Journal To Be Expanded And Refereed

Oral Health And The Quality Of Life
"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 inter-professional relationships in the interest of the public;

(h) To make visible to the professional person the extent of his/her 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.

Revision adopted October 10, 1980
<table>
<thead>
<tr>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the Editor’s Desk</td>
</tr>
<tr>
<td>Standing for Principles</td>
</tr>
<tr>
<td>Journal to be Expanded and Refereed</td>
</tr>
<tr>
<td>The Future of Dentistry: Comprehensive</td>
</tr>
<tr>
<td>General Practice</td>
</tr>
<tr>
<td><em>Thomas J. Pallasch</em></td>
</tr>
<tr>
<td>Oral Health and the Quality of Life</td>
</tr>
<tr>
<td><em>Donald B. Giddon</em></td>
</tr>
<tr>
<td>Executive Director’s Report</td>
</tr>
<tr>
<td><em>Gordon H. Rovelstad</em></td>
</tr>
<tr>
<td>Increasing Use of Dental Services By The Young Elderly</td>
</tr>
<tr>
<td><em>H. Barry Waldman</em></td>
</tr>
<tr>
<td>A Treasury of Dentistry</td>
</tr>
<tr>
<td><em>Gardner P. H. Foley</em></td>
</tr>
<tr>
<td>Section Activities</td>
</tr>
<tr>
<td>News of Fellows</td>
</tr>
<tr>
<td>Information for Authors</td>
</tr>
<tr>
<td>Directory of Officers</td>
</tr>
</tbody>
</table>
STANDING FOR PRINCIPLES

The United States was founded by people who had strong principles and the strength of character to hold to these convictions. Throughout history, righteous people have stood for such principles as truth, justice, fairness and integrity.

Principles are fundamental truths, laws and doctrines that are the basis for all rules relating to law, morals, statesmanship, business, professions, religion and general conduct in society. They are the ultimate source for rules and truths.

What does this have to do with dentistry? Everything! Principles are the foundation for all rules relating to health care, ethics and professionalism. They are the basis for our goals as a profession and for how we work and live as individuals. People with principles live their lives according to these rules.

Unfortunately, during all ages we also have had people who were unprincipled and in the 1980's we have an abundance of individuals who lack principles. We hear and read frequently of fraud, crime and dishonesty in general. There appears to be a pervasive attitude throughout many aspects of society today that tolerates unprincipled behavior and mocks all principles of right conduct.

Keith P. Blair

This trend in society is showing its affect on the dental profession in several ways. There are definite pressures to lower our standards of care and to emphasize entrepreneurship, with cost containment taking precedent over quality of care.

There are persons who consider that organizations like the American College of Dentists are rather obsolete and naive in their thinking to be mainly concerned about emphasizing the highest ideals in health care and placing great importance on ethics and professionalism. They think that there is no practical place for such idealism in today's real world and that we should go along with the lower standards apparently desired by society. Under these circumstances, is it right for the ACD to really hold firm and stand for high principles?

OF COURSE!!

Throughout the history of mankind we have had eras when principles were observed more than in other periods of time. We just happen to be in a low cycle now. But principles go on forever.

These are values that never change. People want and expect such old-fashioned virtues. They want to have trust and confidence in their health practitioners to do what is right for them. In fact, the public deserves concerned care, personal integrity, high principles and professional demeanor from its health professionals.

The American College of Dentists stands for the highest of principles. Because of this, the College has sometimes been referred to as the conscience of the profession, a role that it feels a strong responsibility to carry out.

Dentistry will last as a profession for as long as it adheres to these principles that will never go out of style. Principles are the essence of what is right with the human race. Δ

Keith P. Blair
JOURNAL TO BE EXPANDED AND REFEREED
FOUR ASSOCIATE EDITORS APPOINTED

Prem S. Sharma

Prem S. Sharma, LDS, LDSRCS, MS, DDS, has been appointed Associate Editor for Section Activities and News of Fellows.

Dr. Sharma is the Associate Dean for Academic Affairs and Professor of Pedodontics at Marquette University School of Dentistry in Milwaukee, Wisconsin. He has received three different dental degrees: one from the College of Dentistry in Calcutta, India, his native country; a second from the Royal College of Surgeons in Edinburgh, Scotland and a third from Marquette University. He is a naturalized American citizen.

He has been very active with the American Society of Dentistry for Children and is currently the President-Elect of that organization. He has also been President of the Wisconsin Society of Dentistry for Children.

Dr. Sharma is the Editor of “Dental Images”, the Marquette University Dental Alumni Association’s quarterly publication, a position he has served since 1976. He has also served that group as President.

He has been very active in the ACD Wisconsin Section as Secretary-Treasurer and Vice-Chairman, and has just introduced a new Section publication, the Bulletin, for which he is the Editor.

As a lecturer and author, he has an impressive list of presentations and publications on pedodontic and operative subjects.

William D. McHugh

William D. McHugh, LDS, BDS, DDSc, FDS, has been appointed Associate Editor for Dental Research.

Dr. McHugh is presently the Director of the Eastman Dental Center at Rochester, New York, a position he has held since 1970. During that same period, he has been a Professor of Clinical Dentistry and of Dental Research, and Associate Dean for Dental Affairs at the School of Medicine and Dentistry at the University of Rochester.

He received his dental degree at St. Andrews University Dental School in Dundee, Scotland and served twenty years as a Lecturer, Research Fellow and Professor at St. Andrews University Dental School. He has a background in periodontology, oral pathology, histopathology and preventive dentistry. In 1963, his one-year appointment as a Research Associate in Periodontics at the Eastman Dental Center led to his later becoming Director of the Center. Dr. McHugh became a naturalized United States citizen in 1977.

He has been involved with the National Institute of Dental Research as a Consultant and Chairman of several committees. In 1983–1984 he was the President of the American Association for Dental Research and he is currently the President-Elect of the International Association for Dental Research. He is a prolific writer and is experienced in dental journalism.
Four new Associate Editors have accepted appointments to the staff of the ACD Journal. Editor Dr. Keith P. Blair announced the appointments of Dr. Alvin L. Morris of the University of Pennsylvania, Dr. William D. McHugh of the University of Rochester, Dr. William W. Howard of the University of Oregon and Dr. Prem Sharma of Marquette, University. The new Associate Editors have already assumed their staff responsibilities.

Dr. Morris will be responsible for manuscripts on dental education, Dr. McHugh will deal with dental research articles, Dr. Howard will handle papers on dental practice and Dr. Sharma will edit the departments for Section Activities and News of Fellows.

All manuscripts on dental education, dental research and dental practice will be refereed by an editorial board of expert reviewers that is to be appointed by the Editor.

The Journal will gradually be increased to double its present size and will include more scientific articles. However, the Journal will still continue to keep its unique position among dental publications as one presenting ideas and opinions in dentistry.

The first issue of the new, refereed Journal will be Spring 1988.

---

William W. Howard

William W. Howard, DMD, has been appointed Associate Editor for Dental Practice.

Dr. Howard has been Editor for the Journal of the Academy of General Dentistry since 1975 and is highly regarded as an editorial writer. He is Professor and Chairman of the Department of Fixed Prosthodontics at the University of Oregon Dental School since 1973. Previously he was in the private practice of general dentistry in Portland, Oregon.

His work in dental journalism has been widely recognized and he has won acclaim and awards for his outstanding editorials in the Journal of the Academy of General Dentistry, including a Gies Foundation Editorial Award.

He has authored seven dental textbooks and contributed to other books; he has lectured extensively and has been a mentor for study clubs in restorative dentistry. Dr. Howard has been extensively involved in dentistry in many varied activities. He was a Delegate to the ADA House of Delegates for ten years and served on five reference committees, two as chairman. He also served on several ADA Councils and special committees. He was president of the Oregon Dental Association, President of the Oregon State Board of Dental Examiners, President of the Western Association of Dental Examiners, Managing Director of the Oregon Dental Service Corporation and served on the Executive Committee of the American Dental Political Action Committee (ADPAC).

Dr. Howard is a Captain in the Dental Corps of the U.S. Navy (retired reserve) and lives in Portland, Oregon.

---

Alvin L. Morris

Alvin L. Morris, DDS, PhD, has been appointed Associate Editor for Dental Education.

Dr. Morris is currently the Director for the W. K. Kellogg Foundation National Project on the Development of Evaluation Methods and Computer Applications in Dentistry, a position he has served since 1982. He is the Associate Vice President for Health Affairs and Government Relations at the University of Pennsylvania.

Previously, Dr. Morris was a Postdoctorate Research Fellow of the National Institute of Dental Research, USPHS, at the University of Rochester School of Medicine and Dentistry where he earned his PhD in Experimental Pathology in 1957. For four years he was at the University of Pennsylvania School of Dental Medicine, as Head of the Department of Oral Diagnosis, before being appointed Dean of the College of Dentistry at the University of Kentucky in 1961. He served as Dean for seven years, then was appointed Vice President for Administration for the U. of Kentucky from 1970 to 1975.

In 1975, he was appointed to a four-year term as Executive Director of the Association for Academic Health Centers in Washington, DC. In his illustrious career in dental education he has received many honors including the American Dental Association's highest honor, the Distinguished Service Award in 1985.

Dr. Morris is a 1951 graduate of the University of Michigan School of Dentistry and currently resides on Pawleys Island, South Carolina.
THE FUTURE OF DENTISTRY: COMPREHENSIVE GENERAL PRACTICE

Thomas J. Pallasch*

It is conceivable that this critique of the current vicissitudes of dentistry and their possible remedy is inappropriate. Were it written a decade ago when certain trends were apparent, it would have been considered heretical. Written five years ago, it would have been deemed implausible. Today it can be judged belated at best and irrelevant at worst. There is sufficient evidence to entertain the belief that the future has already passed us by and that neither we nor our patients are any longer in control of our destiny. Based upon current data I cannot endorse this perception of our problems although it does contain elements of the truth.

