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The JOURNAL of the AMERICAN COLLEGE of DENTISTS

OBJECTIVES of the AMERICAN COLLEGE of DENTISTS

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

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

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

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

(d) To encourage, stimulate and promote research;

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

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

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

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

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

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Correspondence relating to the Journal should be addressed to the Editor, Keith P. Blair, DDS, American College of Dentists, 839 Quince Orchard Blvd., Suite J Gaithersburg, MD 20878-1603

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CONTENTS

FROM THE EDITOR'S DESK

Dentistry in the 90's

Dentistry in the 90's may see significant changes, with dental education leading the way. The background that helped to cause these changes is briefly reviewed.

Over the past thirty years, dentistry has experienced rapidly changing factors, first initiated during the 1960's, when predictions of greatly increased need for dental care were made by leaders in education and public health. They called for dental schools to produce many more dentists each year to meet this antipated need. The response to this call was a tremendous expansion in dental education, including many new dental schools in the 1970's, that was intended to provide the additional dentists supposedly required to meet this need.

However, the public obviously did not perceive the increased need for care and did not generate any noticeable increase in demand for dental services, in spite of the greater availability of dentists.

When the expected demand did not materialize, it was finally realized that an oversupply of dentists had been unnecessarily created for the 1980's and beyond. School counselors advised potential dental students to look elsewhere for a career because dentistry was now overcrowded and lacked opportunity. Government suddenly abandoned its financial support for the

Keith P. Blair

schools as unnecessary, literally pulling the rug out from under the program of expansion which had been demanded of the dental schools only a decade before. Applicants to dental schools dropped annually from a high of 14,000 in 1978 to approximately only 4200 at present, the lowest number since before World War II.

In this erratic and quickly changing environment, dental education was thrown into chaos. Five private schools were closed and more closings are planned. Faculties were severely reduced or dismantled completely, leaving career educators without a career. Many dental schools frantically scrambled to find operating funds, and were left to fend for themselves by university administrators who seemed unconcerned with the problems of the dental schools and who apparently felt no responsibility to society to educate and train dentists. With steadily increasing education costs, dental students acquired an ever-growing debt burden.

In this tumultuous atmosphere, it became apparent to educators that the field of dental education needed assistance and direction. The Pew Foundation provided funds to launch a study for strategic planning in dentistry which involved 21 dental schools. The Pew Report produced new thinking and a national consensus on what was needed to be done. Furthermore, its findings have become the major motivating factors for proposed reforms in the dental school curriculum. Columbia University has already introduced substantial curriculum changes.

Among the Pew Findings: (1) Changing oral disease patterns have determined that less curriculum time needs to be devoted to dealing with caries, which has nearly disappeared in about one-half of the U. S. population. Instead, more effort is needed, through preventive community programs to reach the re-

Editorial continued

maining society groups that still have caries. Significantly, oral health is currently recognized as a key indicator in identifying socio-economic status: the lower the status the greater the oral health problems. Dentistry should work more closely with academic public health, and vice-versa.

(2) The number of older Americans is steadily increasing and they are more interested in receiving dental care than previous generations of elderly. Dental students need to learn more about geriatrics, physical assessment, medical histories and psychosocial factors of the elderly.

(3) Practice patterns are changing. The majority of practicing dentists will gradually shift away from solo practice and are more likely to join together into group practice associations.

With our clear hindsight in the 1990's, it is now obvious that the great expansion of dental education in the 1970's was not needed and that an oversupply of dentists was unnecessarily created that affected all areas of dental education and dental practice. Unfortunately, the pendulum has now swung to the other extreme of too few dental graduates and, if this trend continues, we are now in great danger of soon developing a shortage of dentists.

The subject of "Dentistry in the 90's" is thoroughly presented in a Symposium in this issue of the JOURNAL.

Keith P. Blair

FORUM

LETTER TO THE EDITOR

Dear Sir,

It has been brought to my attention that the leading article/editorial in Volume 58 No. 3 of the Journal of the American College of Dentists entitled, "Reciprocity and Licensure by Credentials — European Style," contains a number of inaccuracies. I am therefore writing to clarify the position.

The General Dental Council has been designated by Parliament as the competent authority in the United Kingdom for the purposes of the European Community Dental Directives. These concern firstly the mutual recognition of diplomas, certificates and other evidence of the formal qualifications of practitioners of dentistry, including measures to facilitate the effective exercise of the right of establishment and freedom to provide services (78/686/EEC) and secondly the coordination of provisions laid down by law, regulation or administrative action in respect of the activities of dental practitioners (78/687/EEC). This Directive sets out minimum training requirements in relation to basic qualifications in dentistry and also to specialist qualifications in Oral Surgery and Orthodontics. There is a further Directive setting up an Advisory Committee on the Training of Dental Practitioners (78/688/EEC). The task of the Committee is "to help to ensure a comparably demanding standard in the training of dental practitioners in the Community". The Dental Directives were approved by the Council of the European Community in 1978 and implemented by legislative action in Member States from 1980.

Against this background I should like to comment on a number of specific statements in your article:

(1) You refer to an article in the Summer 1991 issue of the Journal of the American College of Dentists which stated that "dentists who are graduates of an accepted EEC school of dentistry, who are citizens of an EEC country and who are registered dental practitioners in the country where they graduated, are therefore licensed to practise in any of the EEC countries." The position is in fact that any dentist who is a national of an EEC Member State and who holds an appropriate European diploma is entitled to be registered in any Member State. There is no requirement that the dentist be registered in the country of graduation but it is necessary to obtain registration in each country in which a dentist intends to practise. It is permissable to be registered in more than one country at a time. Under Article 9 of Directive 78/686/EEC a host Member State which requires of its own nationals proof of good character or good repute prior to registration as a dentist may require a dentist from another Member State to provide equivalent evidence of good standing from the competent dental authorities of the Member State in which the applicant was last established.

(2) It is stated that "in Europe, there are no dental associations and no accrediting bodies similar to the US system." This statement is inac-

curate. In the United Kingdom the General Dental Council is a non-governmental statutory body which validates dental qualifications. Only primary dental qualifications approved by the General Dental Council are recognised for admission to the Dentists Register in pursuit of its function "to promote high standards of dental education at all its stages". The Council appoints Visitors to inspect courses of undergraduate dental instruction in the United Kingdom and at those non-EEC institutions overseas whose qualifications are recognised for entry in the UK Dentists Register and to attend examinations and to report subsequently to the Council on the sufficiency of the standards attained. The Dental Council of Ireland has a comparable role in relation to dental education in the Republic of Ireland and there are a variety of validation procedures elsewhere in the Community.

(3) It is also stated that "the dental school that grants the dental degree also has the authority to grant the license to practise in twelve countries". This is not the case as registration (licensure) is the function of competent authorities which are in every Member State separate from the institutions which award dental degrees and diplomas. As indicated above, the Dental Directives also provide for minimum training requirements in the specialties of Oral Surgery and Orthodontics and in each country which operates a system of specialist registration there is an appropriate training and validation system.

(4) The article also states that "in the EEC system, the accreditation and the responsibility for overseeing the schools will rest completely with twelve separate governments controlling and supervising the dental schools, a feature that is not greatly assuring for the highest standards of education." The European Community Advisory Committee on the Training of Dental Practitioners provides a framework within which representatives of the practising profession, the dental schools and the competent authorities in each Member State combine to ensure comparably demanding standards of dental training throughout the Community. As part of this task of harmonisation, or convergence, the Advisory Committee is in the process of setting up a system of self-assessment for dental schools within the Community which will include both questionnaires and Visitations by teachers drawn from other Member States. A pilot project has already taken place and it is clear that the combination of questionnaires and on-site visits provides a stimulus to constructive self-appraisal and facilitates raising of standards throughout the Community.

I hope that you will be able to present this information in your Journal to set the record straight.

Yours faithfully,

Norman Davies, MBE, JP, BA
Registrar
General Dental Council
37 Wimpole Street
London, W1M 8DQ

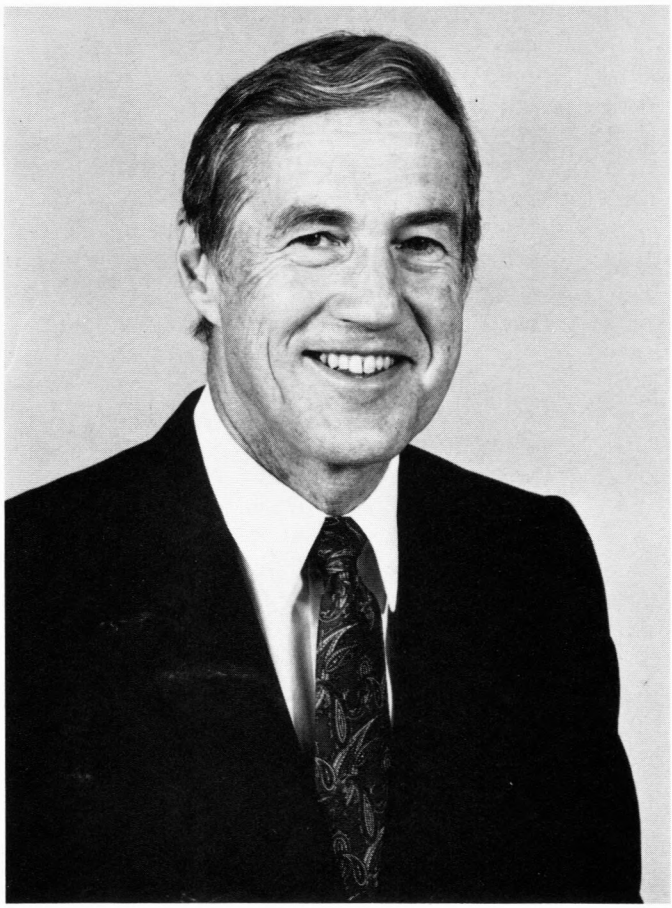
The letter to the editor by Mr. Norman Davies, Registrar of the British General Dental Council, in response to the editorial "Reciprocity and Licensure By Credentials-European Style" in the Fall 1991 issue of the *Journal* correctly points out certain operational details regarding credentialing of dentists in the EEC countries which were not emphasized in the editorial. His letter is appreciated.

The editorial did not attempt to focus upon those operational details in order to bring to the attention of readers the significant difference between the US and EEC dental schools in regard to the credentialing of dentists. In both the EEC countries and in the US, dental schools must be accredited. The difference, however, is that a student graduating from an EEC school is not required to take and pass an additional licensing examination. For example, as was described in the original article on this subject "Dental Licensure in the European Community: Implications for the U.S." which appeared in the Summer 1991 issue of the *Journal*, dental schools in the United Kingdom have the power to "hold examinations in dentistry and grant licenses certifying the fitness of the holder to practice dentistry; and the holders' names *shall* be entered on a list of licentiates in dentistry." (emphasis added) [Dentists Act, General Dental Council, London, 1988]. Thus, for all practical purposes, EEC dental schools both graduate and credential dentists. This is quite a difference from US in which a separate examination is required.

The main purpose of the editorial was contained in the sentence, "Most importantly, therefore, the quality of the education and the curriculum in the EEC dental schools should be of utmost concern because it will be the main basis for quality control and for regulating health professions." That remains the salient point. Thus the conclusion of the editorial was that, "Any changes in this country should be considered only with the comprehensive involvement of health care organizations so that the health interests of the public are best served and protected."

Editor

Richard C. Oliver Appointed Associate Editor for JOURNAL



Richard C. Oliver

Richard C. Oliver, DDS, MS has been appointed to the JOURNAL Staff as Associate Editor for Dental Practice, succeeding Dr. William W. Howard.

Dr. Oliver is currently at the University of Minnesota School of Dentistry where he is a Professor in Periodontology, a Professor in Health Ecology and a Professor at the U. of Minnesota School of Public Health Center for Health Services Research. He was the Dean of the U. of Minnesota School of Dentistry for ten years. (1977-1986).

He is widely known throughout the dental profession as a researcher, administrator, clinician, author and editor. He is the author of many publications, primarily in his field of Periodontology and is highly acclaimed as a program speaker, as is evidenced by his many invited presentations.

He is a 1953 graduate of the University of Minnesota School of Dentistry and, before he became the U. of Minnesota Dean, he served as Dean of the University of Southern California School of Dentistry. In 1982, he was President of the American Association of Dental Schools.

Dr. Oliver has also been very active in dentistry beyond his academic duties, serving the profession in many different capacities. He has served the American Dental Association on committees and as a consultant. He chaired the Visiting Committee for the ADA Commission on Dental Accreditation and chaired the important ADA Special Committee on the Future of Dentistry. He continues to be involved with the American Fund for Dental Health.

On the JOURNAL Staff, Dr. Oliver will be responsible for reviewing manuscripts in the field of dental practice which are submitted by authors and are to be considered for publication in the JOURNAL of the American College of Dentists.

