-ray units were used by more Army dentists. One would expect that where patient volume is large enough, such as in an Army dental clinic, there would be greater justification to purchase such equipment. On the other hand, fewer Army dentists use electrosurgical units and nitrous oxide analgesia than civilian dentists. This is due to a credentialing process which limits access to these treatment modalities to those especially trained to use them. Civilian practitioners typically schedule more patients per week than Army practitioners and their patients have a shorter time to wait for an appointment. However, the number of patients treated per week by general dentists is about the same for both modes of practice. Civilian specialists schedule twice as many patients within virtually the same amount of treatment time as Army specialists. A logical inference is that Army specialists choose to schedule longer appointments. Appointment scheduling behavior within the civilian sector probably is the result of practice marketing strategies. Given a relatively fixed treatment period, seeing more patients in shorter appointments both reduces patients' waiting times for appointments and may increase consumers' acceptance of the dental fee if they are seen often and the charges are not too great per dental visit. A consequence of more frequent appointments is increased patient handling time resulting in decreased efficiency and increased cost of dental care in the long run. Army specialists reported spending almost twice as much time in diagnostic procedures as the civilian specialist. This may be partially explained by the fact that one out of every five Army specialists is involved either as a program director or mentor in a dental postgraduate training program. Finally, nowhere is the gulf between military and civilian dentists wider than their antipodal attitudes towards practice busyness: the civilian responses clustering about "not being busy" and the military responses clustering about "being too busy." Army dentists may feel they are too busy because they have a seemingly never ending patient pool seeking their services and also no matter how hard they work, their remuneration remains constant. On the other hand, civilian dentists may feel that their patient pool is limited and they would like to be busier since their income is based on a fee for service rendered.

Conclusions

Our results suggest that while both Army dentists and civilian dentists practice the same profession, there are differences based on practice management strategies which affect both patient scheduling behavior and perceptions of busyness. Training needs of the Army Dental Corps also influence how Army specialists practice. Constraints imposed by individual dentists credentialing limits access to certain modalities of treatment within the Army Dental Corps.△

References:


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Headquarters, U.S. Army Health Services Command
Department of the Army
Fort Sam Houston, TX 78234-6000

SPRING 1987
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City ___________________ State _______ Zip __________

Signature _________________________

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