While massive traumatic alterations in the health care delivery system in the United States have been occurring and the spectrum of patient disease has been dramatically changing, health care providers have directed virtually all their efforts towards salvaging remnants of the past rather than adapting for the future. As with any failing bureaucracy (and the health care system is that if nothing else), all attempts to prevent its collapse will ultimately be in vain. However, once such a bureaucracy reaches the lowest point in its demise ("touches bottom" so to speak), then hope is at hand. Only then can rapid and effective action occur. The situation in health care today is analogous to that of political democracies as described in Revel's "How Democracies Perish": only when a true crisis is appreciated by the majority, do democratic systems act quickly, purposefully and rationally. If dentistry recognizes its extreme peril, then meaningful change can occur. If not, all our efforts are an exercise in futility.

Our past errors are many but can generally be categorized as economic and biologic. Rather than list minutiae, I will consider general financial and professional concepts. Once we can identify and agree upon our false perceptions of reality and rational avenues for change, the logistics of implementing our agreed goals will be relatively simple: anything that furthers our goals is prioritized, anything that dilutes our goals is minimized. The rate limiting step in this process should only be the finite resources of the particular educational institution.

The golden rule of business: "He who has the gold makes the rules."

It would be best to approach a prediction of the future with a certain degree of humility. "Man plans and God laughs" should suffice as a warning.

System Control

One of the most visible errors of both medicine and dentistry (generally what is said for dentistry is the same for medicine but many times magnified for the latter) is the failure to heed the golden rule of business: "He who has the gold makes the rules." Third-parties (a general term for all those entities that actually sign the check for health care services rather than the patients who in reality provide these funds by their labor) presently and futuristically control the health care system in the United States. Their strategy has been to weaken and subsequently destroy the domination of health care by the monolithic physician-controlled hospital. This to a great extent has been accomplished; money and administrators control hospitals and their services rendered. The patients and doctors now only have supporting roles in the play. As soon as their control of the hospital is secure, third-parties will then devote their entire attention to private practice health care providers. Their rules will be determined by economics and rigid fee structures will be strictly enforced. All phases of dentistry will be dominated by accountants rather than dentists and patients. Expensive procedures will simply be eliminated from payment schedules. We will have no choice but to follow the hospitals and adapt to this system. In the long-term a two-tiered system will result: 90% or more of the health care providers acquiescing to the third-party dominated system to ensure economic survival and 10% or less clinging to a fee-for-service system financed by those few willing to pay cash for an expensive superior system. One of our major conceptual problems is that all dentists, when presented with this scenario, believe that they will be in the 10 percent. Our only solace will be that these gloating third-parties will in turn be regulated.

*Thomas J. Pallasch, D.D.S., M.S., F.A.C.D., Associate Professor of Pharmacology and Periodontics, Chairman, Pharmacology Section, University of Southern California School of Dentistry.
and thus controlled by the federal government which, without firing a shot, will in effect attain the socialized health care system it has so long desired.

I can foresee only one reasonable solution to this problem which will allow for both quality dentistry and maintenance of economic viability. The general dentist must be able to competently perform dental treatment procedures which are inherently low in overhead and high in profit such as endodontics and periodontal surgery. The traditional restorative dentistry practice which refers its endodontics, periodontics, minor orthodontics and simple extractions to specialists will not fare well. Equally important to economic survival will be an efficient patient recall system which at least provides periodontal maintenance and at most a lifetime of continual dental service. We may be able to make a bargain with third-parties if this is the only major system dentistry offers.

**Supply and Demand**

The major problem in the health sciences today is the oversupply of providers and the low demand of patients. Our present difficulties of falling standards of excellence savaged by financial exigency, fee structures that are effectively pricing our services out of the marketplace and further reducing demand, patient abuse and subsequent malpractice litigation stemming from the trend towards general practitioners exceeding the limits of their competence to alleviate financial distress can all be laid at the economic doorstep. Insurance fraud, expensive dentistry, lessened patient contact, reduction in quality dentistry, gross therapeutic overtreatment of patients, endangered patient lives by incompetent pharmacocedation and inattention to patient medical disability and subsequent burgeoning litigation are all sequelae to diminished demand in the face of excessive provider supply.

No amount of advertising, practice efficiency, public relations gimmicks or wishful population demographics will substantially alter the health care adage that only 50% or so of a population at best ever consistently utilizes health care services. Dentistry is already at or slightly above this 50% utilization rate.

We must decrease the educational output of dentists by another 20 percent. Those schools that have already suffered should not do so again. Rather we must close seven to ten dental schools by eliminating one in each state with presently more than one school. States with four or more schools should possibly reduce their number by two. It would be most unwise for any state with only one dental school to eliminate that institution since it will be the only convenient and relatively inexpensive resource for the knowledge and skills to be required of the advanced general dentist of the future. Also we have been dead wrong in the past about supply and demand. If the future demand for dental services is underestimated (if we were wrong once we can be wrong again), then these schools will not only be necessary but most expensive and time-consuming to rebuild.

To offset the financial hardships to these universities, the American Dental Association should establish a fund (generated by membership assessments and a reduction of ADA overhead and political expenditures) to aid each institution with its dental school closing costs. If we all pay something now our future will be much brighter. Many of our problems will fade if we restore a proper supply and demand in dentistry. Both we and our patients will benefit much to the chagrin of third-parties.

**Disease Patterns**

Two major conceptual errors confound the health care delivery system today: (1) a failure to grasp fundamental alterations in disease patterns in a first-world society: an evolution from an acute to a chronic disease population; and (2) a determined insistence upon a system which only treats diseases which it may do comfortably and profitably.

All the major fatal or debilitating diseases (except accidents) in our first-world society are now of a chronic nature with commonly a long latent period of development before acute exacerbation: cancer, cardiovascular disease, cirrhosis, diabetes, respiratory disease and substance abuse (alcohol, cigarettes, street drugs). Many other common non-fatal diseases are also chronic: psychiatric disorders, rheumatoid arthritis and other collagen diseases, autoimmune disorders and the debilitating aspects of aging.

Dentistry has consistently failed to recognize that dental disease is also in essence chronic with acute exacerbations. To be treated properly and well, each patient to a greater or lesser degree requires a continuum of dental services beginning with caries control through orthodontics, periodontics, possibly endodontics and prosthodontics, and ending with geriatric considerations. We have only seen the acute exacerbations and not the continual spectrum of patient needs possibly due to our dental school education which emphasizes piecemeal over total patient care. It is satisfying to treat acute disease; we feel good that pain has been relieved and function restored. Being the perfectionists that we are, dentists and physicians are poorly prepared psychologically to manage chronic disease; it is frustrating, rarely curable and lacking in instant gratification. Acute problems are neat entities requiring relatively simple logistics and ending with rapid resolution. Chronic disease is disconcerting to have and to treat.

The essential ingredient in improved dental education and private practice must be a total commitment to dental disease as a
chronic disorder with a changing spectrum of treatment modalities essentially determined by the needs of the maturing patient. If we cannot generate new and greater numbers of patients then we must either reduce the number of dentists and/or increase the amount of dentistry done for each patient. Fewer patients will be required as more is done for each patient. The general dentist who expands his or her treatment armamentarium will do better professionally and economically.

Dentistry has only two large diseases bases: dental caries and periodontal disease. Both are significantly preventable.

For all their existence, medicine and dentistry have determined that the diseases we can profitably and satisfyingly treat are the diseases that the patient has. The system has decided the treatment rather than the patient it serves. The last decade in dentistry and medicine is a study in self-serving efforts to preserve a system of health care designed primarily for the provider rather than the patient. The present convulsions reverberating in health care are due to the inability of an acute care system to rapidly and efficiently change to one devoted to chronic care.

Any future health care delivery system or educational institution that spawns it must be based upon the needs of the patient rather than the needs of the system. Any dental curriculum must be designed to emphasize and reflect present and future dental disease activity. It must also acknowledge the growing American awareness that prevention is far more palatable than treatment. It is time to realize that the patient and not the doctor dictates the system.

After many years of determined effort, dentistry has succeeded in substantially eliminating a major economic and professional need for its services. Dental caries incidence and prevalence rates are declining in all advanced first-world countries even faster than can be attributed to fluoridation. Plaque control and sealants have hastened this demise and immunization may place the last coffin nail. No unfounded optimism or skewed statistics can alter this fact.

Dentistry has only two large diseases bases: dental caries and periodontal disease. Both are significantly preventable. As a rule we do not deal with life-threatening diseases and therefore our access to media stimulation of demand for "new" therapies is limited. We cannot emphasize or even invent new diseases to threaten patients and increase demand as does medicine. We cannot survive by redoing other dentists' work; third-parties will eventually end this practice. If one of our disease bases is shrinking, then our only alternative is to concentrate on the other. Fortunately, periodontal disease is chronic with a potential lifetime of activity. Any educational or therapeutic system that cannot or will not recognize this fact is doomed to failure. Any educational system primarily designed to maintain restorative dentistry as the basis for future practice will be inappropriate.

A future dental curriculum must reflect reality as dictated by patient needs: increased emphasis on periodontal disease, orthodontics, routine exodontics, endodontics, medical and drug complications in our advancing age population and the special problems of geriatric dental care with reduced emphasis on pedodontics and denture prosthesis. Restorative dentistry will still maintain importance but in an altered role: greater emphasis on cosmetic dentistry, geriatric prosthodontics and periodontal prosthesis and decreasing emphasis on perfection in routine restorative procedures. As the advanced general dentist performs more of the patient's dental needs, the specialist will decline in importance except for difficult situations where this particular expertise is required for success. If we severely restrict our supply of dental specialists now, attrition may solve the overabundance of specialists.