APPROPRIATENESS OF CARE

Appropriateness of Restorative Treatment Recommendations: A Case for Practice-Based Outcomes Research

Daniel A. Shugars *
James D. Bader **

Dentistry has begun to grapple with a group of issues that will influence the profession substantially over the next few decades. The issues, referred to collectively as "appropriateness of care," will challenge the profession to demonstrate that many of its most fundamental assumptions are, in fact, correct (Figure 1). Concerns over appropriateness of care are leading to questioning the evidence for such widely held truths as the superiority of crowns,[1] the wisdom of removing asymptomatic third molars,[2] and the need for routine prophylaxis for most patients.[3] As an initial response to concerns about appropriateness of care, the dental profession initiated a program to develop practice parameters.[4] However, the parameters initiative was terminated, in part, because their development required more information about outcomes of treatment than was currently available.[5]

To help focus discussion of these issues, this paper will 1) briefly trace the development of appropriateness of care issues in medicine, 2) present data from a current project to illustrate that the same issues challenge dentistry, and 3) discuss methods to produce the information needed to ensure that dentistry does have the information to confront these challenges and provide appropriate care.

Appropriateness of Care Issues in Medicine

In the decades following World War II, researchers and those within the medical profession began to investigate the issue of appropriateness of care by exploring the concept of quality of medical care. While there were many different organizing schemes for understanding quality of care, the most widely accepted view conceptualized quality of care in terms of three aspects: structure, process, and outcome.[6] Early research into quality of care focused primarily on the structural and procedural aspects of medical care.

Beginning in the late 1960s, other researchers examined the procedural aspects of care to learn more about treatment appropriateness.

Concerns over appropriateness of care are leading to questioning the evidence for such widely held truths as the superiority of crowns,[1] the wisdom of removing asymptomatic third molars,[2] and the need for routine prophylaxis for most patients.[3]

They found that there was considerable variation in the utilization rates of surgical procedures within small but similar geographic areas.[7-10] While this variation was thought to be due to many factors, much of the variation was attributed to the "practice style"[11,12] of the provider and was shown to result in both under and over utilization.[13-15]

The growing awareness of the cost implications of this variation[16]

* Daniel A. Shugars, DDS, Ph.D., MPH
Associate Professor

** James D. Bader, DDS, MPH
Research Associate Professor
University of North Carolina
School of Dentistry

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sparked interest in the development of practice guidelines.[17-19] The rationale for this interest was that if effective treatments were known, then only those so categorized would be reimbursed, thus reducing the amount of ineffective care and its accompanying costs.[20,21] However, as researchers and those within the profession began to develop practice guidelines, they found that they had to rely on data from a limited number of efficacy studies. There were almost no studies of effectiveness. Thus, many guidelines are products of the opinions generated from panels of experts. Equally as problematic, efforts to develop guidelines revealed that little was known about patients' perceptions of the outcomes of medical treatments.[22]

Efforts to develop guidelines revealed that little was known about patients' perceptions of the outcomes of medical treatments.[22]

This paucity of information combined with ever-increasing federal health care expenditures prompted Congress to look to outcomes research as a means of establishing the effectiveness of medical treatment and as a sound source for the development of practice guidelines. In 1989, Congress established the Agency for Health Care Policy and Research to support studies designed to reduce variation in treatment selection, increase appropriateness and assess effectiveness of medical care, and develop practice guidelines.[18,21] While many policymakers are looking to these initiatives to help reduce unnecessary medical expenditures, others are less sanguine about the cost containing prospects of these efforts.[22] Nevertheless, many clinicians, researchers, and policymakers agree that these efforts have the potential of greatly enhancing the appropriate utilization of medical services.[20]

Variation in Dental Treatment

Only a few studies have explored variation in dental treatment, either at the level of the practice or the patient. Although a crude means of examining variation in treatment,

Figure 1.

Explanation of terms

Appropriateness

Appropriateness comprises considerations of the accuracy of risk assessment and diagnosis, and treatment outcomes such as the relative effectiveness and cost-effectiveness of alternative treatment strategies, together with the short and longer-term physiological and psychological results of those strategies.

Effectiveness

Effectiveness examines the likely benefit of a treatment when provided under ordinary conditions by the average practitioner for the typical patient.[41]

Efficacy

Efficacy refers to the "probability of benefit to individuals in a defined population from a medical technology applied for a given medical problem under ideal conditions of use."[41]

Outcomes Research

Outcomes research examines the clinical, functional, and psychological results of a therapeutic intervention as well as the patient's perceptions of the outcome of treatment and its effect on quality of life.[21]

Standards, Guidelines, Parameters

Standards are the most specific directives on the selection of a treatment for the management of a clinical condition. Guidelines are a less directive means of assisting in the selection, from among alternatives, of a treatment that will increase the likelihood that effective and appropriate care will be delivered. Parameters of care, the least rigid form of treatment directives, are more general strategies designed to assist practitioners in clinical decision-making.[41]

Variation in Use

Variation in use "most commonly refers to different observed levels of per capita consumption of a service" when "all the usual explanations for use, such as demographic, social, economic, and health status factors have been controlled, leaving no obvious explanation for differences except for those related to practice style of the individual provider."[41]

TABLE 1

Distribution of Tooth Specific Treatment Decisions Made by 15 Dentists for Patient A

	Treatment Decision		Principal Reason for Decision to Treat				Type of Restoration Treatment Planned	
Tooth	No Tx	Treat	New Caries	Recurrent Caries	Faulty Restoration	Other	Resin or Amalgam	Crown
2	8	7	0	0	6	1	7	0
3	1	14	0	2	6	6	8	6
7	12	2	2	0	0	0	2	0
9	14	1	0	0	0	1	1	0
10	14	1	1	0	0	0	1	0
11	6	9	1	5	0	3	9	0
12	6	9	8	0	0	1	9	0
14	10	5	0	0	0	5	0	5
15	6	9	1	3	3	2	9	0
18	5	10	2	2	6	0	10	0
19	3	12	4	2	5	1	9	3
30	14	1	0	1	0	0	0	1
31	0	15	0	1	14	0	15	0

studies have shown substantial variation in practice-level service rates among practices treating relatively similar patient populations.[23-26] The one U.S. study that examined variations in dentists' treatment recommendations for the same patient found that recommendations varied considerably among examining dentists, but the variation was expressed only in terms of total costs of recommended treatment.[27] Information describing the reasons for these cost differences was not reported.

As a part of a project to define restorative treatment needs, groups of full-time privately practicing general practitioners from a four-county area in North Carolina examined and planned treatment for groups of patients recruited from the dental school patient pool.[28] Dentists indicated any planned restorative treatment for each tooth, together with the primary, (and secondary and tertiary, if appropriate) reasons for that treatment. Recorders present at each dentist-patient interaction prompted dentists for treatment details (type of restoration, surfaces) as well as reasons. Dentists were requested to proceed as they would in their own offices, although radiographs and periodontal charting data were provided for them. Dentists were encouraged to approach the patients as private patients in their offices, and to pursue financial issues as well as patients' preferences in their usual manner. Patients were asked to respond as if this was an "actual visit" for them, with all of the attendant financial and treatment acceptance issues. Patients were selected to present a variety of single-tooth restorative decisions, with the emphasis placed on the presence of existing amalgam and composite restorations. Patients with multiple missing teeth, and those with periodontal complications were not selected.

The results of the examinations for two patients serve to indicate the extent of variation in treatment decisions that exists among dentists. One patient was examined by 15 dentists and the other by 16 dentists. Twelve of the dentists were the same for the two patients. The first patient was a 42 year-old white female who had no dental insurance and who reported a history of dental visits only when necessary. In this patient, 13 of 28 teeth received a recommendation for treatment by one or more of 15 dentists (Table 1). The range in number of dentists recommending treatment for these teeth was from 1 to 15. A total of 95 recommendations were made, with the number per dentist ranging from 4 to 11. Of the 13 teeth receiving treatment recommendations, 6 received recommendations by a minority of examining dentists

(7 or fewer). The range in cost for the 15 dentists' treatment plans was from $180 to $1340, when calculated using standardized fees for each type of restoration. The second patient was a 33 year-old white male with no dental insurance who reported a history of regular visits. In this patient 13 of 32 teeth received at least one recommendation for treatment, with a range from 1 dentist to all 16 (Table 2). A total of 70 recommendations were made, with the number per dentist ranging from 2 to 11. Ten of the 13 teeth received treatment recommendations from a minority of dentists. Costs of planned treatment ranged from $420 to $2400.

> The lack of understanding or consensus about the relative effectiveness of dental treatments is likely to account for variation in treatment recommendations

Need for Collecting Outcomes Data

A model of dentists' restorative treatment decision process, based in part on the existing literature and in part on new information gained from a current research project, suggests that there are three distinct points in the decision process at which variation can occur.[29] These steps are the detection and diagnosis of a clinical condition, the decision to intervene given the detection and diagnosis, and the selection from among alternative interventions. It is evident from the literature and Tables 1 and 2 that variation in treatment decisions is introduced by differences in assessments of existing restorations,[30-32] and differences in caries diagnosis,[33,34] In addition to differences in dentists' diagnostic determinations, the lack of understanding or consensus about the relative effectiveness of dental treatments is likely to account for variation in treatment recommendations found in these patients as well.

Presumably, if the relative effectiveness of alternative treatments was well understood, variation in treatment recommendations would be reduced. The determination of treatment effectiveness, however, requires considerable information about the treatment and its outcomes. For instance, in dentistry, the *efficacy*, or benefit of treatment performed under ideal circumstances, of many tooth-colored and

TABLE 2

Distribution of Tooth Specific Treatment Decisions Made by 16 Dentists for Patient B

	Treatment Decision		Principal Reason for Decision to Treat				Type of Restoration Treatment Planned	
Tooth	No Tx	Treat	New Caries	Recurrent Caries	Faulty Restoration	Other	Resin or Amalgam	Crown
2	0	16	1	5	6	4	7	9
3	9	7	0	0	5	2	4	3
5	14	2	0	1	1	0	2	0
8	14	2	1	0	0	1	2	0
12	14	2	0	0	2	0	2	0
13	14	2	0	0	2	0	2	0
14	11	5	0	1	2	2	1	4
15	8	8	1	0	3	4	4	4
19	14	2	0	1	1	0	1	1
20	15	1	0	0	1	0	1	0
29	9	7	0	3	0	4	3	4
30	11	5	0	0	4	1	4	1
31	5	11	0	0	2	9	2	9

amalgam restoratives has been well-documented.[35-36] With the exception of dental sealants, [37] however, the *effectiveness*, or average benefit of a procedure, when used by the average provider in the average community, of most common dental therapies has not been established. Similarly, only initial inroads have been made into measuring the effects of dental treatment on the quality of life[38] or measuring patients' satisfaction with their care.[39,40]

> Organized dentistry could provide the leadership to form networks of private dental practices to collect information on treatment effectiveness in a scientifically valid and reliable manner.

Traditionally, randomized clinical trials have been used to establish treatment efficacy.[41] These trials, conducted in highly controlled settings, are expensive, present ethical constraints, and oftentimes do not reflect the outcomes obtained when used in a typical practice setting. An alternative approach used in medicine to assess treatment effectiveness is the longitudinal observational study. Such studies examine the outcome of treatments delivered by average providers providing care in average clinical situations. Data from these studies are used to determine the effectiveness of treatments which, in turn, when used in practice, can reduce the inconsistency in treatment selections made by doctors in everyday practice.[42]

To provide a better understanding of the course of disease or the effectiveness of a particular treatment conducted in real world practices, several medical specialties have used practice-based research networks (PBRN) to collect data for these types of studies.[43-47] Practice-based research networks have become "prominent as research laboratories that make possible the study of a variety of health and health care phenomena as they present in the general population."[43] PBRNs are characterized as a network of practitioners who define research questions and "capture health and health care events in relatively unselected patient populations".[43] Although networks are challenging to create and maintain, they have the potential to provide direct knowledge of treatment effectiveness and the natural course of health problems.[43]

As the dental profession is increasingly encouraged to examine appropriateness of care issues, it is essential for the profession to collect practice-based data on treatment outcomes. After all, this is where the vast majority of dental care is delivered. Organized dentistry could provide the leadership to form networks of private dental practices to collect information on treatment effectiveness in a scientifically valid and reliable manner. A group of practicing dentists, through a study club or dental society, could explore an issue that has particular clinical relevance to them. Working with researchers familiar with these types of projects, the group could design an unintrusive, practical means of collecting the necessary information and assist in the interpretation of the findings. By way of example, most general dentists do not know with any degree of certainty what the different probabilities of success of direct pulp cap therapy might be in treating younger versus older patients; in treating teeth with mechanical exposures versus carious exposures; and in treating posterior versus anterior teeth. To answer these questions, participating dentists could collect information about the patient and the clinical condition. The status of the tooth could be evaluated at subsequent recall visits. Aggregated over several practices, there would be an adequate sample from which to draw practical conclusions. Such an activity would allow dentists to systematically evaluate a particular procedure or condition of interest and provide results that would be directly representative of and applicable to the daily practice of dentistry in the "field."

In summary, the profession has limited knowledge of the likelihood that certain commonly used treatments will yield specified outcomes. With this lack of consensus on treatment outcomes, neither the dentist nor the patient is able to make an informed decision regarding the selection of the preferred treatment from among several alternatives. Issues of cost and appropriateness of dental care combined with efforts to develop dental practice parameters will demand an enhanced understanding of the effectiveness of common dental treatments. In the future, seven-fold ranges in treatment costs will be hard to defend to payors and patients, and consensus on treatment recommendations to reduce this variation will be elusive until we have a better understanding of treatment effectiveness.

> The profession has limited knowledge of the likelihood that certain commonly used treatments will yield specified outcomes.

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Reprint requests to:

Dr. Daniel A. Shugars
School of Dentistry
University of North Carolina
Chapel Hill, NC 27599-7450

DENTISTRY FOR THE 90'S:

Dental Education Policy: Changing Factors*

Allan J. Formicola **

The U.S. enjoys a high level of dental health. This high standard has been achieved by a dental profession oriented toward preventive services. The profession, composed mainly of general dentists supported by a full range of specialists, has excellent schools of dentistry with high academic standards throughout the nation. Yet, just below the surface there is a set of major issues which dental schools must confront in the 1990s. The understanding and assistance of the community outside the profession is required to solve these issues. Unless attention is paid to these issues in the 1990's many of the advances made so far in the 20th Century could become reversed.

The 1980s were extremely difficult for dental education. Schools across the nation were coping with a confusing and rapidly changing environment for dentistry. A perceived oversupply of dentists, alterations in disease patterns, rapid advances in technology and science coupled with an excellent job market in competitive fields hit dentistry hard, at the same time. Applicants to dental schools dropped from an all time high of 14,000 in 1978 to only 6,200 by 1985. First year enrollments across the country reflected the abrupt disinterest in the profession by the college age population, plummeting from 6,301 in 1978 to 4,843 by 1985. This contraction by one-third in the first-year classes across the country occurred over a relatively short period of time. The contraction was created by what can best be described as a cloudy picture or an attitude that there was a decline in the future of the profession. It placed all schools in jeopardy as they tried to cope with rapid contraction in a system which was expanded only in the 1970s. By the second half of the 1980s this so-called decline attitude about the profession precipitated the closing of five private dental schools, four of which were longstanding schools of excellence. One was a relatively new school, Oral Roberts, that never took hold. Talk of other schools closing in both the public and private sector ran rampant throughout the profession and continues to do so today, although somewhat abated. As the 1980s passed their halfway mark what was already a fragile national system of dental education appeared to be sliding into total collapse.

> Unless attention is paid to these issues in the 1990's many of the advances made so far in the 20th Century could become reversed.

In the early 1980s, one found few allies who wanted to assist the dental schools. The Federal Government adopted a market economy attitude toward dental education and reversed the 1970s policy of recognizing the dental schools as a national resource. Those in the practicing profession believed there were too many dentists as they were feeling the ill effects of the economic recession of the early 1980s. In some instances, practitioners looked on the schools as a reservoir of future competitors and placed pressures on schools' public and private boards to close them. Poor analyses of the good news, the drop in caries rate in U.S. children, were translated by an over-exuberant research community and sensationalizing press into the demise of the dentist.

By the mid-1980s, however, the seeds of reason for a new agenda for dental education were being planted by the Pew Foundation. The leadership in that Foundation recognized that this rapidly changing environment was creating chaos for dental education. They reasoned that unless some clarity was brought, the cloudy image of the profession would ultimately result in the public suffering. In 1985, the Foundation launched an $8.7 million National Dental Education Program. It has resulted in the glimmers of a turnaround, or if you will, the bubbling up of the major issues confronting dentistry to a level with which national groups can respond in the 1990s. The Pew National Program for Dental Education was unique as it recognized that the best way to take stock of the collapsing system was through introspection, planning and reforms at the individual school level rather than through sweeping national solutions. The Pew initiative recognized that the confusing environment for dental education did not lend itself in the 1980s to a grandiose solution. However, the results of the Pew Project are leading us to a national consensus on what needs to be done to maintain a vital and viable system of dental education. It is separating fact from fancy and bringing logical solutions to complex problems.

Twenty-one schools were funded

** Allan J. Formicola, D.D.S.
Dean, Columbia University, School of Dental and Oral Surgery

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A SYMPOSIUM

by the Pew Foundation to undertake planning and six schools were subsequently funded to implement their plans. As the Dean of one of the six schools funded in both phases, I would like to share with you the results of Columbia's thinking on the changing environment, and then I'll draw some conclusions and national recommendations for dental education for the 1990s.

When the Pew Project came along in the mid-1980s, Columbia already had a faculty committee functioning, attempting to understand the promising alterations in disease patterns and changing demographics and translating these changes into curriculum reform. The Pew Process helped us assess those factors in greater depth. The first phase of the project — the planning phase, lasted two years and involved a wide group of faculty and others both inside and outside the school. Working with commissioned white papers on various subjects, and internal assessments of the school itself, the school was able to develop a strategic plan to respond to the changing environment which we are implementing now in Phase II.

Phase I - 1985-87

During the planning phase we assessed the external environment around us putting into perspective a myriad of changing scientific, societal and professional trends. Three factors, however, emerged which led us to making significant curriculum reforms. They are:

(1) The changing oral disease patterns
(2) The growing number of elderly as a proportion of the U.S. population
(3) Alterations in practice patterns

We have reformed the content of the curriculum as a result of these three factors.

> The results of the Pew Project are leading us to a national consensus on what needs to be done

(1) The Changing Oral Disease Patterns

As recently as 1971, screening for tooth caries or decay was felt to be a waste of resources since every child had tooth decay. The dental curriculum and much of dental practice for the general practitioner were based on this fact. The majority of the 3,700 clinical hours in the dental curriculum were devoted to dealing with caries, and the teaching of the considerable skills necessary to treat caries and its sequelae have preoccupied dental educators over the past four decades. But by 1979, national surveys showed that 36% of children ages 5-17 were free of caries, and by 1986 this had risen to 50% of the children. In the early 1980s these data were immediately translated by the media and some within the profession into the notion that (a) we didn't need to be producing dentists anymore, and (b) there was no future for the profession. However, when we began to separate fact from fancy, we, of course, realized that it would be at least 2015 before this healthier cohort of children became the adult population in the United States and that there was still a major proportion of children, another 50%, who were experiencing caries. We also realized that we hadn't eliminated caries as a disease but only reduced it by preventive measures which needed to be maintained or the drop in caries could easily be reversed. We concluded then that we still needed to teach restorative dentistry and, parenthetically, we still required dentists; however, the curriculum for general dentists could now be broadened because practices could begin in the future to place emphasis on other areas of neglect such as periodontal disease and other oral conditions.

The curriculum needed to be broadened in content then! Coursework in new subjects, such as risk assessment, needed to be added, and so too was there a need to devote research energy in the schools to develop a better basis for risk assessment. The curriculum needed to encourage some students to gain in-depth knowledge in dealing with the social problem of how to spread the preventive benefit of reduced caries to all segments of the population, not only the socio-economic groups in which the reduction in caries was being recorded.

(2) The Growing Number of Elderly as a Proportion of the Population

The second changing factor we found of major significance for curriculum reform was the demographic shift to the older American. By now the country accepts the fact that the number of elderly as a proportion of society is steadily increasing. We were, as a nation, just awakening to this fact in the early 1980's. During the Planning Phase, our conclusion was that there were two significant implications of this fact for the dental curriculum and the profession. First, while at present 45% of individuals over 65 years of age are edentulous, those maintaining their teeth well into their sixties, such as the baby boomers, come into their 6th decade

and beyond. Because of better oral health care, and a desire to keep their teeth, dentists will be treating many more older individuals in the late 1990s and beyond who will want a functioning natural dentition maintained throughout life. That means dentists will need to treat the older age group with more complex restorative care. Dentures are fairly simple treatment and require non-invasive procedures but longer appointments and invasive treatment will be required to maintain the elderly's natural dentition in the future. Dentists will, therefore, be required to have a greater capability to understand the complex medical histories of older Americans in order to carry the elderly safely and comfortably through these more complex treatment plans which is the second implication for the dental curriculum on the aging of society. They will need also to better understand the psychosocial factors involved with aging.

Changing caries rate, changing demographics and changing practice patterns became the major motivating factors for reforms in our curriculum.

Translated into curricular terms, it means the school needed to place greater emphasis on patient physical assessment to handle the medical problems of the older American and, at the same time, students would need a broadened curriculum to deal with the psychosocial complexities of the older American. Laws were also pushing in the direction of a deeper medical knowledge for the dentist in order for them to use inhalation and parenteral pain sedation techniques. Infectious diseases and surgical advances in specialty areas such as in periodontics and oral and maxillofacial surgery also were calling for a stronger undergraduate training in medicine.

(3) Changing Practice Patterns

The third changing factor we found of significance was the changing patterns in practice. While currently solo private practices predominate, high overhead costs and the increasing percentage of third-party insurers are leading to dentists banding together into practice associations. Over 32 billion dollars were expended for dental care in 1987 (6.5% of total health care costs) and approximately 39% of the nation's dental care bill was paid by third-party insurers, up significantly from the 1970s (about 20%). The increasingly complex system of financing dental care from the earlier, relatively simple self-pay system, changing ratios of general practitioners to specialists, and the addition of newer technology into practices, such as implants and esthetic restorations, will result in a more complex practice environment for practitioners. The need to better understand and find solutions to access and equity issues in the delivery of care requires schools to broaden students' education into areas such as the social sciences from the narrower specified core curriculum in dental subjects and basic sciences. Students need a broader education to cope with this growing more complex environment. The profession requires graduates to have a more profound understanding of health services delivery issues. The curriculum needs to change, too, in order to encourage some students to devote themselves to further graduate studies and research in this emerging field.

While there were many other collateral issues we studied, and continue to do so, these three important factors—changing caries rate, changing demographics and changing practice patterns became the major motivating factors for reforms in our curriculum. To us, these three factors translated into a need to strengthen the education for general dentistry.

Phase II - 1988-1992

Columbia has adopted reforms to our curriculum to deal with these three major factors. The school was one of only six schools to be funded by the Pew Foundation to implement its changes based on its Phase I Planning. To implement change, we built on an already strong basic science education, on close ties with the sister schools of medicine and public health and by working closely with the affiliated hospitals. As a result, our curriculum now has three new concepts to it. They are:

(a) The addition of a Medical Core in years two and three
(b) An Area of Concentration Program
(c) A major new Postdoctoral Fellowship year in General Dentistry

Medical Core

The Medical Core provides students the coursework in pathophysiology which is the basis for better physical assessment of their patients. The students now have a greater in-depth ability to perform medical risk assessment for the growing complexity of their patient pool and to work closer with their medical colleagues in managing patients with special risks.

The Area of Concentration program begins at the end of the second year and offers the students an opportunity to broaden out their education. It breaks the lock step curriculum in which all students take the same exact coursework. Twenty-two separate courses organized around four concentration areas provide students with the opportunity to broaden their education in such areas as public health education. This significant elective opportunity makes dental school more interesting for the students *and* recognizes that the ever more complex world requires practitioners to broaden themselves beyond their narrow field of expertise.

The Postdoctoral Fellowship Program in General Dentistry faces the reality that the majority of students wish to take an additional year of training before entering the complex practice world or specialty training. Our program is unique in that students can translate their undergradu-

ate Area of Concentration into a formal degree at the postdoctoral level, or it can mean an opportunity for an individual student to gain some more knowledge in collateral areas while assimilating clinical skills.

In order to make these changes, much had to happen because the curriculum was already overcrowded. We had to radically alter the 2nd and 3rd years of the curriculum. We placed students in a group practice environment to learn to work as teams and to provide more efficient education using simulation and computer technology. We reprioritized the goals of each year and reprogrammed course hours. We needed to add flexibility while we decompressed the overcrowded curriculum.

Summary and Recommendations for the 1990s

Now, what is unique in all of this is that Columbia made changes based on the world around us, trying to align better educational goals to our assessment of what the public needs in the 1990s and beyond into the early years of the 21st Century. That, I believe, is the strongest lesson, that educational goals need to be aligned to what will serve the public best, not just to serve the egos of individual course directors, all vying for their special interests in the curriculum. We need to encourage integration of curriculum goals to overriding broader concerns, instead of continuing fragmentation to the narrower interests. The other lesson coming out of the Columbia Plan is that major change is possible in the curriculum, but it has to be put into place with overall reforms, using newer teaching methodology and by decompressing the overburdened curriculum. The curriculum is not immovable as some insist. If there is a will to change it, it will yield.

The changes we have made are probably mid-course ones to carry us to approximately the year 2000. Now a national consensus needs to occur in the 1990s to better align future educational goals with societal, scientific and technological advances, maybe along the lines we have implemented. To arrive at such a national consensus, I believe the following four major actions are needed in the 1990s:

(1) A Major national study needs to address the type of dental education needed for the years 2015 and beyond. This study needs to take into account manpower issues, the ratio of specialists to general practitioners, the cost of education, and the lack of healthy competition which will result from the demise of the private sector in dental education. The important role schools play in providing patient care services to such special patient populations as the handicapped and those with limited access to care, such as the poor, needs to be clearly recognized and articulated. The considerable financial burden of the schools' clinics needs to be analyzed and support found for them to continue along with a recognition of their public service role.

The curriculum is not immovable as some insist. If there is a will to change it, it will yield.

(2) Venture funds need to be found for educational innovation in the 1990's. These funds need to encourage schools to engage in curricular experiments.

(3) Health services research in dentistry needs to be encouraged and funded.

(4) Continuing education beyond the DDS degree needs to be recognized by licensure agencies. All students should have a postdoctoral year before initial licensure and existing practitioners need higher quality continuing education to keep them abreast of rapid changes.

Finally, I would like to observe that the recommendation made recently by the Association of Academic Health Centers (AAHC) urging a halt to the closing of dental schools be honored by all until we can gain a national grasp on the issues. The market economy mentality of the 1980s must give way to more reasoned thought in the 1990s. Given the already precarious nature of the schools as a result of the changing environment and the rapid contraction of the 1980s, coupled with the current economic trends in the nation, it will take the strong assistance of all within government and in the private sector to honor this call by the AAHC.