Economics and the Dental Curriculum

The most glaring failure of dental education has been its elitist disdain for the economic basis of dental practice. If we teach perfection, all else will fall into place. This approach by individuals not dependent upon the marketplace for their economic survival has been responsible for some of the patient abuse occurring today. Any future dental education system must morally and ethically provide its students with the training and attitudes necessary to provide excellence in chronic comprehensive service with a reasonable expectation of financial security.

The only solution to our current financial, legal, ethical and patient dilemmas is an expansion in the expertise of general dentists. They must be able to do more and do it better.

Advanced (Comprehensive) Generalist Concept

The only solution to our current financial, legal, ethical and patient dilemmas is an expansion in the expertise of general dentists. They must be able to do more and do it better. They must retain more patients in their practice by competently performing dental treatment procedures now in the realm of dental specialists.
This concept is already a fact in dentistry but it has been accomplished for the wrong reasons. Many general dentists are now performing advanced treatment procedures without, in many cases, the necessary expertise. The impetus for this change has not been the desire for better patient care but rather the need for additional income. Presently the only beneficial effect for the nondentist has been the increase in negligence attorney bank balances. Yet this concept is valid and holds promise for our salvation.

Dental Education and the Advanced Generalist

The super, advanced or comprehensive generalist concept is not radical but will necessitate a redirection of priorities. We may have to in a sense negate George Orwell’s dictum: “Whoever controls the past controls the future.”

The faculty of dental educational institutions will have to be altered. No longer can the majority of faculty be dental specialists. Rather the faculty core must be advanced generalists dedicated to total chronic patient care rather than the “point” or “piece-work” method so dominant in our educational system. Utilizing this comprehensive approach the dental student upon graduation should be able to supply 80% or more of patient dental needs in the continuum of total patient care necessary for economic viability. We will do what we are already doing but much better.

The position of the dental specialists will also be altered. Instead of being the central character in dental education, the specialist will perform a more peripheral but still important role in the management of the 10% to 20% of patients with problems too difficult or complicated for the advanced generalist. Also for many years to come the dental specialist will be required to educate and train the comprehensive generalist, both those destined for private practice and those for education. The specialties will also be at the heart of the massive retraining program necessary to upgrade the skills required to qualify the currently practicing dentist as an advanced general dentist. Keen competition from their colleagues should fill these retraining programs. Dental school faculties need not despair. There will be work for us all.

The advanced generalist concept of dental education may require expansion to a five-year curriculum. It certainly will necessitate curriculum efficiency. An alternate approach is to reduce the dental curriculum devoted to the traditional “basic sciences.” This can be accomplished by requiring greater preparation in the undergraduate years, curriculum emphasis on “basic” science directly applicable to dentistry and the elimination of basic science taught primarily to retest the intellectual abilities of the student previously determined by four years of college. We need different but not necessarily fewer “basic” scientists.

Dentistry must survive; our patients need us.

Greater emphasis must be placed on those basic (or are they clinical?) sciences that make human biology more real, relevant and exciting to dental students: physiology, pathology, and pharmacology. Then only can their natural corollaries, pharmacosecretion and internal medicine, grow and prosper. More faculty must be educated in both clinical and basic sciences to better amalga- late these traditionally disparate areas of the curriculum. The final result of this educational cascade will be the sophisticated appreciation and treatment of our growing population of medically and pharmacologically-compromised patients who will make future dental practice far more interesting and rewarding.

We must finally resolve the aged question of whether we are a graduate school type of education with new knowledge as its goal or rather a residency type of program where excellence in direct patient care is paramount. It is doubtful that many dental schools presently can afford to be superior in both. The elitist concept that “research” is the only intellectually worthy endeavor in dentistry must be discarded. It has caused too much dissension in the past. Both approaches are of equal but different value.

If this concept of the advanced (super) generalist is adopted, our future dental students will be among the “best and brightest.” What they will be called upon to perform competently will far exceed any previous expectations for a dental practitioner. Theirs will be a demanding and exciting future filled with challenge and opportunity.

A new partnership must be formed between dental educators and dental practitioners based upon mutual need, trust and respect. Forever buried must be the elitist mistrust generated in the past and so very much at the heart of our present educational problems. We will swim together or drown separately. Dentistry must survive; our patients need us.

Others may have a profound impact on our lives. They may defile our reputations, terminate our livelihoods, dissolve our friendships, deny our freedoms and even end our lives. But only we can lose our honor and integrity. I trust this will not happen.

Reprint requests to:
Dr. Thomas J. Pallasch
School of Dentistry
University of Southern California
University Park MC-0641
Los Angeles, CA 90089-0641
ORAL HEALTH AND THE QUALITY OF LIFE

Donald B. Giddon*

The dental profession is assuming increased responsibilities for mental as well as physical health. These new roles require greater understanding of the importance of oral health to the quality of life.

Maintaining oral health and attractiveness increases self-esteem and effective social interaction, thereby enhancing the quality of life.

In recent years, the dental profession has assumed increasing responsibility for the mental as well as physical health of its patients. These historic developments parallel the relation of oral health to general health which has changed significantly from the 19th and early 20th century concern for the mouth as a source of focal infection responsible for a wide variety of medical conditions such as arthritis, rheumatic fever, anemia, gastritis, colitis, kidney disease and nervous disorders. During that period any pain in the oral cavity was assumed to indicate the immediate need for extraction. Finally, after hundreds of thousands of sound teeth had been sacrificed and thousands of individuals had lost all their teeth unnecessarily, the fad had run its course (1).

In recent years, however, the concept that oral health problems do indeed affect general health both directly and indirectly has re-emerged. The major difference from earlier years is that the pathophysiological concepts and methods of treatment are based on documented principles of the biomedical and social sciences. Thus, diseases of teeth, supporting tissues of bone and gingiva, and temporomandibular joints; extension of infection or metastases from oral cancer; and the alignment of oral apparatus do affect the function and appearance of the whole body. Oral health thus contributes to both physical and emotional well-being.

At a recent symposium, contributions of oral health to the quality of life were discussed by a distinguished panel of experts (2). Topics ranged from patient concern with pain and appearance to the importance of a pleasant and healthy appearance of the orofacial structures. The contributions of the dental health team—dentists, hygienists, assistants, and most importantly the patient—to the quality of life were explored in three areas: providing relief of pain; prevention of pain through anaesthetics and simple home health care remedies such as toothpaste for hypersensitive teeth; and enhancing appearance with aesthetic restorative dentistry.

While quality of life has been defined in many ways, depending on one's value system, it is generally agreed that the areas included are those essential to life beyond mere survival. Thus, access to health resources, guaranteed public safety, education and employment opportunities, quality housing, leisure and recreational activities (3) can all be related to the function and appearance of the mouth and surrounding structures.

Based on Maslow's hierarchy of needs (4), one may conceptualize the mouth as satisfying human biological and social needs as follows: survival, socialization and self-fulfillment. Survival needs such as hunger and thirst must be met before attention can be turned towards socialization and subsequently self-fulfillment. Until these basic survival needs are met, little energy can be devoted to socialization, utilizing physical attractiveness and communication or self-presentation skills essential to effective interpersonal relationships (5).

It is the higher order need of self-fulfillment that really bears most directly on the quality of life. After satisfying survival and socialization needs, one can then fulfill the potential to become what one is capable of becoming. Thus, the singer must sing, the clarinetist must play, the actor must speak, the gourmet must eat and the lover must kiss, etc.

Basic to these concepts is the recognition that the mouth and its health are an integral part of the entire body. Essentially all body systems are represented in whole or part within the mouth or surrounding structures: the nervous system, portions of the respiratory and digestive system, musculoskeletal system involved in occlusion and mastication, and less directly the cardiovascular and endocrine systems (6). To the extent that each of these systems is influenced by psychological and environmental events acting through the nervous and hormonal system, the orofacial area can be the target of stressors and develop dysfunction and disease (i.e. "psychosomatic") as much as any other part of the body. Even more obviously, adverse environ-

*Donald B. Giddon, D.M.D., Ph.D. New York University College of Dentistry
ORAL HEALTH AND THE QUALITY OF LIFE

begins at birth with its importance for obtaining adequate food and water from the mother or surrogate. The mouth becomes a focus for the child's first emotional response to the world, such that when milk is not readily available the child experiences pain and frustration. This experience is followed shortly later by the painful experience of teething. Together with the facial muscles, the teeth then provide a major means for expressing the emotion of anger as well as the actual means for defensive or aggressive behavior. With the development of speech, communication becomes even more efficient and less destructive; that is, we learn to use hostile language to express our aggression rather than bite our opponents. Similarly, the mouth is essential for the development of perception of the world and the child's relation to it. Thus, the child learns that it is separate from the rest of the world, that is, it cannot devour the mother's breast, the entire mother or its own foot.

Perhaps the importance of the mouth can be understood best psychobiologically. As shown in Figure 1, the oro-facial areas form a disproportionately large representation in both the sensory and motor portions of the cerebral cortex of the brain.

Another interesting psychobiological observation is that there seems to be a basic need for oral activity. For example, as shown by Friedman and Fisher (10), the total amount of smoking, drinking and eating activity and other oral activities was reported to occur in rhythmic cycles averaging 96 minutes between peaks, perhaps functioning as the waking counterpart of REM sleep. Cows also seem to require this activity, because if cud-chewing is disturbed before an optimum time has elapsed, they produce less milk (11).

As may be seen in Figure 2, the mental and social circumstances can result in maladaptive behaviors, such as failure to use known preventive measures as brushing teeth, proper diet and avoidance of abusive substances like alcohol, tobacco, caffeine, etc. (7).

Psychological and social factors can also modify the perception of pain and willingness to do something about it. The oro-facial areas in particular are not only the target of stressful situations but the source of suffering as well. Pain emanating from the oral cavity in particular seems to be disproportionate to the actual physical cause. Both clinical and research data support the observation that oro-facial pain is avoided more and tolerated less than pain in other parts of the body (8). Even poor appearance of the oro-facial areas provokes greater negative reaction than an unattractive appearance of other parts of the body (9).

Survival function of the mouth begins at birth with its importance for obtaining adequate food and water from the mother or surrogate. The mouth becomes a focus for the child's first emotional response to the world, such that when milk is not readily available the child experiences pain and frustration. This experience is followed shortly later by the painful experience of teething. Together with the facial muscles, the teeth then provide a major means for expressing the emotion of anger as well as the actual means for defensive or aggressive behavior. With the development of speech, communication becomes even more efficient and less destructive; that is, we learn to use hostile language to express our aggression rather than bite our opponents. Similarly, the mouth is essential for the development of perception of the world and the child's relation to it. Thus, the child learns that it is separate from the rest of the world, that is, it cannot devour the mother's breast, the entire mother or its own foot.

Perhaps the importance of the mouth can be understood best psychobiologically. As shown in Figure 1, the oro-facial areas form a disproportionately large representation in both the sensory and motor portions of the cerebral cortex of the brain.

Another interesting psychobiological observation is that there seems to be a basic need for oral activity. For example, as shown by Friedman and Fisher (10), the total amount of smoking, drinking and eating activity and other oral activities was reported to occur in rhythmic cycles averaging 96 minutes between peaks, perhaps functioning as the waking counterpart of REM sleep. Cows also seem to require this activity, because if cud-chewing is disturbed before an optimum time has elapsed, they produce less milk (11).

As may be seen in Figure 2, the

![Figure 1-A. Sensory homunculus, drawn overlying a coronal section through the postcentral gyrus. Fig. 1-B. Motor homunculus, drawn overlying a coronal section through the precentral gyrus. (From THE CEREBRAL CORTEX OF MAN: A Clinical Study of Localization of Function by Wilder Penfield and Theodore Rasmussen. New York: Macmillan Publishing Company, 1950, 1978. Reproduced by permission of the publisher. All rights reserved.)](image)
mouth is extremely important for expressing pain and other emotions. Note that the changes in the mouth and the eyes appear to be the most essential differences among these very recognizable and reproducible emotions of surprise, anger, happiness, fear and sadness. Each emotion has its own configuration of facial muscles controlling the lips, eyes and occasionally the nose for disgust; and as demonstrated by Ekman and others (12), these responses are consistent across disparate cultures, with some higher order animals even mimicking human emotions.

Moreover, first impressions of people are formed primarily from facial expressions, for it is upon the face that the entire gamut of human needs, intentions and emotions is reflected. The pain experience in particular has a highly reproducible impact on facial expression. The Facial Action Coding System of Ekman and Friesen (14) has been modified for classifying the magnitude of pain on the basis of the changes in facial expression (15). Such non-verbal pain behaviors may be useful clinically as well as being more important as social stimuli than subjective reports of pain (16). In addition to the responses of the eyes and brows, most of these changes occur around the mouth, such as drooping of the jaw, parting of the lips, pulling up the lips corners and raising the upper lip (16).

Some pain of dental origin which does not appear in the usually reported dental statistics may nonetheless be the source of needless suffering. Pain resulting from hypersensitive dentin, for example, affects almost 45 million people (17). Another way of looking at this statistic is that between 19 and 27% of people surveyed admitted to having sensitive teeth (18). When interviewed in focus groups, participants expressed their discomfort and noted various ways to accommodate to their pain: by eliminating certain painful foods or chewing on only one side of the mouth, by avoiding seeing a dentist because of fear of pain or of losing teeth, or by minimizing their pain in order to avoid return visits (19).

Although the physical manifestations of most pain of dental origin are well known to clinicians, dentinal hypersensitivity appears to have a unique pattern of responses. Such hypersensitivity in response to a cold stimulus may in fact be identified visually by the position of the lips and by the characteristic "oooh". This characteristic response is, of
course, a function of the anatomy and pathophysiological responses of the dentin to a variety of stimuli. As recently summarized by Jeffcoat (20), there are several types of stimuli: mechanical—toothbrushing and dental instrumentation; osmotic or chemical—sweet or sour foods, plaque, gastric acids, and drying of the tooth; and extreme temperature changes related to cold or hot foods, dental procedures, and/or air. In general, "sensitive dentin results when the covering enamel or cementum is lost or breached, enabling oral stimuli . . . to reach the pulp at intensities sufficient to cause pain (21)."

The dentin is also subject to increased risk from caries, broken restorations, tooth preparations, gingival recession, toothbrush abrasion, and bruxism. Periodontitis and periodontal treatment also increase exposure of the dentin, as does chemical erosion through ingestion of certain foods or through gastrointestinal disease. For example, in patients with eating disorders, such as bulimia, the induced vomiting in these patients exposes the teeth to gastric acids which wear away at the enamel, making the teeth extremely sensitive. The pain from these various sources of hypersensitivity thus affects facial expression and appearance.

Whatever the reasons for responses of the facial musculature, whether real or simulated emotion, there is evidence that the expression itself causes the physiological changes consistent with the emotions. The basis of this response was hypothesized 80 years earlier as due to the regulating effect of the facial musculature on the cerebral vasculature and resulting changes in subjective feeling. Thus, such adages as smile and you’ll feel better may well be true. Interestingly, there may also be evidence for another adage, smile and the world smiles with you, i.e., the contagiousness or mimicry of emotional expressions, as alluded to in Zajonc (22).

Perhaps the major significance of this relationship between pain and emotion in the face is that pain essentially interferes with ordinary social interaction in that it may constrict the expression of emotion, particularly the pleasant ones. The importance of the face and the mouth in particular to perceived physical attractiveness and self-concept is well-documented (9) (23). The greater the physical attractiveness as perceived in the eyes of significant others, the greater the self-esteem. In a recent study it was found that a pleasant expression enhanced attractiveness (24) with the face in general and the mouth as its most significant feature being more important than the rest of the body in judgment of overall appearance (25).

Thus, if one is upset with the appearance of the mouth or teeth because of poor oral hygiene, discoloration or malaligned teeth, then self-conscious gestures such as putting the hand over the face or turning away may interfere with both verbal and non-verbal aspects of interpersonal relationships. A study by Bailit reported that 10% of subjects with dental anxiety stated they avoided conversations because of their appearance (26). As shown in Tables 1 and 2, appearance, particularly in young people, is the most important reason for taking care of teeth and gingiva.

### Table 1. The most important reason for taking care of teeth and gingiva.

<table>
<thead>
<tr>
<th>Most important reason</th>
<th>% boys</th>
<th>% girls</th>
<th>% both</th>
</tr>
</thead>
<tbody>
<tr>
<td>To help your appearance</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>To prevent other illnesses</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>To avoid later expensive treatment</td>
<td>10</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>To avoid future pain and trouble</td>
<td>19</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>To keep your teeth as long as possible</td>
<td>31</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>No. who answered the question</td>
<td>1083</td>
<td>1126</td>
<td>2209</td>
</tr>
</tbody>
</table>


### Table 2. Dental conditions worried about most.

<table>
<thead>
<tr>
<th>Dental Condition</th>
<th>% boys</th>
<th>% girls</th>
<th>% both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken or lost permanent teeth</td>
<td>44</td>
<td>26</td>
<td>36</td>
</tr>
<tr>
<td>Discolored teeth</td>
<td>15</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>Sore or bleeding gingiva</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Poorly aligned teeth</td>
<td>11</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Tooth decay</td>
<td>24</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>No. who answered the question</td>
<td>1196</td>
<td>1159</td>
<td>2355</td>
</tr>
</tbody>
</table>

tant reason given for care of and worry about teeth and gingiva.

Thus, even though the needs of survival are met, the use of oral structures for socialization and expression of profound thoughts, enjoyment of culinary delights or even exotic or erotic pleasures can be restricted by pain.

Beyond the individual suffering caused by dental pain is an economic price exacted directly and indirectly from productivity in days lost from work for disability or treatment. As cited by Reisine, the NHIS reported that in 1980 there were seven million days lost from work for either acute or chronic dental problems (27).

In order to reduce the cost to society and to improve the quality of life affected by oral health, the dental health professional must meet a new challenge. He must “have increased knowledge of psychological factors (28)” to understand how pain deters patients from seeking treatment and to expand the use of new materials and techniques for pain control and enhanced appearance. The dental hygienist has an important role to play in patient education, as discussed by Cormier (29), by instructing the patient in self-care methods, both to prevent and decrease future pain and to treat current pain such as hypersensitivity. With improved anaesthetics, the patient no longer need suffer the pain of dental treatment. Where dentin has been exposed, the periodontist can make surgical repairs, or for most of the estimated 45 million who suffer from dentinal hypersensitivity a new but simple topical treatment with potassium nitrate toothpaste will suffice (30).

The mouth thus contributes to the quality of life by its impact on both dental and mental health and more generally to success and happiness.

Success is getting what you want, while happiness is wanting what you get. The function and appearance of the mouth are essential to attaining both. By maximizing these attributes of the orofacial areas through oral health care and professional treatment, one can increase self-confidence and chances for success and happiness by greater opportunities for employment, education and other aspects of the quality of life.