The urgent need to honor this request is best reflected by taking a look at the 7th Report to the President and Congress on the Status of Health Personnel. Three projections had to be made on dental manpower because of the uncertainty.

The Basic Projection on Entering Students shows a further drop from 4,196 students to 3,196 by 1998.

The Low Projection on Entering Students shows a drop to 2,096 by 1998 and the

High Projection on Entering Students projects that the student pool will remain constant at the 1988 level of 4,196. The high projection already appears wrong as the first year class in 1989 was 3,900 making the low or basic projections more accurate. Only in 1939 did we educate fewer dentists.

Finally, as the new decade begins, the Institute of Medicine has agreed to assist dentistry in doing an independent national study of the rapidly changing environment, so my number one recommendation appears to be about to become a reality.

One down and three to go is not bad for just the beginning of the decade. The hard part will be gaining a consensus on not closing any more schools and gaining assistance to make that a reality. It's a waste of a national resource. △

Reprint requests to:
Dr. Allan J. Formicola
School of Dental and Oral Surgery
Columbia University
630 W. 168th Street
New York, NY 10032

Dentistry for the 90's: A Symposium

The Future of Prevention in Dental Schools

John P. Brown *

Favorable changes in the natural history of oral diseases are resulting in soul searching about the future of dental education. Maintenance of oral health is a reality, yet dentistry continues to have a narrow focus on the effects of diseases on teeth. The context for a discussion regarding the impact of prevention on dental education includes the changes in burden of oral and dental disease in the population and the response of dental schools. Other considerations include broader changes in society affecting demand and access to dental care, as well as the ability of the individual and society to pay. [1, 2, 3, 4]

Dental caries, although still the major dental disease, has declined in the past two decades.[5, 6, 7] This progress is attributed largely to the beneficial preventive effects of water fluoridation and use of fluorides in other forms. However there remain economically and educationally disadvantaged groups who have disproportionately high dental caries prevalence.[8, 9, 10, 12]

There has been a decade long decline in funded research on dental caries, as periodontal research gained a reviewed focus. Periodontal disease is not affecting seriously as many adults as compared to a decade ago, [11, 12] but the population is aging and more teeth will be retained over a longer lifetime. Thus, the opportunity for diseases to occur and prevention, treatment, and retreatment to be needed is increasing. [13, 14, 15, 16] Dental caries and periodontal disease continue to seriously affect quality of life and remain costly to treat for many.[17, 18]

> In the broader social context from the 1950's to the late 1980's the United States has shifted from production to consumption, from focus on the future to the immediate, from self sacrifice to greed, from public interest to self interest, from quality to quantity and from long term goals to short term.

Dentistry embraced the preventive concept starting in the late 1960's, although the longstanding restorative orientation to dental caries was not replaced. Today U.S. dentists tend to be less busy, some dental schools have closed, and class size is substantially reduced. At the same time the number of minority and female students has increased. [19] Dental students range from the most capable who are involved often in enrichment experiences in community based treatment and preventive programs, and in basic and applied research, to those more detached students, all of whom are often assumed to be less proficient. Health professional students have an ever growing debt burden, which is a major influence on enrichment activities due to the need to earn income. It is also a major factor in early career choice when debt must be repaid.

The reasons why students leave dental school, in a country where debt pressure is not a major factor, is enlightening.[20] Most such Norwegian students established successful careers in a wide variety of other professions, showing they were academically capable. Basically, they reported boredom with dental school. This indicates the necessity for a problem solving approach to dental education rather than traditional rote learning.[21] Todays reduced class sizes make such change somewhat more feasible. The back-to-basics movement in high school and college has not increased basic skills in health professional students, and placed less emphasis on higher order skills. There is an unstated fear that the less capable students may not cope with problem solving. Perhaps the Norwegian experience indicates we should be as concerned about the elimination of undemanding and non-critical teaching, as we are about students' abilities.

In the broader social context from

* John P. Brown, BDSc, MS, PhD
Professor and Chairman
Department of Community Dentistry
University of Texas Health Science Center

Presented at a symposium September 27, 1990 at the State University of New York at Albany.

the 1950's to the late 1980's the United States has shifted from production to consumption, from focus on the future to the immediate, from self-sacrifice to greed, from public interest to self-interest, from quality to quantity and from long-term goals to short-term.[22] Under supply side economics the rich got richer and paid less taxes, middle income earners made less money and paid more taxes and the poor got poorer and there were more persons represented in this group.[23] This self-absorption has been a decivilizing influence on us. Vaclav Havel, President of Czechoslovakia, in his speech to the U.S. Congress was ostensibly speaking of his own country, but made a universal statement: "We still don't know how to put morality ahead of politics, science and economics".[24]

This discussion will consider external and internal effects of successful oral disease prevention on dental schools, and then discuss impacts which dental schools should both harness and initiate in the future.

The Impact Successful Oral Disease Prevention Had on Dental Schools

The external forces on dental education as a result of the success of oral disease prevention have had a much greater effect than any responsive internal adjustments made in the structure, administration or processes dental schools adopt.

Presently professional education is caught between two opposing visions. In *Medical Nemesis*[25] Ivan Illich argued for a return to the apprenticeship model of medical education based on the truth that education must involve the mutual interaction of student and teacher. Ever more complex and interrelated knowledge cannot simply be handed to students, even in the most organized course outlines, videos or prepared curricula.

In *The Sick Citadel*[26] on the other hand, Irving Lewis described the contemporary health science center. It seems a contradiction in terms to call such institutions "health universities". The separate health campuses, sustained increasingly by public research dollars, teaching health professional students and providing health care services are increasingly looked upon by state legislatures as economic engines for generation of wealth through biotechnology. Such emphasis is often perceived to put research first and teaching second.

To attempt to reconcile these two views in dentistry would involve deliberately pursuing both the high technology and the low technology paths. The former holds out the expectation of future advances in quality and efficiency of care, for which students must be prepared, or else new technology may be ignored or misapplied. The latter teaches students about present and future human needs and health resources. It recognizes that the health professions are service occupations and inculcates values appropriate to achieving equity in the availability of health services.

When Blackerby[27,28] proposed what are presently Departments of Community Dentistry, he envisaged a coordinating role ensuring that other clinical departments also participated in a comprehensive and community based role in providing dental care. This has only been accomplished to a limited degree. Often the comprehensiveness achieved fitted the technical range of treatment and not the social scope of its outreach.[29] Current dental quality assurance methods tend to maintain this technical focus, and ignore the wider aspects of the issue.

In the last decade, with the loss of federal capitation funding many dental schools ceased their community based programs. Just as treatment of the underserved became more feasible with the overall dental caries decline, students were no longer taught in the most needy communities. This could only occur because such programs were not seen as having unique and essential educational value in themselves. Successful educational changes in community medicine were ignored,[30] as well as a growing emphasis on community education in general for college and high schools.[31]

The implications of the dental caries decline are only slowly being realized by many faculty. Dentists are not alone in practicing what they were taught long after its utility may have passed, so it behooves

dental educators to take a broad view and adjust curriculum accordingly. The way students are taught ought to provide for change in a rational way, even if the directions of change cannot always be agreed on.

The focus of practicing dentists has been on "demand" and "busyness" and not on "need" for care, or even on "want," which is the public's own perception of need. Also economics conditioned the demand.

The focus of practicing dentists has been on "demand" and "busyness" and not on "need" for care, or even on "want," which is the public's own perception of need.

While dental practitioners through their professional organizations placed pressure on dental schools to decrease graduates, they often ignored the schools' research capabilities and contributions, library resources, continuing education programs and community services of value to the public and the profession. A self-regulating profession forgot its obligation to self-educate. This external pressure is now waning as data showing a potential shortage of future dentists at current graduation rates is acknowledged, and it is realized that class size reductions have already had a major impact.[13, 14, 16]

Impacts Within Dental Education of Oral Disease Prevention

Interest in preventive dentistry strengthened in the late 1960's. The preventive orientation developed very successfully, because the ability to prevent much of the dental caries, gingivitis, oral carcinoma and oral trauma had become a practical reality for many people. Curriculum guidelines were rewritten and accreditation standards incorporated this new emphasis.[32, 33] Also at this time, under the impetus of capitation, guidelines on extramural programs and community dentistry were written and revised.[34, 35]

The perception that dental caries was no longer a priority in research interest led in 1983 to cessation of the National Caries Program of NIH-NIDR, and the growth in emphasis on peridontal disease and other research. This is now seen as a tragedy. Groups remaining at high risk of dental caries were neglected. Health services research on treatment systems, effective preventive measures in the face of the continued dental caries decline, and cost-benefit issues of fluorides were no longer researched. This void of information is now regretted. Despite a forty-two year history of water fluoridation, mistaken and mischievous beliefs about its continued efficacy and safety still abound. Its scientific basis and promotion have been neglected in dental education and in research. A group of dentists have sued their association for misleading them about fluoridation and other risk-benefit issues.[36] This suit is curious on several counts, involving long-standing anti-fluoridation and health quackery support, the use of the courts for publicity to generate false treatment demand, and non-science. Some dentists' understanding of scientific principles is lacking.

So as the fashion for preventive dentistry waned with its obvious success, it was no longer taught as intensively or as scientifically. While the techniques of prevention are and should be inherently simple if they are to be adopted, the rationale may be rather more involved. In an age of disbelief some have put as much value on what they heard and came to believe about dental disease as what could be agreed upon through a scientific consensus based on published research. A certain scientific vigor was lost from preventive dentistry.

External Impacts on Dental Education in the Near Future.

Dentistry has shared in technological advances to an increasing degree but, unlike much of medicine, cost containment for dental services has been relatively successful. Nevertheless, this remains a pressing issue. If dentistry moves exclusively into areas driven by high technology, it runs the risk of becoming part of the problem of unaffordable health care available only to the affluent.

The counterbalance, while continuing to develop the technology of dental care and prevention, is for dental schools to deliberately seek to serve those with greatest need who lack insurance or Medicaid coverage. Those of low income and low education opportunity have a disappropriate burden of oral disease.[6, 7, 8, 9, 10] Why are these social indicators of disease risk ignored, and focus made so completely on elusive biological and technical markers? Hopefully the new behavioral emphasis in dental school accreditation standards[33] will allow a wider recognition that human behavior is part of the problem of oral

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disease, and so its understanding will also be part of the cure.

The apparent dilemma between the apprentice health provider and the student of biotechnology should be solved through a dual educational emphasis. By serving the neediest groups through community-based clinical and other public health programs, which have educational, research and service components, the future of dentistry as an essential health service is ensured, and better health care methods developed. In this way those who have benefited least from the dental caries decline, know less about periodontal disease, malocclusion, oral cancer, and have limited orientation to the prevention of dental and facial injury may gain some equity from the investments society has made in these aspects of prevention.

Future Applications of Prevention with Positive Outcomes for Dental Schools.

By developing and teaching at the edge of technology it is hoped to enhance the scope, acceptability, and effectiveness of prevention and treatment. High technology effects on secondary and tertiary prevention include the diagnosis and treatment of chronic facial pain, the use of cast glass materials in cosmetic restoration of teeth and implants used in the replacement of missing teeth. These are very visible and newsworthy.

High technology is also developing rapidly in the application of gene markers for risk estimation of dental caries and periodontal disease, and despite difficulties of reliability and validity will improve prevention in the future. The involuntary use of air-bag and anti-lock brake technology in automobiles will reduce facial and dental trauma, just as voluntary seat belts and motorcycle helmet usage has in the past.

On the low technology side there are a number of presently available and easily implemented preventive methods which should be adopted to broaden the effectiveness and scope of private and public dental practice.

Dental students are taught nutritional assessment, but not how to apply this as part of a screening system for general health. The biggest nutritional disorder in the U.S. is obesity and there has never been more widespread interest in diet and health. Yet dentistry defines itself as not including general health, even in the primary preventive sense. Students should be taught how to apply this knowledge and to liaise with a clinical nutritionist for those patients in need of more detailed assessment and counseling. A similar case can be made for blood pressure monitoring. Dental students are taught to monitor blood pressure with regard to their treatment. They should also prevent cardiovascular disease by motivation and referral of those at established risk. Likewise, patient histories are acquired regarding smoking and smokeless tobacco use, alcohol, and drug use, but few dental students know how to refer a patient to tobacco cessation or substance abuse programs or indeed how to monitor and reinforce their progress.[37]

New Roles Foreseen

New roles of dentists in preventing facial and dental trauma can be foreseen in the future. Fewer women than men in contact sports wear mouthguards. Education and motivation about anti-social driving habits and other personally aggressive behavior leading to face injury, need to be part of the dental preserve, since dentists are called upon to rehabilitate the injured.

Counseling skills have not been high on the priority list for dental schools, but would be required of professionals in these expanded preventive roles, and also make them more effective in conveying their traditional preventive advice.

If dental schools do not show students their roles in general as well as oral health, it is hardly surprising that insurance companies and the public are unaware of these potential contributions, and they are not practiced.

A major factor of significance in the future application of preventive and therapeutic technology is the opportunity created by more manageable levels of dental caries and periodontal disease. Innovative programs should be pursued to increase demand for dental care among people currently not connected with the system.[38]

In the usual Utility Model for generating this demand the time lag is long. The demand management objective is increasing "perceived need," which Davis[39] has called "want." Rationing of the available services relies on market forces — price and opportunity costs. This ideology is closely matched to a restorative philosophy for the regular dental attender. It fits treatment of disease better than prevention and maintaining health.