The dental profession and support industries have the means to provide the benefits. The technology and skills now available for alteration in appearance as well as new techniques for control of pain give the profession an even more important role in obtaining and maintaining total health.

In summary, these contributions of the dental profession continue to enhance the quality of life.

References


17. Private marketing research surveys conducted in 1975 and 1980 by Richardson-Vicks, Inc.


30. Hodosh, M., The Development of Agents for Prevention and Control of Dental Pain such as Hypersensitivity, Symposium on Oral Health and the Quality of Life, N.Y.U. Coll. of Dentistry, Oct. 16, 1985, co-sponsored by Richardson-Vicks, Inc.

Reprint requests to:
Dr. Donald B. Giddon
College of Dentistry
New York University
421 First Avenue
New York, N.Y. 10010

Correction

The following names of co-authors were accidentally omitted from an article entitled, “Survey of Army Dental Practice,” that appeared in the Spring 1987 issue of the Journal of the American College of Dentists;

Colonel Jay D. Shulman, Chief, Dental Studies, Health Care Studies and Clinical Investigation Activity, Fort Sam Houston, Texas.

Major General H. Thomas Chandler, Assistant Surgeon General and Chief of the U. S. Army Dental Corps, Department of the Army, Washington, DC.

The following statement should also have appeared with the article:

“The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Department of the Army or the Department of Defense.”
The Board of Regents held its Spring 1987 Meeting in Bethesda, Maryland on April 12th to 14th. The Board of Regents felt that the Report of the Executive Director contained material of such significance to the College and its history that the Board of Regents unanimously moved to have the full report published in the Journal of the American College of Dentists.

H. Curtis Hester, President

This report addresses the financial and operational progress that has been made over the past six years in relation to the over-all activities of the American College of Dentists, as well as a bit of history. Six years ago the College began a new decade of activity in its seven decade history.

COMPARISON—1981 with 1986

The American College of Dentists, at the beginning of 1981, was a national organization of 4,755 Fellows of which 3,447 were Active Fellows and 1,338 Life Fellows. There were 36 sections having been rechartered in 1979 and 1980.

The assets of the College as of December 31st 1980 totaled $356,821.13.

Today the College numbers 5,397 Fellows of which 3,923 are Active Fellows and 1,443 are Life Fellows. There are 39 sections.

The assets of the College as of December 31st 1986 are $609,512.88.

These figures reflect a significant change in the College both statistically as well as financially within the period of six years. However, all is not positive.

POSITIVE FACTORS:

On the positive side the trend in nominations and candidates has been reversed, so the College is growing. Section activities have picked up and there is more interface of Fellows with College activities in the area where the Sections are located. Attendance at annual meetings and convocations has increased by at least 30% and participation of Regents in Regency activities has been growing. Fewer resignations have been requested and the delinquency number has been dropping annually.

NEGATIVE FACTORS:

On the other hand, there have been two dues raises since 1980 and investment income has significantly dropped. Since the only sources of income for the College are dues and investment income, pressure on the Fellows of the College has been significantly increasing. Since the College had been marking time for several years, this was not unexpected. Nevertheless, it has been painful to experience especially when costs over which the College has limited control such as liability insurance premiums and labor restrictions cause the deficits and medical/dental associations are under siege.

ACCOMPLISHMENTS:

In return for the added dues, however, an improved management system has been instituted by computerization of all financial and personnel records. This provides up-to-date accounting, accurate membership data, and support for sections (i.e. collection of dues, preparation of membership lists, printing mailing labels, providing standardized awards certificates, providing IRS coverage, and assisting officers with manuals and forms for operation). Much responsibility has been shifted to the sections in the form of awards and services to dental graduates and community leaders. New programs have been instituted including the distribution of professional guidelines to over 20,000 dental students, the development of current standards for continuing education, the development of current standards for dental journalism, the replacement of the stage setting with sectional units for various hotel settings, the initiation of a means for developing educational guidelines on ethics for the dental curriculum, and the development of one of the great publications of the decade, "The Hillenbrand Era—A Glanzperiod of Organized Dentistry". The Journal of the American
College of Dentists has been redesigned and is currently in the process of expansion.

PROBLEMS BEING FACED:
Throughout this period there has been increasing pressure on non-profit organizations, particularly on health professional organizations, from the Internal Revenue Service, the Federal Trade Commission and the Department of Justice. The profession has been significantly changed by these actions, encouraging competition, promoting advertising, and pursuing organizations whose codes of ethics limit either of these activities. The reporting methods for financial matters has become more complicated and many supporting sources of funds for professional organizations are disappearing. Even dues to non-profit organizations and travel expenses are partially being taxed or declared non-deductible. A great unknown at the present time is that which surrounds liability of the officers and directors of professional organizations. Only two companies will ensure non-profit organizations such as the College today. There used to be sixteen. Thus, the College is being challenged during this decade. Where will it lead?

HISTORY (1):

First Decade
When the President, Vice President and Secretary of the National Dental Association (now American Dental Association) and the President of the Dental Teachers Association (now the American Association of Dental Schools) met in Cedar Rapids, Iowa, in 1920 and conceived the idea of the development and formation of an organization which resembled the American College of Surgeons, they arranged for twenty-five dental leaders to meet in Milwaukee to become the Charter members. The first decade from 1920 to 1929 may be identified as the period of time when the College was being organized and the details for management and operation were developed. During this period the Committee on Journalism was appointed.

Second Decade
The second decade saw the results of some of the activities of the first with the report of the Committee on Journalism, the formation of the American Association of Dental Editors, the formation, publication and distribution of the JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS and the move away from proprietary publications. Honorary Fellowship was made possible, the William John Gies Award was established, and the Mace and the Torch of the College were dedicated.

Third Decade
The third decade was a very difficult period for the College. The writing competition and award in dental journalism was established and grants-and-aid in dental research were developed. However, during the war years of 1942 to 1946 Convocations were not held and Fellowships were conferred at Section meetings. Nevertheless, the College held itself together and continued its pursuit of excellence in dentistry.

Fourth Decade
The fourth decade of the College became one for growth with the introduction of teacher training fellowships, exchange fellowships and subsistence aid. The major objective of this program was to improve the quality of dental education and to lend the expertise of the College to helping dental clinicians become better teachers. The Award of Merit of the American College of Dentists was established.

Fifth Decade
The fifth decade beginning in 1960 saw some significant activities of the College which have been recorded in history. Motivation studies were carried out for first year students and graduates of dental schools to find out what their goals were in the practice of dentistry. Additionally, this was followed-up by some further studies after they were five years out of dental school. Two additional areas of interest were developed and workshops were held, one on
the image of dentistry and the other on dental manpower. The reports of these became blueprints for the profession to mold its future. Shortly after the completion of the second workshop on manpower, the workshop leader, Dr. Nathan Kohn, Jr. had a heart attack and died. A third workshop was abandoned. The Institute for Advanced Education was also introduced under support from an NIH Grant. Many dental educators were provided with an advanced education opportunity in a field of their choice. In an attempt to improve international relationships and extend the influence of the American College of Dentists, meetings of the officers of the College were held with European dental leaders in Cologne in 1962 and in Paris in 1967.

Sixth Decade

The period from 1970 to 1979 was a period of reorganization. The activities of the College were decentralized, the Regents were elected from the Regencies rather than the College at large. Sections were rechartered, and the focus of attention was moved towards regional functions. The self-assessment test was introduced, Project Library was activated for Section support, and the American College of Dentists Foundation was founded. In conjunction with the fifty year anniversary of the College, the ACD Award of Excellence was established.

Today

Thus, arriving at the beginning of this decade one finds certain activities of renewal. Increased section support has been emphasized, an Action committee on Journalism and an Action Committee on Continuing Education have been re-appointed. The Code of Conduct has been strengthened in face of FTC challenges, "Dentistry—A Health Service" has been reintroduced, and a Committee for Developing Guidelines for Teaching Ethics in the Dental Curriculum has been activated. The Distinguished Service Award has been established. Management support has been given to the William J. Gies Foundation for the Advancement of Dentistry whose primary function is for the support of dental research, dental education and dental journalism (the Journal of Dental Research). New sets of rules from the Federal Trade Commission, Department of Justice, and the Internal Revenue Service have required more records, more reporting, increased costs. The management of the College has changed accordingly and the staff has been restructured to meet these new tasks (see attached Table of Organization). The question remains, "How will history record this decade?"

SUMMARY

The decade before the formation of the College was referred to as "The dawn of the era for dentistry" by Dr. Albert Midgeley of Providence, Rhode Island (2). The Dental Education Council of America had just issued its classification of dental schools, a Committee on Research by the National Dental Association was appointed, the Journal of Dental Research was founded, the International Association for Dental Research was founded, the report of the Flexner Report on medical education was released, the focal infection theory had been proven, the biological sciences became a recognized component of dental education, and dentistry was given a greater place in the health fields for service to the public. The dental leaders, who sat down in 1920, first had to face the problems of the dental profession. Rather than use the existing large organizations to meet these problems, they proposed the development of a new one that would promote the highest professional ideals and standards of ethics for service to humanity. For that purpose twenty-five leaders in dentistry were called together and the College was organized. For that purpose the College has existed.

I compliment the members of the Executive Office Staff for their outstanding support of the College during this reorganization period in the face of significant growth and increased activity. The stature and integrity of the members of the Board of Regents provides an organizational team whose experience and leadership is unsurpassed. The future of the College is in good hands.

References

The Executive Office of the American College of Dentists has been structured to provide the following support with the following personnel: Executive Assistant, Mrs. Jacquelyn Harrington; Assistant for Member Services, Mrs. Karen Matthiesen; Assistant for Publications and Awards, Mrs. Patricia Flinton; and Assistant for Finance/Comptroller, Mrs. Mae Hom. Although there is considerable overlapping of duties from time to time, the outline below identifies areas of responsibility that are primarily directed to each of these positions as supervised and coordinated by the Executive Director.
INCREASING USE OF DENTAL SERVICES BY THE YOUNG ELDERLY

H. Barry Waldman*

"For too long we have viewed generations of the elderly as somehow materialized at age 65 into some nonchanging stylized grandparent image." (1)

Until recently, most reports on population characteristics have tended to use the single category of "65 and over" as a catchall for the older segment of our communities. But to assume that a single category would be adequate to describe all the elderly, is comparable to an assumption that a single grouping would suffice to describe all individuals below 20 years of age.

In an effort to focus the dental profession's attention away from the traditional "grandparent image" and toward the evolving changing makeup of the older segment of the population, Etting and Beck divided the elderly into three groups: the new elderly (between 60 and 64 years of age), a transition group (between 65 and 75 years of age), and the older elderly (75 years of age and older). The authors emphasized the different historical and cultural events that impacted on each of the three groups and the resultant attitudes, expectations, political activities, etc.

The recently published report, "The Use of Dental Services: United States, 1983" is another step in providing essential differential data for the dental profession about the elderly—particularly since it covers the period after the last recession. The following presentation will compare these new data with earlier reports in an effort to increase practitioner interest in providing services for older population groups.

The Young Elderly—

As one elderly colleague informed me, "It's not important how old you are; what counts is how many years you have left." Flowing from this thought is the reality that, unfortunately, there are numerous "elderly young people", while there are many "young elderly." While it is all but impossible to satisfactorily classify groups in the population by "degrees of youthfulness," for purposes of this presentation, the population between 65 and 74 years of age will be considered the "young elderly.

In 1984, the "young elderly" numbered 16.7 million individuals (60% of the total 65 and over population). Women constituted 56.3% (9.4 million) of the "young elderly".

1. 81.9 percent of the male and 50.7 percent of the female "young elderly" were married.
2. Families headed by individuals between 65 and 74 years had a mean net worth of $125,000 and a median net worth of $50,000; Families headed by 75 and over individuals had a mean and median net worth of $73,000 and $36,000 respectively. Both older population cohorts had a net worth greater than that of all families. (All families: mean = $66,000; median = $24,500). (These data would indicate a weighting at the higher net worth level.) (See section below on Economics and the Elderly for further discussion)
3. In 1982, 13 percent of the "young elderly" required assistance of another person to perform one or more personal care or home management activities; compared to 25% for age 75-84 and 46% for age 85 and over.

Use of Dental Service—

a. Dental visit in previous year—In an era of increasing numbers of dentists and evolving dental diseases, there has been limited change in the pattern of visits to dentists by the overall population. In the early 1980's, approximately one half of the general public reported visiting a dentist in the past year. This was an improvement from the 1960's, when 41 percent reported a visit in the previous year. However, between 1973 and the early 1980's there were only minor variations in the percentage of individuals reporting annual dental visits. By 1983, there were some minor increases. (Figure I) However, large segments of the population did not report a visit to a dentist in 1983—particularly the 75 and over age category. (Figure II)

But between 1978 and 1983 (before and after the last recession) the 65 to 75 and the 75 and over age groups reported the highest percent increases in dental visit. (Figure III) Of particular note is the fact, that more than 40 percent of the 65 to 74 year population (both men and

*Changing presentations of age categories preclude a complete comparative analysis of 1983 data with that from earlier reports.

H. Barry Waldman, DDS, MPH, PhD Professor and Chairman, Department of Dental Health, School of Dental Medicine, State University of New York at Stony Brook.
women) reported a dental visit in 1983—an 18.2 percent increase since 1978. (Table I)

b. Number of visits by age—During the 1970's there were minimal changes in the number of dental visits per person—except for the older age category. While there were increases in all age cohorts between 1978 and 1983, (except the 75 and over age group) the 65 to 74 year age group reported the greatest percent increase (38.5%). (Table II, Figure III)

By 1983, individuals 65 and over, reported almost 40 million dental visits; with almost three quarters (72%) of these visits reported by the 65-74 age category. (Table III)

It is of interest to note that the number of visits by the 65 and over population increased by 22 percent between 1973 and 1978, and 42.7 percent between 1978 and 1983. During these same periods, the number of active dental practitioners increased by 12.4 percent and 12.0 percent respectively. (Tables III and IV)

c. Number of visits by gender—In 1983, in all age categories, women reported more visits than their male counterparts. Both men and women between ages 65 and 74 reported annual visit rates comparable to younger age cohorts (except for children between five and seventeen years). (Figure IV)

d. Number of visits by income—The direct relation between family income and dental visits has been reported repeatedly for past periods. The data from the 1983 study is in line with these earlier findings, but with the added information that, although dental visit rates did decline after age 70, higher income 70 and 75 year olds (family income of $20,000 or more) had a greater number of per person visit rates than all other higher income population groups (except teenager). (Figure V)

In terms of income, compared to all other age groups, the visit rate differed most for the 65 to 74 age category. For example, the “young elderly” with three or more visits represented:

a. 8% of individuals in families with incomes of less than $10,000,

b. 14% of individuals in families with incomes between $10,000 and $19,999,

c. 20% of individuals in families with incomes between $20,000 and $34,999,

d. about 29% of individuals in families with incomes over $35,000.

(In 1984, 18.5 percent of families headed by an individual 65 years and over had an income of $35,000 or more.)

e. Number of visits by race—As with many other demographic statistics, dental visits vary by race. In 1983, in all age groups,
minority populations reported fewer dental visits than their white counterparts. In particular, black population groups reported far fewer dental visits than white and "other" cohorts.

It is important to note that, in the 65 to 74 year group, white and "other" populations reported visit rates comparable to rates for all younger populations (except those between 5 and 17 years). (Figure VI).

Evolving Dental Status of the Elderly—

Lack of dental research on the elderly "has resulted in a number of stereotypes and generalizations that have been repeated so often they are presented as fact in geriatric texts and papers." These generalizations include: decreased salivary flow, altered taste and smell, atrophy of oral mucosa, atrophy of orofacial musculature, high rates of edentulism, high rates of root caries and advanced periodontal disease in remaining teeth. However, the true nature and extent of oral pathologic changes in the elderly are poorly defined and available epidemiologic data on the prevalence and incidence of oral disease in the elderly population are limited.

American Dental Association sponsored surveys of the general population during the middle and late 1970's provide a general description of the general health and dental status as perceived by the elderly (i.e. 60 years of age and older) living in private households.

Among the finding were the following:

1. Almost 50 percent were very satisfied with the condition of their teeth (or dentures) and gums; another 30 percent were fairly satisfied.
2. People with all or most of their teeth were far more likely to report going to a dentist regularly.
3. For those who went to a dentist within the last year, the services most frequently received were examination (40%) and cleaning (56%), followed by restorations (28%), dentures (21%), and oral surgery (14%).
4. The presence of complete dentures is highly associated with low income.
5. Between 1960 and 1975, there was a reduction from 62.5 percent to 40.8 percent of individuals wearing at least one complete denture.
A summary of national and local studies between the late 1950's and 1980 reported a marked reduction in edentulism for the 65 to 74 age population—from 55.54 percent to 33.8 percent.

**Economics and the Elderly—**

“Sixty-eight percent of the people less than 65 years of age think that finances are a very serious problem for most people over 65; but only 17 percent of the people over 65 think finances are a serious problem for the elderly.”

To even suggest that the economic status of some of the elderly is not as desperate as is generally portrayed in the press is to invite all forms of disparaging commentary. Yet, to some extent, the higher income of some elderly have been recognized. For example, as of 1984, income tax is levied on half of the Social Security benefits if an individual's gross income plus half their benefits exceed $25,000 for individuals or $32,000 for couples. In addition, income from tax-exempt bonds would count toward determining whether a person was over the threshold.

Between 1970 and 1985 the percent of persons 65 years and older below the poverty level decreased by 50 percent (24.6% to 12.6%). However, in 1984, 31.7 percent of the black elderly and 21.5 percent of Spanish origin elderly were below the poverty line. In addition, many elderly women, particularly members of the various minority groups, are in desperate financial status.

**Overview—**

Yes, there are segments of the older population that are unable to obtain dental services; particularly because government support for

---

**Figure III.** Percent increase in the number of dental visits per person and percent of population with a dental visit in the past year by age: 1978 to 1983 (8,9)

**Table 1.** Percent of population 65 years and over with a visit to the dentist in the past year: 1973, 1978-79 and 1983 (3,9,10)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65+</td>
<td>26.2</td>
<td>30.8</td>
<td>37.9</td>
</tr>
<tr>
<td>65-74</td>
<td>na</td>
<td>34.4</td>
<td>42.1</td>
</tr>
<tr>
<td>75+</td>
<td>na</td>
<td>24.1</td>
<td>29.9</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65+</td>
<td>28.0</td>
<td>33.2</td>
<td>39.1</td>
</tr>
<tr>
<td>65-74</td>
<td>na</td>
<td>38.4</td>
<td>44.1</td>
</tr>
<tr>
<td>75+</td>
<td>na</td>
<td>26.5</td>
<td>31.8</td>
</tr>
<tr>
<td>Male and Female</td>
<td>27.3</td>
<td>32.2</td>
<td>38.6</td>
</tr>
<tr>
<td>65+</td>
<td>na</td>
<td>36.6</td>
<td>43.2</td>
</tr>
<tr>
<td>75+</td>
<td>na</td>
<td>25.4</td>
<td>31.1</td>
</tr>
</tbody>
</table>
Medicaid dental programs is limited. But this reality is not very different from the efforts to bring dental services to younger population groups.