Davis' Benefit Model increases the rate at which 'want' converts to 'demand' for dental care. The crucial factor is making contact with the system of dentistry. Those isolated groups and individuals must be reached out to, while the utmost attention is paid to their different orientation to oral health and services and their inexperience in the way services are organized and operated. Rationing in this system relies administratively on the availability and distribution of the dental work force and establishment of a reimbursement structure. Ideologically the Benefit Model depends on a public definition and acceptance of a minimum standard of care for all defined groups. Outreach programs

which depend on the Utility Model are bound to disappoint. Dental professionals should not expect the same orientation to their services by those who are not yet connected to the system of care. All too often they do.

Minimum Standards of Care

There is growing interest in minimum standards of care, universally called primary care, although this term is sometimes misused in dentistry to refer only to emergency relief of pain and infection. Camara[40] described primary care as essential health care defined by biological and social research, aiming to confront the main health problems of the individual, the family and the community, through prevention restoration and rehabilitation, providing universal coverage for each life stage, and implying participation of all parties.

Many U.S. dental schools provide services currently under a Benefit Model, or could do so. Few have defined and justified a level of primary care. Few are involved in health services research assessing such models. Such exploration would make dental schools an important part of the solution to problems of access. This would secure alliances with consumer and employee groups who have strong interest in access and cost containment issues. The behavioral and health services research basis would need to be concurrently taught in justification of this approach.

Cost containment could also be pursued through utilization of proven auxiliary dental personnel in selected Benefit Model programs. The community would respond favorably to the public availability of proven systems of dental care, which were designed with public research and development resources in prior decades, yet have only been implemented in military settings.[41]

These alternatives should be investigated specifically for their ability to reach those without access to dental care. They will not replace existing fee for service, preferred provider, or health maintenance organization arrangements largely based in private dental practice. On the contrary, they can be expected to recruit people into the traditional systems and do so much more rapidly.

The response of dental schools has often been to eschew such Benefit Model activity precisely because they are teaching institutions. If it is conducted primarily for its unique teaching importance and in a context combining clinical instruction, health services research and a commitment to serve the community which sustains the institution, this objection is no longer tenable. The decision to allocate resources to operate Benefit Model services from existing state funds or endowments will be made in light of a redefined mission, and in ascribing equal value to internal and extramural teaching, conducted under similar quality assurance standards.

Overtreatment and Undertreatment

A final major potential impact in dental education of oral disease prevention concerns over and under treatment. Fee-for-service systems and slow technology transfer tend to encourage this. Currently there is an 'epidemic' of root canal treatment, crowns and ultimately tooth loss, strongly related to the advent of the turbine drill in the late 1950's. This rapidly adopted technology made it far easier to cut tooth structure. Soon rapid advances in filling materials, the decline in recurrent caries and slower dental caries progression followed and made traditional larger cavity design inappropriate. Yet more conservative cavity preparation, as well as dental sealant and remineralization alternatives to filling incipient caries were and are adopted very slowly.[42] Likewise, the rationale for stainless steel crown versus amalgam, composite or glass ionomer restoration of primary teeth is not established, yet has great cost implications. Scarce public resources in the Medicaid-Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program could be more equitably divided if this issue was better defined through research to establish standards of care.

Thus in many cases the impact of the original disease on the tooth has been far less than the cure. Physically and biologically weakened teeth, including the effect of refilling, lead to loss of pulp vitality, chronic infection, fractured teeth, and tooth loss. The restorative path, once taken, has tended to be an increasingly expensive, traumatic, and painful journey.

There is failure to act on fresh insights into the natural history of dental caries and periodontal disease. Although it is widely recognized that dental caries prevalence has dramatically fallen, especially in more affluent and educated groups, the implications of lower dental caries rate, or incidence, plus lower rate of progression are less recognized and acted upon. Similarly, the implications of lower prevalence and incidence of periodontal disease, plus the fact that it is not inevitable or even the major source of adult tooth loss, has not been fully considered in the teaching or provision of prevention and treatment. The mere detection of dental caries or periodontal pockets by ever more sophisticated technology should not lead inexorably to a surgical remedy. Longitudinal observation will make clearer the place of less invasive methods of prevention and treatment, and dental students should participate in such reassessment.

The National Institute of Dental Research should convene a consen-

sus conference on the subject of dental caries diagnosis and its implications for prevention, and treatment, and cost of care, and consider the timeliness of a similar conference on diagnosis of periodontal disease and its implications.

Conclusion

There are a number of fruitful domains in which dental schools should capitalize on past preventive gains. These interrelate education with the systems of oral health care, health services research and the provision for services for those groups not connected presently to any system of dental care.

Rather than being a threat to the established and professionally sanctioned systems, such an approach will ultimately recruit new clients into these systems. In recognizing that acceptability of services is a major determinant of dental attendance and oral health,[43] dental schools should reach out to the underserved with non-traditional programs oriented less to the professions concept of dentistry and more to the health orientation and wants of the underserved. Such a path will ensure that dental schools receive and deserve community support. The high technology path alone, though full of long-term promise, too often disappoints those who presently want services but cannot gain access.

Dental school programs must be physically placed and fully involved where the most extensive oral health problems exist or become irrelevant to those sectors of society. In teaching oral health, rather than dentistry, dental schools may guide the profession away from a rocky future in which "dentistry has emerged as a high-tech profession with sophisticated tools in search of problems".[44]

Curricular objectives should be based on goals established with community input, as described in "Healthy People 2000 — National Health Promotion and Disease Prevention Objectives."[45] Equal value should be placed on extramural and internal prevention and treatment experiences of dental students. A dichotomy between intramural and extramural services in dental schools perpetuates different standards of care. Too little attention is given to this implicit double standard in dental education.

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Finally, the environment needed to foster such a dental school must be considered seriously. As the Carnegie Foundation report on American Universities[46] points out "the loss of community is the root problem — a feeling that universities are so administratively and socially divided that common purposes are blurred."

The report describes the desired environment as follows:

- PURPOSEFUL - teaching must be interactional.
- OPEN - characterized by freedom and civility of teachers, students and staff.
- JUST - the higher educational institution should be a model of distributive justice, using its resources for the whole community.
- DISCIPLINED - implying acceptance of obligation.
- CARING - not self-serving of the individual or the professions, but dedicated to service of others, and
- CELEBRATIVE - observing the traditions and rituals of change.

Such a dental school environment could begin to allow morality to be placed ahead of the economics which drives fee-for-service dentistry, and for which the present education system pre-conditions dental students through the grading and requirement currency of the dental school; ahead of the political positioning necessary to secure resources; and even ahead of the aura given by the biological, behavioral and technical sciences which must be pursued to develop the oral health discipline.

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Reprint requests to:
Dr. John P. Brown
Department of Community Dentistry
University of Texas Health Science Center
San Antonio, TX 78284-7917

Dentistry for the 90's: A Symposium

The Role of Public Health in Academic Dentistry and The Role of Dentistry (Oral Health) in Academic Public Health

Linda C. Niessen *

The original title assigned to this presentation was the role of public health in academic dentistry. However since this symposium is being held at a school of public health, I thought it just as important to address the role of dentistry or more accurately oral health in academic public health.

Initially I was concerned about discussing this topic. After all, I hold no full-time appointment at a dental school or a school of public health. This perspective, however, offers the unique advantage that should I conclude with a statement recommending more resources for dental public health in either setting, it cannot be perceived as self-serving.

Planning for future education programs requires creativity, vision and courage. Consequently, discussions of the future always hold a certain degree of challenge and fun: challenge in anticipating future needs and creatively planning to meet those needs. The future requires one to articulate a vision and convince others of the importance of this vision. Dr. Formicola has discussed the Pew Foundation's initiative in strategic planning in dental education — an initiative to assist dental schools in articulating a vision. [1] Courage because planning for the future often requires one to disown much treasured beliefs for which conceptual models no longer apply or new data have disproved. Casting aside these beliefs then places one, like the astronauts outside the space shuttle, pioneers drifting in space, grasping for some familiar landmark. As one always envious of the pioneers who charted this country, the future, unlike space where only a few are pioneers, can be seen as a new frontier-a new frontier in which we are all pioneers. Therein lies the fun and adventure.

> The future dental professional must understand one's role as a health professional in the community. The future public health professional must understand how oral health is linked to overall health.

My premise this morning is very straightforward. I believe that public health must play an increasing role in dental education in the 90's. I also believe that a school of public health without an oral health program is derelict in its responsibilities for training professionals knowledgeable in relevant public health issues.

I could make this argument based on the ethical principle of beneficence which, as Dr. Atchison has described, aptly encourages us to promote good for others. [2] I could make this argument based on the principle of autonomy which demands respect for others. But I make this argument on the ethical principle which rings truest in my heart, that of justice, the proper distribution of social benefits and burdens.

As public health professionals we have a moral responsibility to protect and promote the public's health. As educators how can we not be concerned about the community at large, nevertheless, the community which immediately envelops our universities and to whom our universities pay no taxes? How can we not be concerned about infant mortality, teenage maternity and adult illiteracy? The future dental pro-

* Linda C. Niessen, DMD, MPH
Associate Professor
Baylor College of Dentistry
Dallas, Texas
and
VA Medical Center
Dallas, Texas

Presented at a Symposium September 27, 1990 at the State University of New York at Albany. At that time, the author was on the staff of the VA Medical Center Perry Point, MD

fessional must understand one's role as a health professional in the community. The future public health professional must understand how oral health is linked to overall health.

Another bias that I must confess is that future dental public health professionals will not be just dentists. Dental hygienists have contributed significantly to dental public health programs in the past and will continue to do so in the future. The academic setting must recognize their contributions and educational programs must continue to train these individuals for careers in dental public health.

Declining enrollments in dentistry and dental hygiene mean that the applicant pool from which we recruit dental public health professionals is evaporating. Future recruitment of dental public health professionals will need to be more active rather than the passive route of the past, the route, by which most of us here stumbled into public health.

Why must oral health be included in public health curricula and why might dental public health's role in dental education be necessary and expanding? Yesterday the symposium addressed fluorides and public policy. From yesterday's discussions, it is clear that academic activities centered on water fluoridation are far from complete. Fluoridation could keep academics in public health and dentistry busy. However, just like health, by one definition, isn't just the absence of disease, oral health isn't just the absence of dental caries. And dental public health isn't just water fluoridation. This undiagnosed epidemic, or unrecognized epidemic as it has been called includes:

* 84% of 17 year old children with dental decay
* 41% of people over 65 with no teeth at all
* 30,000 people each year diagnosed with oral cancer
* 50% of homebound elderly not seeing a dentist in 10 years
* Dental Medicaid expenditures decreasing by 1/3 as a percent of overall Medicaid expenditures from 1975-1987.
* 20.9 million work days lost annually as a result of oral diseases or dental care.
* one in 600 live births with cleft lip or palate
* one in four adults with destructive periodontal disease.
* an estimated 10% of children with a handicapping malocclusion.

While the nearly universal prevalence of dental caries in children spawned many dental public health programs in the past, the last ten years have seen dental public health broaden to recognize that the public's oral health included more than teeth. The broadening of dental public health requires that future oral health education, research and service programs be linked to existing health and social programs. In the words of former Surgeon General Koop, in response to the oral health recommendations presented to him at the 1988 Surgeon General's Workshop on Health Promotion and Aging, "I was pleased that these oral health recommendations recognized that the mouth contained more than teeth because it conforms to my lifelong professional belief that the mouth was part of the body and that dentists belonged in the mainstream of caregivers."[3] Dentists and dental hygienists also belong in the mainstream of faculty members in schools of public health. Public health dental professionals (dentists and dental hygienists) belong in the mainstream of faculty members in schools of dentistry.

The traditional mission of the academic institution has centered around the triad of research, education and service. As we discuss education policies in the 90's, it is apparent that the academic mission will remain intact. Research, education and service will continue to play major roles in public health higher education. However rather than have a purely philosophical discussion of future education programs, I would like to discuss these three roles vis-a-vis three recently published reports. These reports, like constellations in the night sky, can serve as markers on this journey to the future frontier.

In the academic arena, research has always played a major role. In dental schools, research productivity has varied by location and by time. The future direction is clear. Dental schools must become colleagues with their health science counterparts in the quality and quantity of scholarly activities. Research will play a major role in dental schools in the 90's. My assessment is that schools of public health, as part of the higher education system, feel the same pressures for research activity and productivity.

To enhance research in dental public health, the American Public Health Association's Dental Health Section and the American Association of Public Health Dentistry last year initiated a collaborative project to develop a research agenda in dental public health. This *Research Agenda for Dental Public Health* is now available.[4]

The goal of this agenda is to expedite the improvement of the public's oral health. Among the purposes of the research agenda are: 1) to enhance communication and collaboration about the research needs and opportunities within the dental public health community; 2) to educate and inform the dental and public health research communities of the research needs and to elicit collaboration from those communities; 3) to communicate the re-

search needs and directions with legislative and policy-making bodies; 4) to facilitate the translation of basic and clinical research findings to the community. With a research agenda in hand, one can then develop an implementation plan and identify resources to assist in supporting the identified research areas.

Public health curricula in schools of dentistry must awaken students to the community and its overall health and social issues of which dental professionals will be one part.

Within the agenda lies the course for charting future research directions in dental public health. Epidemiology of oral diseases, research in prevention of oral diseases and conditions, oral health education and promotion, and health services research are clearly delineated in the agenda. The research agenda is essentially a massive workplan that could provide promotion and tenure to faculty members in schools of dentistry or public health.

In the educational arena of the academic mission, lifelong learning for graduates will continue to be a goal. Whatever discipline, specific learning must be enhanced with knowledge of the larger community. Public health curricula in schools of dentistry must awaken students to the community and its overall health and social issues of which dental professionals will be one part. Oral health curricula in schools of public health must provide students with an awareness of the role that oral health plays in one's overall health and well-being.

Many of the current public health issues have oral health components. HIV infection often manifests first with oral infections or lesions. Smoking and smokeless tobacco also present with oral lesions. Child abuse and neglect and elder abuse and neglect may manifest with oral symptoms. AIDS education programs must include oral health components. Tobacco cessation programs have identified dental professionals as capable of playing key roles in helping patients stop using tobacco products. As baby bottle tooth decay skyrockets in certain populations of children, maternal and child health programs must address this oral health issue.

In 1974, The American Board of Dental Public Health, the certifying board for the specialty of dental public health, and the American Association of Public Health Dentistry, the sponsoring organization for the board, established behavioral objectives for dental public health.[5] The objectives were used to form the basis of postdoctoral training in dental public health. In 1982-84, the American Dental Association reviewed the specialty of dental public health and re-certified it as a specialty of dentistry. As a result of this process, the behavioral objectives were critically reviewed by many within dental public health and were found to be lacking. In 1988, the American Board of Dental Public Health, and the American Association of Public Health Dentistry, initiated a collaborative project to update the "Behavioral Objectives for Dental Public Health." These revised behavioral objectives, while much broader than the originals, also were submitted for review by public health professionals as well as the dental community. These updated objectives, now called competency objectives, have recently been published in the Journal of Public Health Dentistry.[6]

The competency objectives are categorized into four groups: 1) Health Policy, Program Management and Administration; 2) Research Methods in Dental Public Health; 3) Oral Health Promotion and Disease Prevention; 4) Oral Health Services Delivery System. These competency objectives for dental public health can form the basis of curriculum development in public health for dental and dental hygiene schools. Likewise, these objectives will be relevant to developing oral health curricula in schools of public health.

As technology advances, schools of dentistry and public health will be called upon to transfer the research findings of the university to the community. Continuing education programs and "alternative" education programs must be designed to accommodate the adult "practitioner-student."

The third avenue of academic endeavor involves community service. This perhaps is the broadest of the academic missions and varies widely from institution to institution. The future will require that professional schools serve a more active role as a community resource. New organizational structures will be required. The School of Public Health as a joint venture with the University at Albany, State University of New York, and the New York State Department of Health certainly offers an excellent model of community-university integration.

The future will require that professional schools serve a more active role as a community resource.

Community service programs will require the setting of common goals between the university and community. In this arena, the recently published *Healthy People 2000: National*

Health Promotion and Disease Prevention Objectives can serve as the Rand McNally guide for improving the nation's health.[7] These objectives address the prevention of major chronic diseases. Oral health is but one of 22 chapters in this important document. As community service programs are developed in schools of dentistry, dental hygiene or public health, the oral health objectives for the year 2000 can serve as the goals for such programs.

Like dental public health in general, these oral objectives are far broader than dental caries. In the area of improved health status, dental caries, tooth loss, edentulism, gingivitis, periodontal disease and oral cancer objectives are addressed, with subobjectives for target populations. Risk reduction objectives include increasing sealant use, community water fluoridation and professionally and self-administered fluorides and increasing awareness to prevent baby bottle tooth decay, all worthy topics for academic community service programs.

In some ways, it appears that dental public health may be adroitly positioned as we move to the 90's and beyond. The specialty has been critically evaluating itself over the past five years. These three documents, the Research Agenda for Dental Public Health, the Competency Objectives for Dental Public Health and Healthy People 2000: National Health Promotion and Disease Prevention Objectives will assist in establishing future directions.

As I close, let me return to the principle of social justice. Secretary Sullivan, in his State of the Nation's Health Report, highlighted the discrepancy between the health status of black and white Americans. Oral health has been said to be a key indicator in identifying socioeconomic status in today's society—an indicator that more than dentists have recognized. Tony Hillerman wrote in 1984 in *The Ghost Way*, "McNair grinned, more or less, showing white, even teeth. Henry had not had even teeth. It seemed to Vaggan that it was one of the few remaining signs left in America of social position versus family poverty. Rich people could afford orthodontists."[8] In 1986, in *Skin-walkers*, Hillerman writes even more harshly of this discrepancy, ". . . modern dentistry had made crooked teeth an identifying mark of those who were born into the bottommost fringe of the American socioeconomic classes. Unstraightened teeth for white trash, uncorrected birth defects for the Navajo."[9]

Oral health has been said to be a key indicator in identifying socioeconomic status in today's society—an indicator that more than dentists have recognized.

In the 21st Century, oral health should not be an indicator of socioeconomic status. The academic mission of research, education and service, whether in a dental school or public health school, offers much that can be done to eliminate such class differences.

The Institute of Medicine's *Future of Public Health Report* outlines the roles of public health as: 1) assessment; 2) policy development; 3) assurance.[10] The role of academic dentistry and public health must be to ensure that their graduates understand these roles and can apply them to oral health. For the improvement of people's health, oral health must be integrated into academic public health. For the improvement of dentistry's health, public health must be integrated into academic dentistry.

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Reprint requests to:
Dr. Linda C. Niessen
Baylor College of Dentistry
3302 Gaston Avenue
Dallas, TX 75225

Senior Student General Dentistry Program: An Alumni Assessment

Diana M. Lancaster *
Anthea L. Grogono **
Olin Desonier ***

Introduction

The role of comprehensive care in dental education has been considered for a number of years.[1-6] The advantages and disadvantages of a comprehensive care system versus a system based on required numbers of procedures have been discussed in the literature[2]. Another issue of particular concern for implementing a system of comprehensive care has been whether it is best accomplished within specialty departments or within a department of general dentistry[3]. A report based on a study by Buchanan described and compared clinical training programs in dental schools with and without general practice departments[1].

The fourth-year program at the Louisiana State University School of Dentistry (LSUSD) is, with the exception of rotations and electives, under the auspices of the Department of General Dentistry. Almost 1000 hours are spent in the clinic with the goal that the student will apply the theoretical knowledge and technical skills that have been learned in the previous years and render comprehensive care to patients. There is also emphasis on the organization and management of general practice. Each senior student works in his own designated operatory and is supervised by full-time General Dentistry faculty. These faculty members are general dentists, most of whom have spent some years in general practice. For approximately one -third of their clinic time, the students are supervised by part-time General Dentistry faculty who maintain private practices.

The program is well established and, because of the cooperation and availability of faculty in specialty departments, well-accepted. Members of the specialty faculty are always available and will come to a student's operatory for consultations. The senior student may then be able to proceed with treatment or there may be a recommendation to refer for care by a specialist. This system is helpful in allowing the student to learn when patient referral is indicated. The goal of the faculty is to encourage experience in all of the disciplines of dentistry and to prepare the student as a quality-oriented practitioner.

The purpose of the present study was to survey the graduates of LSUSD who had participated in the general dentistry program as to their perceptions about its effectiveness in preparing them for practice.

Method

A questionnaire was developed to assess the attitudes of alumni towards their experience in the senior general dentistry program. The items were designed to evaluate the perceived strengths and weaknesses in their preparation for practice and any recommendations for change. The question of whether the program would have been more effective if taught by the specialty departments was specifically addressed.

The questionnaire items were reviewed by members of the general dentistry faculty and by an educational consultant for clarity and appropriateness of content. The questionnaire was kept as brief as possible and was anonymous. Only those individuals practicing general dentistry were asked to complete the questionnaire. Those in specialty

* Diana M. Lancaster, Ph.D.
[1]Office of Instructional Services
Louisiana State University
School of Dentistry
** Anthea L. Grogono BDS, M. Ed.
*** Olin Desonier, DDS
[2]Department of General Dentistry
Louisiana State University
School of Dentistry

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Table 1

Response to Preparation for Clinical Practice by Discipline

	Adequately * Prepared		Best ** Prepared		Inadequately * Prepared		Least ** Prepared	
Discipline	#	%	#	%	#	%	#	%
Endodontics	307	87	42	10	35	10	7	2
Fixed Prosthodontics	267	76	28	7	60	17	12	3
Operative	345	98	273	64	2	.6	0	0
Oral Diagnosis	279	79	28	7	43	12	10	3
Oral Surgery	130	37	8	2	197	56	93	25
Orthodontics	35	10	0	0	260	74	186	50
Pediatric Dentistry	205	58	8	2	98	28	21	6
Periodontics	247	70	17	4	75	21	14	4
Removable Prosthodontics	261	74	20	5	65	18	26	7

* More than one response selected.
** Percentage corrected for selection of more than one response.

practice were asked to return the uncompleted questionnaire. Demographic information such as age, gender, year of graduation and type of practice was included.

All alumni who graduated from LSUSD between 1979 and 1988 (n=767) were surveyed. The questionnaires were mailed in September 1990. The responses were tabulated and percentages computed. Comments provided by the respondents were summarized.

Results

A total of 453 replies were received. Twenty-five questionnaires were returned as undeliverable which yielded an overall response rate of 61%. Ninety-four were from specialists and 7 from respondents indicating that they were not currently practicing dentistry. This resulted in 352 questionnaires which were included in the analysis.

The rate of response was relatively consistent for all the years surveyed ranging from a low of 35% for the 1983 class to a high of 49% for the 1984 class. The percentage each class represented of the total varied from 6% to 13%. Eighty-eight percent (306) of the respondents were male and 11% (40) were female; 6 individuals did not respond. The number of years in practice ranged from 1 to 12 with the most frequently reported being 6 years (1984 had the highest response rate). Concerning activity immediately following graduation 47.4% (167) entered associate practice, 41.5% (146) entered solo practice, 5.4% (19) entered military service and 5.7% (20) pursued advanced education in general dentistry programs.

The first question asked for an overall rating using a five point Likert-type scale. Ninety-two percent (313) indicated that they had been adequately or very adequately prepared for practice by the senior general dentistry program. For the other 25 individuals who responded to the question, 8 (2%) were neutral, 14 (4%) felt they were inadequately prepared and 3 (1%) that they were very inadequately prepared.

The following questions concerned preparation in the individual disciplines. Operative dentistry was the area in which most (98%, 345) felt adequately prepared followed by endodontics (87%, 307) and oral diagnosis (79%, 279). The respondents could select more than one response. For the best preparation

category, only one response was to be selected. However, some respondents selected more than one, therefore, the reported percentages are based on the total number of responses, 424. Again operative dentistry had the highest response rate with 64% (273) and endodontics was next with 10% (42). For the clinical areas in which the respondents perceived their preparation to be inadequate, orthodontics was highest with 74% (260) followed by oral surgery (56%, 197). The discipline in which the respondents felt least prepared, based on 369 responses, was also orthodontics (50%, 186) followed by oral surgery (25%, 93). Results for these items are reported in Table 1.

The final set of questions concerned whether the respondents believed that the general dentistry program should be continued or whether instruction in the senior year should remain in the specialty departments. Suggestions and comments were also solicited. Of those who responded, 89% (306) indicated they felt that the general dentistry faculty reinforced the techniques and training provided by the specialty departments in the previous three years. Eighty-nine percent also indicated that they did not feel the senior year should be departmentalized. Ninety-eight percent recommended continuation of the general dentistry program.

There were 205 diverse comments provided by the respondents. The most positive emphasized the excellence of their preparation for practice. In particular those who entered the military or established practices elsewhere felt their training compared very favorably with that of their peers. Less favorable comments concerned some perception of negative faculty attitude towards students throughout dental school. Specific suggestions included having more practice management, more oral surgery and more complex fixed prosthodontics cases.

Discussion

The results of any survey are limited by the nature of self-reported data. Further, the opinions expressed by those who responded may not be representative of those who did not respond.

Given these limitations, the results of this survey were that the respondents perceived their preparation for general practice positively. The vast majority believed that the general dentistry faculty reinforced the training they had received from the specialty departments and they did not feel that the senior year should be departmentalized. They felt particularly well-prepared for general practice in operative dentistry and endodontics and less well-prepared in orthodontics and oral surgery. Although many of the comments indicated that the students felt the general dentistry program closely approximated actual practice, they would have appreciated more practice management courses.

There are a number of systems of providing comprehensive care as part of dental education[1,3]. Some of the difficulties which have been cited include resistance from the faculty in specialty departments, lack of adequate facilities, lack of funds and lack of qualified general dental faculty. The advantages are that comprehensive care provides opportunities for integration of learning experiences in providing total patient care and enhanced simulation of private practice environment. Based on perceptions of the LSUSD alumni it appears to be a successful means of accomplishing the goal of preparing students for general practice. △

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Reprint requests to:
Dr. Diana M. Lancaster
School of Dentistry
Louisiana State University
1100 Florida Ave., Box 140
New Orleans, LA 70119

The Continuing Education of Professional Ethics in Dentistry

Donald E. Patthoff *
John G. Odom **

Mr. Wine said figuring was important. He said education was a two-part proposition. One part was technical, which was how you moved ahead in your trade. He said he was for getting more modern in that end of education. But, he said the other part you had better stick to and not change it. He called it valuing.