Until such time that third party support is available for all sectors of the community, practitioners will continue to serve individuals who are able to pay for needed care. And many of the elderly—particularly the “young elderly”—have the means and increasingly are securing dental services.

While such a discussion may carry with it the overtones of avarice or the inclinations to mercenary actions, the realities are that the profession must achieve reasonable financial returns if it is to exist and provide health services to particular population groups.

The need is to alter the stereotyped perceptions held by many, including the general public, dental students and even some professionals, that most of the elderly are “… unemployable, senile, infirm, myopic, deaf, constipated, toothless, asexual, and generally worthless …” Indeed, the elderly in general are “survivors, resilient, and very much alive,” rather than “a hopeless, inert mass, teetering on the edge of senility.”

Finally, as practitioners consider serving the “potential market” of dental services for the elderly, they should note that,

1. there have been marked increases in insurance coverage for dental costs (e.g. third party benefits provided 36.5 percent of the costs for dental services for the general population in 1985). But,

2. by the late 1970's insurance benefits represented only 3.8 percent of the costs for dental services for the elderly. (Med-
icad and various other government programs provided 2.2 percent of the costs for dental services for the general population.\(^3\)

3. Nevertheless, the elderly—particularly the “young elderly”—continue to increase their use of dental services! \(\Delta\)

**References**


Figure VI. Number of dental visits per person by race and age: 1983 (3)


Reprint requests to: Dr. H. Barry Waldman
School of Dental Medicine
State University of New York
Stony Brook, NY 11794-8715
Avowedly the subject of this discourse is of relatively minor importance. However, I judge it to be of interest and of a timely appeal. The materials for it were gathered during an exhaustive examination of the periodical literature. They were presented as fillers, usually quotes from newspaper sources. From my file I have selected thirteen items, with an earnestly sought variance in chronology, geography, and circumstance.

In 1874 an action against a dentist for extracting the wrong teeth came before a court in New Hampshire. The plaintiff having died since her unfortunate dental visit, her husband represented her interests. He testified that his wife had given the dentist explicit directions to extract certain teeth. However, he had made a clean sweep of one jaw and was rapidly "harvesting the crop of the other," when the patient recovered from the anesthetic. The suit was for $5,000 damages, but the jury, considering that it might have been a mere misunderstanding on the dentist's part and that the plaintiff was deceased, thought an award of $20 about right.

In 1877 a very important case was tried in New York City before Judge Kelly, of the Sixth District Court, and a jury. It attracted unusual attention because of the reputations of the plaintiff and the defendant and the essential princi-

ple involved in the claim of the plaintiff. The leading dentists, who possessed a superior quality of training and were dedicated to the advancement of their profession, had been struggling to educate the public that for superior services there should be fees worthy of the quality of those services. The majority of their contemporary practitioners, because of their comparably inferior training and skill, were strongly antagonistic in their efforts to depreciate the growing realization by the public that "you get what you pay for."

Dr. Frank Abbott, Dean of the New York College of Dentistry (President of the A.D.A. 1887-1888), sued General Patrick H. Jones, Register of the County of New York, for professional services rendered to the son of the general. The amount claimed was $155, on which $75 had been paid. The defendant's lawyer stated to the jury that his client defended his action as a matter of principle, believing that the plaintiff had been fully paid and that the suit was an attempt at extortion. Dr. Abbott contended that the work had been done in a superior manner and was fully worth the amount charged. As an instance of the charges, the plaintiff claimed $54 for two hours' work done on June 26, 1876, asserting that it was not the time consumed but the benefit to the child that should be considered. The jury, after fifteen minutes' deliberation, returned a verdict in favor of General Jones.

In 1881 Mary McMullen sued Dr. Schwarzschild for having charged her more than the stipulated price for filling her teeth and then removing the fillings because she refused to pay. Miss McMullen recovered $200 as damages, $66 as witness fees, and $17.50, the amount she had paid the defendant for the work done.

Dr. W. J. Younger, of San Francisco, operated on three teeth of G. Onesti in 1888. The dentist sent the patient a bill for $336.50, an aggregate amount of the fees due him for twenty-two hours and twenty minutes' work at $15 an hour. Onesti refused to settle, claiming that he considered $70 to be a reasonable charge. Suit was brought by the dentist, and the jury awarded the plaintiff the $70 Onesti had offered him before the suit.

In 1891 a prominent dentist of Bangor, Me., received from a visitor a demand for the payment of seven dollars, the amount he had paid for an upper plate that the dentist had made for his wife seven years ago. He complained that the plate had shrunk and that it would no longer stay in his wife's mouth. Of course the dentist explained that the woman's gums had shrunk; however, the man left the dentist's
office for a lawyer’s office. I wish I could inform you as to the after-math of those visits. Did the disgruntled husband engage a lawyer to take such a one-sided case—and if a suit was entered, did a judge or a jury possibly find for the defendant?

In 1891 Sam Small got into a brawl and had one of his teeth knocked out. He sued his attacker and assessed his damage at $5,000. The jury figured that since Sam had lost only one of the thirty-two he thus had estimated their value at $160,000. The jury decided that his claim was pretty high and took off one cipher, and awarded him $500, making their estimate of Sam’s dentition to be $16,000. The public regarded the award as very liberal since a full set of dentures could be procured for $20.

A perhaps unique suit was tried in St. Paul, Minn., in 1893. It had been decided in the case of Vandue vs. Woolsey that the sheriff could take possession of the plate to which false teeth were attached and dispose of it at public auction. However, Judge Kelly decided that a dentist has no lien on a set of false teeth on a plate after they have been "attached" to the patient’s mouth because so long as the teeth are in the defendant’s mouth they are part of his body and cannot be seized as chattels.

In 1894 a dentist created an unusual procedure to collect a bill that a patient’s husband had neglected to pay him despite many efforts by the dentist. Finally on meeting the debtor on the street he stopped him and said: "I don’t intend to send you any more bills, and I don’t intend to sue you. Every time you cut off a piece of meat and serve it to your wife I want you to remember that she is not chewing that meat with her teeth, nor with your teeth, but with my teeth."

In a few days the dentist received the long overdue check. Apparently watching the motion of the dentist’s teeth in his wife’s mouth had been too much for the obdurate debtor.

In 1902 Mlle. Sarkisova, a Russian opera singer, was traveling on the Transcaucasian Railway when the train ran off the track. Mlle. Sarkisova lost five of her front teeth. She brought an action against the railway company, claiming that as the loss of her teeth prevented her from singing she was entitled to heavy damages. The Civil Court in St. Petersburg awarded her $50,000 compensation. The rate of $10,000 a tooth was judged to be a record award for the loss of teeth.

The judge in a case tried in Milwaukee in 1904 decided that the mere fact that a dentist has fitted teeth into a patient’s mouth does not constitute delivery of the teeth unless they are paid for. The suit was brought to recover from the dentist a plate with seven teeth. The testimony showed that Dr. Schneider had taken the plate from the patient’s mouth to fix it and that he had refused to replace it until he should have received the balance due on the bill. Justice Ries decreed: "When the teeth were originally placed in the man’s mouth, it was done on the stipulation that they be paid for. The patient did not pay the contract price, but walked away with the teeth in his mouth. It is held that the defendant was justified in recovering the teeth, which were still his property, and holding them until the full price should be paid. Judgment for the defendant."

In a 1904 trial that must have amused those present in the court room, Dr. Frank Derby of New York won a $145 verdict in his suit against Frank Gardner, owner of race horses. The verdict was the full amount of an old bill for dental services. Gardner’s whimsical defense was that he had given Dr. Derby $300 worth of tips on the races, but the jury refused to recognize this counterclaim.

This challenging question came before a German court in 1906: Is a tooth that has been extracted the property of the dentist or of the patient? The court decided that the tooth still belongs to the patient after it has left his jaw. The dentist contended that a tooth “evicted from occupancy with the full consent of its landlord became ownerless and derelict,” and as the particular tooth was curiously shaped he proposed to keep it. But the patient also wished to have it. The court decided in favor of the patient.

The last case in this series did not go to a court contest because the dentist executed his own choice of a method to secure the successful solution. In 1910 Dr. R. W. Bane, of Chicago, had filled a molar in the lower left jaw with silver but waited with futile hope for his payment. Six months later the patient returned to the office in dire need of treatment of the opposite tooth. Dr. Bane placed a copper filling in the cavity. When the patient closed his mouth a strong circuit was established between the opposite metals. "I can’t stand this, doctor," cried the man. "Well, you will have to stand it till you pay my bill," replied the dentist, whereupon the money was immediately forthcoming and a new filling was put in.
Carolinas

The Carolinas Section of the American College of Dentists held its annual meeting on February 6–8, 1987 in Charleston, South Carolina. Section Chairman, Dr. William A. Mynatt of Asheville, North Carolina presided over a full weekend of Section business, clinical study, and social activities. Forty-four Fellows and their spouses were in attendance at the meeting, which was also attended by American College of Dentists President, Dr. H. Curtis Hester; Vice President, Dr. James A. Harrell; and Regency 3 Regent, Dr. Chris C. Scures.

The Scientific programs consisted of presentations on Fixed and Removable Prosthodontics by Drs. James Ryan and James Kessler of the College of Dental Medicine, Medical University of South Carolina. A tour of historic Charleston was arranged for interested Fellows and guests and a reception and banquet was also held.