Mr. Wine said if you learnt to place a value on being honest and thrifty, on doing your best, and on caring for folks; this was more important than anything. He said if you was not taught these values, then no matter how modern you got about the technical part, you was not going to get anywheres "atall."

from "The Education of Little Tree" by Forest Carter

Little Tree is a five-year-old Cherokee Indian and his business reference is his grandfather's moonshine trade.

* Donald E. Patthoff, D.D.S.
300 Foxcroft Ave., Suite 302
Martinsburg, WV 25401

** John G. Odom, Ph.D.
Postle Hall
305 West 12th Ave.
Columbus, OH 43210-1241

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Introduction

As a general dentist (first author) the reality of professional ethics in dentistry was evident through personal encounters before I understood or read about them. As I became more aware of ethics, I began to realize how easy it is to confuse ethics with law, communications, sociology, psychology, malpractice, etc. These discoveries were subtle experiences for me, similar to stumbling across the reality of gravity by falling off a cliff. I now believe that the appropriate continual study of applied perfessional ethics is not only vital to the success of every dental practice and the continuation of dentistry as a profession, but it is also an extremely valuable pursuit with its own intrinsic rewards. Because the personal rewards are so satisfying, practical rewards such as happier staff and patients, increased income, better dentistry and more enjoyment at the office become secondary.

My pursuit of professional and ethical behavior led to the discovery that no systematic continuing education courses were available for local dental societies. Inquiries were made with the American Dental Association (A.D.A.), the American College of Dentists, the American Association of Dental Schools, the Academy of General Dentistry, the National Institute of Dental Health, Public Health Dentistry, the Society for Health and Human Values the National Endowment for the Humanities, as well as colleges of Dentistry responsible for teaching dental ethics. A few examples were uncovered, e.g., the Annual Ethics Institute that has been offered at Ohio State University since 1984.[1] Most efforts were sporadic and only introductory in nature.

In 1988, the West Virginia Humanities Foundation, funded the West Virginia Dental Association Ethics Project. By cooperating with the West Virginia University School of Dentistry, the Professional Ethics in Dentistry Network, and the A.D.A.'s Council on Ethics, Bylaws and Judicial Affairs, an ethics education forum for a local dental society was developed. This article describes the West Virginia project. Possible future programs are also identified.

What is ethics?

The practice of dentistry requires daily ethical decision making. Hirsch and Gert explain that moral and ethical problems arise frequently in the practice of dentistry because a variety of treatment choices are available.[2] Our daily routines often compel us to think of dentistry as an objective science with technical skills that are separate from ethics. However, our decisions affect others, their health, and other relationships and our relationships with them. Our practice affects our relationships with colleagues as well as our profession's relationship with society. Decisions and relationships are the subject of ethics. Ethics should be a subject for continuing education in dentistry. We do have a responsibility to decide how we should explore this issue.

A frequent comment is "ethics can't be taught." This view may have merit, recognizing that a difference exists between an individual's moral code, which is often called his ethic, and the study of ethics. We all have different experiences and beliefs about the world and make judgments about what is important. We rely on these beliefs and judgments in our decision making. The sum of the factors on which we base the logical part of our decisions can be considered an ethic. Decisions do create results which, like it or not, are often judged to be morally right or wrong as well as clinically right or wrong.[1]

Ethics, however, is complex because it is often confused with feelings, law, religion and other social values. Ethics isn't law! That which is ethical is not always legal, and that which may be legal is not always ethical. Ideally law should be shaped by ethics and not ethics by law.[3] Social values are closely tied to ethics. Yet social values, often expressed in polls and democratic votes, vary from society to society. Religion is often equated with ethics. It is interesting to note that the study of ethics is not only a branch of philosophy, but also a branch of religious studies associated with moral theology.

In one sense, religion without ethics is not real religion because it surrenders to immorality. In another sense, however, individuals and organizations can claim no religion and still act ethically in their relationships with others. Neither of these points should be trivialized nor should their relative importance be distorted in applied professional dental ethics conversations.

Furthermore, ethics is more than feelings. Saying things like, "it doesn't feel right" or "it doesn't feel ethical," is not an adequate guide. If ethics were only feelings, then one might consider whether it is ethical to act on the feeling of wanting to take another's life.

Thus, we have a notion of what ethics isn't and what it is. People can frequently agree on what it is they are discussing, e.g., "doing the right thing," but as soon as specific words are used, someone starts to qualify ethics and say what it isn't. This occurs because ethics is not a stationary thing or a product; it is a process of understanding what goes into making decisions and what makes these decisions useful, appropriate, and correct.

To make this process or dialogue of understanding possible, however, it is essential to differentiate relativism from pluralism. Relativism is a framework which says that since there are no commonly agreed upon principles, everyone can do what he wants. Conversely, pluralism emphasizes that there are common agreed upon principles on which to base dialogue, and this enables people to generate consensus and organization.

Many factors must be considered when trying to define ethics. Nash's definition contributes to an understanding of ethics.[4] Providing continuing education in ethics requires an awareness and sensitivity to the many aspects that contribute to the complexity of ethics. Developing an appropriate framework to help structure thinking when practitioners encounter ethical problems is an important step. Ethics expertise comes from the participants, not the facilitator. Consequently, continuing education in professional ethics in dentistry can be practical and effective.

The West Virginia Experience

A. *Initiation*

In January 1988, the American Dental Association sponsored its first national workshop on professional dental ethics. The workshop focused on ethical dilemmas in dental advertising and treatment of patients with AIDS. Participants were introduced to the Society for Health and Human Values as a growing network of diverse professionals interested in furthering the dialogue process in ethics, humanities and public policy.

In November 1988, a proposal was presented to the dental subsection of the Society for Health and Human Values to explore possible formats for an ethics/humanities workshop for a West Virginia local dental society. The American College of Dentists, ADA, and the American Association of Dental Schools were jointly developing curriculum guidelines for teaching ethics and professionalism in dental schools.[5] The guidelines focused on dental students, rather than practicing dentists.

In early December 1989, the West Virginia Dental Association voted to support an ethics forum for a local dental society and the Dean of West Virginia University Dental School

gave his formal support for the project authorizing Continuing Education credit following review of the curriculum outline. The Eastern Panhandle Dental Society initiated the program, scheduling it for April, 1989. The Humanities Foundation of West Virginia agreed to fund the project.

B. *Implementation*

The Friday afternoon and Saturday morning workshop was held in April, 1989. Participants included four humanities scholars (one a philosopher of dental ethics), a small group of dentists representing the local dental society and the West Virginia Dental Association, and two dental spouses.

1. **Program** The program was structured to facilitate open, free discussion in a supportive setting. The opening session introduced the general political and moral dilemmas of decision through two pieces of literature. Ibsen's *Enemy of the People*[6] and Orwell's *Shooting an Elephant*[7] shed light on both political and professional questions. The resulting discussion provided a common foundation for the participants to discuss and clarify ethics as the relationship between the profession and society and demonstrated the influence that this relationship has on professional decision making.

David Ozar, Ph.D. utilized this common experience and excitement generated by the opening session to propose several theoretical frameworks which allowed the participants to further explore the logic of ethics.

Group discussions focused on a dental case study. The day concluded with the entire group discussing personal perspectives, experiences, and concerns.

Highly emotional feelings can be generated when different viewpoints are discussed. By prompting participants to clarify the logic of different philosophical/moral frameworks, individual differences could be understood. This process of explanation and clarification allowed relationships between dentists and non-dentists to freely develop and provided opportunities for professional growth. A discussion of Tolstoy's *Death of Ivan Ilyich*[8] completed the evening's schedule.

On Saturday, the participants were involved in three additional small group activities. A session on contemporary *Models of Professionalism*[9] was followed by considerations of a *Hierarchy of Values*.[10] These and other moral theories led to an exploration of *Decision Making Processes*.[11]

2. **Instructional Objectives** - In preparation for the program specific instructional objectives were identified. Upon completion of the program, participants were expected to be able to:

a. Recognize the role of the humanities as a valuable component of the profession.
b. Recognize the value and strength of a philosophy based on Camus' "neither victim nor executioner."
c. Recognize several groups currently promoting and actively exploring professional dental ethics.
d. Differentiate among the following: ethics, morality, professionalism, right, wrong, legal, illegal and truth.
e. Identify several general themes and trends of current interest to ethicists.
f. Advance the general understanding of duty, love, economics, contracts, covenants, relationships and professionalism.
g. Discover and explore a personal past experience associated with feelings about professional relationships with colleagues and patients.
h. Confront the paradox between autonomy and commitment.
i. Recognize the conflict between the placebo effect and informed consent.
j. Identify post traumatic stress disorder theory.
k. Recognize some evolving changes in the roles and relationships between the dental and legal professions and the insurance and political industries.

3. **Focal Issues** - Specific issues of current concern included, but were not limited to:

a. Discussing the importance of AIDS on the profession and the impact on employer policies.
b. Exploring O.S.H.A. sterilization requirements and guidelines.
c. Exploring relationships between third party carriers and society.
d. Discussing the effect of state legislation on the need to maintain financial stability of independent practices and the need to be responsible for creating adequate access to dental health care.
e. Recognizing the dilemmas of managing different treatment strategies for T.M.J. disorders while scientific consensus reports are incomplete.

The following example demonstrates the kinds of situations and issues encountered by a dentist.

CASE: After receiving a predawn emergency call you agree to see a patient. A couple arrive at your office, both are disheveled. The 27 year old woman appears emaciated and has a severely swollen upper lip and a black eye. The medical history reveals "frequent epilepsy attacks," and "allergy to all pain medications except percodan." After a clinical

examination and discussion of treatment options you open the upper left central incisor. A large amount of fluid is drained and the patient expresses immediate relief. You write a prescription for an antibiotic and percodan and reschedule the patient for the next day.

The patient does not keep the appointment. She calls an hour later saying "our car broke down and I lost the prescription. Please give me another prescription and another appointment." When you call the pharmacy you are told that your patient, her husband, and her mother-in-law have received numerous prescriptions for percodan from more than 20 doctors during the past two years.

The patient arrives for the appointment with her husband who is apparently angry, lying, manipulating, and/or frustrated. On examination you note "swelling decreased but still present." You then confront them with information from the pharmacist. They respond by telling you of her first husband kidnapping her child and hitting her in the face with a pipe.

A few days later the patient calls requesting a new prescription. She apologizes for missing the previous appointment and you agree to complete the root canal procedure. During the procedure the patient has a petit-mal-seizure. After recovering she reports her failure to take prescribed Dilantin. She also describes an attempt earlier that morning to kill herself and her three year old daughter.

Several days later the patient comes to your office crying that "the emergency room won't see me, nobody will help me." Her entire face is black and blue and swollen. She is thin, unkempt and asks for percodan. Earlier, however, her mother called saying she got your name from a prescription her daughter (the patient) left at her house. Her concerned voice described taking care of a three year old granddaughter and the trouble between her daughter and her husband. She said she wanted to help and asked how her daughter was doing. You inform the patient her mother called, cares about her and wants you to explain what is happening to her daughter. The patient says she will sue if you ever speak to or about her mother again.

The patient seeks appropriate support and returns to your office a few months later. She tells you about her large sum of unpaid medical bills in the community and uninsurable medical status and then expresses her desire to schedule periodic maintenance visits with your office. She then asks if you go to church and would you suggest a good minister.

This factual case account raises a number of issues that can be encountered by a practicing dentist. What ought to be done? What are the various alternatives available? What moral/ethical values or principles are at stake? What professional obligations are involved? Which of these considerations is (are) and one(s) that ought to guide actions? Is it ethical for the dentist to respond to the spirituality question?

> *Oncet, Grampa stopped and watched me pick blackberries. It was one of the times he was put out about words and how folks was fooled by them. Granpa said, "Little Tree, did ye know that when blackberries is green, they is red?"*
>
> *This total confused me, and Grandpa laughed. "The name is give to blackberries . . . to describe 'em by color . . . which when they ain't ripe, they are red." Which is true.*
>
> *Grandpa said, "That's how the damn fool word-using gits folks all twisted up. When ye hear somebody using words agin' somebody, don't go by his words, fer they won't make no damn sense, go by his tone, and ye'll know if he's mean and lying." Grandpa was pretty much down on having too many words. Which was reasonable.*
>
> (from Little Tree")[12]

C. Evaluation

Evaluation was conducted in several ways. A discussion allowed participants to evaluate the process at its conclusion. Comments were very candid and positive. All expressed surprise with the experience and admitted they had had no strong desire to attend. However, they now wanted to continue the process and would encourage others to participate. After having one month to reflect on the program, participants were asked to provide written evaluations. An overwhelming positive response followed which included extensive comments of appreciation.

The President of The American College of Dentists provided a written positive evaluation of the event. Perhaps the most valid and reliable positive comments were from the Humanities Foundation staff.

In summary, everyone reported that the project was an appropriate and valuable continuing education experience and that more programs should be encouraged. The Humanities evaluator commented, "Dental ethics is really quite new, both academically and in professional circles. I believe the Humanities Foundation could perform a genuine service to the profession and to society by continuing attempts to facilitate the development of dental ethics through conferences such as this." These comments, however valuable, are not useful for determining how this study might improve dentistry.