Dr. H. Curtis Hester installed the 1987–88 officers of the Section. The new officers are: Chairman, Dr. Robert M. Wilkinson of Winston-Salem; Vice Chairman, Dr. Howard W. Higgins of Spartanburg; and Secretary/Treasurer, Dr. John B. Sowter of Morrisville.

Southern California

The ACD Southern California Section Achievement Award is presented to a graduating senior in each of the three Southern California dental schools. This unique award recognizes the potential for future contribution and service to the profession and to the public the profession serves, based on a combination of scholarship, leadership and self-initiated commitment and dedication to dentistry and service to the public while a student.

This award is presented annually to the selected recipients at the ACD-ICD Breakfast at the California Dental Association Meeting in Anaheim.
Kanemi Kanazawa was recently presented the Distinguished Service Award of the Hawaii Dental Association. Dr. Kanazawa served as the President of the Honolulu County Dental Society in 1964, the Hawaii Dental Association in 1968 and the Hawaii Service in 1970. He served as the first chairman of the Division of Stomatology of the University of Hawaii John A. Burns School of Medicine from 1970 to 1985. He was the recipient of the Distinguished Service Award of the Hawaii Society of Dentistry for Children in 1968. Dr. Kanazawa is very active in his community and religious organizations.

Donald E. Van Scotter was honored by the University of Wisconsin School of Dentistry by being presented a citation at the 37th Annual Wisconsin Pharmacy Institute. Dr. Van Scotter was recognized for significant contributions to pharmacy and society through research, instruction and involvement in professional and community organizations. Dr. Van Scotter is a Diplomate of the American Board of Periodontology and served as the Chairman of the Department of Periodontics at Marquette University for 5 years.

Ray E. Stevens, Jr. was recently awarded the 1987 Distinguished Service Award of the West Michigan District Dental Society. Dr. Stevens has practiced dentistry since 1947 and has been very actively involved in civic and professional organizations and served as President of the Kent County Dental Society in 1959.

D. Walter Cohen was recently awarded the title Doctor Honoris Causa by the University of Louis Pasteur in Strasbourg, France. Dr. Cohen, President of the Medical College of Pennsylvania, was recognized for his scientific and clinical research in the field of periodontics and for his extensive work on behalf of dental education in France. Dr. Cohen was the recipient of the Chevalier de La Ordre de Merite by the French government in 1982. He has been awarded honorary doctorates from Boston University, Hebrew University of Jerusalem and the University of Athens.
John E. (Jack) Gilster, was recently named recipient of the Gold Medal Award of the Greater St. Louis Dental Society. Dr. Gilster was recognized for his service to dentistry and to the Society. He was on the faculty of the Washington University School of Dental Medicine from 1950 until his retirement in 1985. He served as the Editor of the Bulletin of the St. Louis Dental Society from 1953-1963 and the Journal of the Missouri Dental Association from 1963-1973. He was Chairman of the American Board of Pedodontics in 1966 and President of the American Association of Dental Editors in 1971. He is presently serving as the President of the Dental Coalition for Public Awareness, Chairman of the Board of the National Foundation for Ectodermal Dysplasia, Chairman of the Missouri Pedodontic Examining Committee and the Editor of the Washington University Dental Alumni Newsletter.

James S. Granata has been named Chairman of Removable Prosthodontics at Baylor College of Dentistry, Dallas, Texas, effective July 1, 1987. Prior to joining Baylor's faculty in 1984, Dr. Granata was a Colonel in the U.S. Army Dental Corps. His most recent assignment was as deputy commander, U.S. Army Dental Activity, Fort Huachuca, Arizona. Dr. Granata is a Fellow of the American College of Prosthodontists and a Diplomate of the American Board of Prosthodontics.

I. Kenneth Adisman, Samuel I. Botkin, Paul Goldhaber, I. Franklin Miller, Murray J. Nelson and Herbert F. Spasser were honored May 8th by the New York University College of Dentistry's Alumni Association. Dr. Adisman, Professor of Prosthodontics and Occlusion and Director of the Advanced Education Program in Prosthodontics and the Implant Dentistry Program and Dr. Botkin, Clinical Associate Professor Operative Dentistry, received the NYU Alumni Association’s 35-Year Faculty Service Award. Dr. Miller, Clinical Professor of Prosthodontics and Occlusion, Dr. Nelson, Clinical Professor of Prosthodontics and Occlusion and Dr. Spasser, Clinical Professor of Endodontics, received the Alumni Association’s 25-Year Faculty Service Award.

Dr. Goldhaber has received numerous awards for his research and service activities including the Alumni Research Medal Award from Columbia University in 1966, the NYU Alumni Association Award in 1982 and the Distinguished Alumnus Award of the Columbia University Periodontal Alumni Association in 1984. Dr. Goldhaber served as President of the American Association of Dental Schools in 1985. Dr. Goldhaber, the Dean of the Harvard School of Dental Medicine received the NYU College of Dentistry’s 1987 Alumni Achievement Award.
STATEMENT OF OWNERSHIP AND CIRCULATION


The American College of Dentists is a non-profit organization with no capital stock and no known bondholders, mortgages or other security holders. The average number of readers of each issue produced during the past 12 months was 4600; none sold through dealers and carriers, street vendors or counter sales; 4351 copies distributed through mail subscriptions; 273 distributed as complimentary copies. For the Fall, 1986 issue the actual number of copies printed was 4987; none sold through dealers, etc.; 4351 distributed through mail subscriptions; 4351 total paid circulation, 269 distributed as complimentary copies; 4620 copies distributed in total.

Statement filed with the U.S. Postal Service, October 1, 1986.

INSTRUCTIONS FOR CONTRIBUTORS

INTRODUCTION

The Journal of the American College of Dentists is published quarterly 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. It is the official publication of the American College of Dentists which invites submission of essays, editorials, reports of original research, new ideas, and statements of opinion pertinent to dentistry. Papers do not necessarily represent the views of the Editor or the American College of Dentists.

EDITORIAL POLICY

The editorial staff reserves the right to edit all manuscripts to fit within the Journal space available and to edit for conciseness, clarity, and stylistic consistency. A copy of the edited manuscript will be sent to the author.

PREPARATION OF MANUSCRIPTS

Papers should be in English, typed double space on white 8-1/2 × 11 paper. Left hand margins should be at least 1-1/2 inches to allow for editing. All pages should be numbered.

THE INDEX

The Index Medicus and The Index to Dental Literature should be consulted for standard abbreviations.

The title page should contain: The title of the paper, suggested short titles; the author's names, degrees, professional affiliations, addresses, and phone numbers in a list of four to six key words. All correspondence from the editorial office will be directed to the primary author who shall be named on the title page.

REFERENCES

A list of references should appear chronologically at the end of the paper consisting of those references cited in the body of the text. This list should be typed double space and follow the form of these examples:


Each reference should be checked for accuracy and completeness before the manuscript is submitted. Reference lists that do not follow the format will be returned for re-typing.

REPRINTS AND ORDER FORM

A form for reprints will be sent to the corresponding author after the manuscript has been accepted and edited. He/she then shall inform all other authors of the availability of reprints and combine all orders on the form provided. The authors shall state to whom and where reprint requests are to be sent. Additional copies and back issues of the Journal can be ordered from the Managing Editor of the Journal.
OFFICERS

President
H. CURTIS HESTER
218 Lorraine Avenue
Upper Montclair, N.J. 07043

President-Elect
ROBERT W. ELLIOTT, JR.
8732 Falls Chapel Way
Potomac, MD 20854

Vice President
JAMES E. HARRELL, SR.
180-G Parkwood Prof. Center
Elkin, NC 28621

Treasurer
ROBERT C. COKER
1100 Florida Avenue
New Orleans, LA 70119

Immediate Past President
Norman H. Olsen
240 E. Huron St.
Chicago, Illinois 60611

Editor
KEITH P. BLAIR
4403 Marlborough Avenue
San Diego, California 92116

Executive Director
GORDON H. ROVELSTAD
7315 Wisconsin Avenue
Bethesda, Maryland 20814

REGENTS

Regency 1
GEORGE L. O'GRADY
N. Maple Ave., P.O. Box 170
New Gretna, N.J. 08224

Connecticut, Maine, Massachusetts, New Hampshire, New York, Quebec, Rhode Island, Vermont

Regency 2
JOSEPH P. CAPPUCIO
6810 N. Charles Street
Baltimore, MD 21204

Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Puerto Rico

Regency 3
CHRIS C. SCURES
2122 E. Robinson St.
Orlando, FL 32803

Alabama, Florida, Georgia, North Carolina, South Carolina, Virginia

Regency 4
W. ROBERT BIDDINGTON
West Virginia Univ. Med. Ctr.
Morgantown, WV 26506

Illinois, Indiana, Kentucky, Ohio, West Virginia

Regency 5
ROBERT E. DOERR
2021 Pauline Court
Ann Arbor, MI 48103

Iowa, Kansas, Manitoba, Michigan, Minnesota, Nebraska, North Dakota, South Dakota, Oklahoma, Ontario, Wisconsin

Regency 6
ROBERT E. LAMB
3808 Martha Lane
Dallas, Texas 75229

Arkansas, Louisiana, Mississippi, Missouri, Tennessee, Texas

Regency 7
THOMAS W. SLACK
3015 Jet Wing Drive
Colorado Springs, CO 80916

Arizona, Southern California, Colorado, Nevada, New Mexico, Utah, Wyoming

Regency 8
ALBERT WASSERMAN
410 N. San Mateo Drive
San Mateo, CA 94401

Alaska, Alberta, British Columbia, Northern California, Hawaii, Idaho, Montana, Oregon, Washington, Saskatchewan