Unlike the more familiar technological C.E. courses, effective con-

tinuing education in ethics requires the cooperation of organizations and individuals (dental and non-dental). As other educational formats develop, serious systematic evaluation of these approaches must be considered. Before this undertaking begins, however, the various organized legislative bodies of dentistry may need to provide a more formal recognition of the *continuing educational* component of ethics. By-law directives should specifically define an organizations' responsibility for initating and coordinating relevant educational opportunities in ethics in addition to developing and adjudicating codes of ethics through their respective ethics committees, thus providing a framework for evaluation.

D. Future

Edmund Pelligrino, in the *Journal of Clinical Ethics*[13] commented on teaching medical ethics and that " . . . the most significant area to be addressed is the attitudes of "scientific" clinicians who rely on the positivist stance: if one cannot weigh, smell, feel, measure and subject knowledge to observation and experimentation, it is not knowledge but only opinions and therefore, not worth learning." This approach presents serious epistemological confusion, and dental ethics students (i.e. practicing dentists) should be properly prepared to address this question. But this is an ongoing philosophical discussion which should not stop learning about ethics nor stop healthy skepticism about its goals and methods. Individual participants can gain respect for the process, even if it is not accepted. Future efforts in ethics will evolve for the practitioner.

The A.C.D.'s initiative to trigger a national program of ethics discussions at a local level is one example. Another group which could have a major impact is the Dental Management Specialists.[14] By imitating the A.C.D.'s effort and developing a co-operative workshop with other organizations interested in dental ethics, results can be systematically incorporated into their work thus reaching a group of dentists not normally reached through current channels.

E. Conclusions

Professional ethics is the substance that holds dentistry together. Concepts such as law, economics, and social trends, are also important considerations and tools, but ethics is the one common foundation that makes variation and discussion of these other ideas possible. It assumes without philosophical proof that ethics are cross cultural and the basis of community and other enclaves. For dialogue purposes, community is described by the commonalities of all, whereas enclaves are defined by the distinguishing characteristics or responsibilities within and between special groups.

Perhaps the ultimate purpose of the continuing education of professional ethics in dentistry is limited to simply giving the participants a chance to express their expertise and allow them to gain a better understanding of what is good, what is truth, what is autonomy and what is justice in the daily practice of dentistry. It will not guarantee that any of us will "do the right thing."

Continuing education courses in ethics for the practitioner are essential to the maintenance of dentistry as a respected health care profession. △

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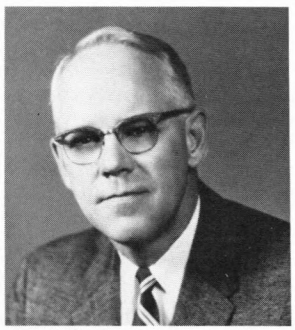
14. Uebel, Katherine, Executive Director. Dental Management Specialists, 1063 Whipporwill, Palatine, Illinois 60067. (708) 934-4410).

Reprint requests to:
Dr. Donald E. Patthoff
300 Foxcroft Ave., Suite 302
Martinsburg, WV 25401

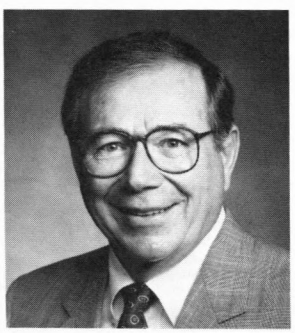
NEWS OF FELLOWS

Philip E. Blackerby, Jr. was recently the recipient of the John W. Knutson Distinguished Service Award in Dental Public Health presented by the American Public Health Association in Atlanta. Dr. Blackerby served as President of the American College of Dentists in 1962-63 and received the College's William J. Gies Award in 1967. He is a former Dean of the University of Louisville School of Dentistry.



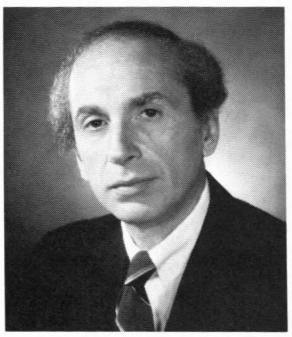
Philip E. Blackerby, Jr.

James N. Clark was the recipient of the American Society of Dentistry for Children's ASDC Great Award. Dr. Clark has practiced dentistry in Dubuque, Iowa for over 29 years and is serving as the 10th District Trustee of the American Dental Association. He is a Past President of the American Society of Dentistry for Children.



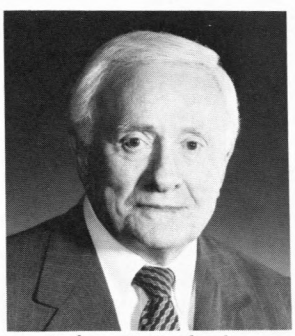
James N. Clark

Allan J. Formicola was recently installed President of the American Association of Dental Schools. Dr. Formicola is the Dean of the Columbia University School of Dental and Oral Surgery and has served as a member of the Commission on Dental Accreditation. He is a recipient of the Distinguished Alumni Award from Georgetown University and was presented the New York Section's 1992 Meritorious Service Award.

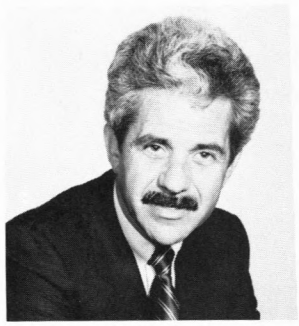


Allan J. Formicola

Robert E. Gaylord was recently honored by the Baylor College of Dentistry with the establishment of the Robert E. Gaylord Endowed Chair in Orthodontics. Dr. Gaylord has served as Chairman of Orthodontics at Baylor and is a Past President of the American Association of Orthodontists.

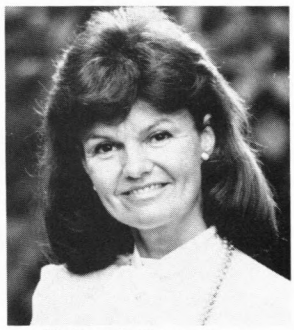


Robert E. Gaylord



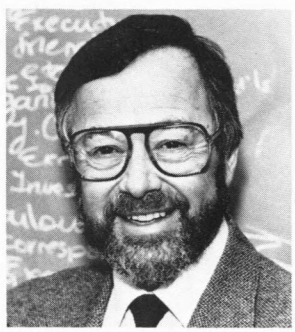
Lionell N. Greenberg

Deborah Greenspan was recently awarded the Doctor of Science (Medicine) degree by the Faculty of Medicine of the University of London. Dr. Greenspan was recognized for her contributions in oral medicine, oral cancer and AIDS. Dr. Greenspan in Clinical Professor of Stomatology and Clinical Director of the Oral AIDS Center at the University of California at San Francisco School of Dentistry.



Deborah Greenspan

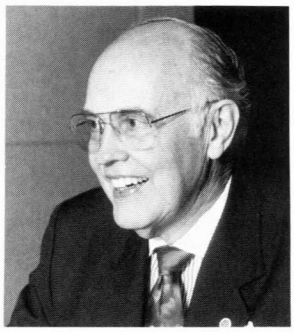
John S. Greenspan has been elected Chair of the Dentistry Section of the American Association for the Advancement of Science for 1992-93. Dr. Greenspan is professor of Oral Biology and Oral Pathology, and Chair of the Department of Stomatology at the School of Dentistry, and also Professor of Pathology, School of Medicine, at the University of California at San Francisco.



John S. Greenspan

Lionell N. Greenberg was recently installed President of Alpha Omega International Dental Fraternity. A member of the American Academy of Periodontology, Dr. Greenberg practices in Santa Monica, California.

James A. Harrell, Sr. was appointed Chairman of the Campaign Steering Committee at the University of North Carolina, at Chapel Hill, School of Dentistry. The Committee aims to raise six million dollars for the School of Dentistry. A Past President of the American College of Dentists, Dr. Harrell is also the Chairman of the Steering Committee of the College's Campaign for the 90's.



James A. Harrell, Sr.

Ralph S. Kaslick has been elected President of the Medical Staff of Goldwater Memorial Hospital, New York City. Dr. Kaslick is Director of Dentistry at the hospital and a Clinical Professor of Periodontics at New York University College of Dentistry. He was Dean of the College of Dental Medicine at Farleigh Dickinson University from 1975 to 1987.

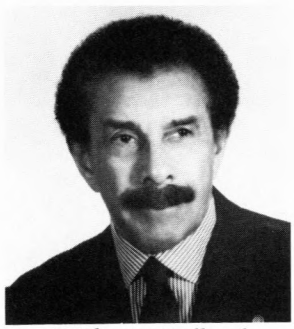
Ralph S. Kaslick

Edwin S. Rosenberg has been appointed Professor and Chairman, Department of Periodontics and Implant Dentistry at Temple University, School of Dentistry. Dr. Rosenberg was formerly Professor of Periodontics and Director of Post Doctoral Periodontics at the University of Pennsylvania.

José E. Medina was recently honored by the President of the Republic of Chile for his longstanding contributions to the dental health to the People of Chile. Dr. Medina has served as Dean of the University of Florida College of Dentistry and was also Vice-President for Faculty Planning and Operations at the Health Center. He received the ACD 1990 William J. Gies Award and is presently serving as President of the Academy of Operative Dentistry.

José E. Medina

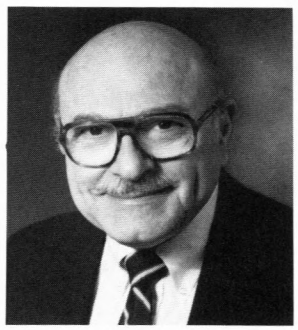
R. Chester Redhead was recently honored by Howard University with the presentation of the 1992 Alumni Award for Distinguished Achievement in Dentistry and Service to the University. Dr. Redhead has served as President of the First District Dental Society of New York and is in the private practice of dentistry in New York.



R. Chester Redhead

Edwin S. Rosenberg

Frank J. Sammartino recently retired after serving as a member of the Faculty of Temple University School of Dentistry for over 44 years. Dr. Sammartino served as Professor and Chairman of Dental Radiology from 1974 to 1988 and is a Past President of the Philadelphia Dental Society.



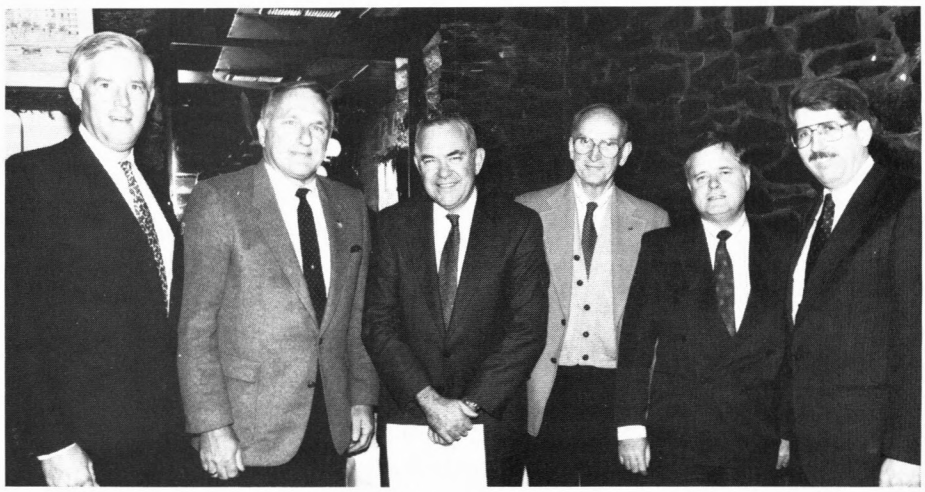
Frank J. Sammartino

Herbert Schilder was recently honored by the Massachusetts Dental Society with the presentation of the Etherington Award for Service to the Profession. Dr. Schilder is a Diplomate of the American Board of Endodontics and is Chairman of the Department of Endodontics at the Goldman School of Graduate Dentistry.

Dr. Joseph Kalil, President of the Massachusetts Dental Society, on the left, presented the Award to Dr. Schilder.

DENTAL COMMUNITY STAFF EXECUTIVES MEET

Executive Directors of six dental organizations based in the Metropolitan Washington, D.C. area, met recently to discuss developments within their respective organizations and constituencies. The meeting was held at a luncheon hosted by the American Dental Trade Association.



Photographed from the left are Mr. Nikolaj M. Petrovich, CAE, President and Chief Executive Officer, American Dental Trades Association; Dr. Richard G. Shaffer, Secretary General, International College of Dentists; Dr. Bill B. Lefler, Former Director, ADA Washington Office; Dr. Gordon H. Rovelstad, Executive Director, American College of Dentists; Dr. John J. Clarkson, Executive Director, American and International Associations of Dental Research and Dr. Preston A. Littleton, Jr., Executive Director, American Association of Dental Schools.

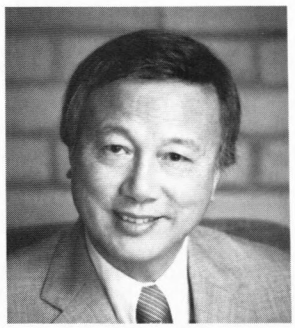
Joseph Schachner is serving as the General Chairman of the 1992 Greater New York Dental Meeting. Dr. Schachner is in general practice in the Bronx and has served as President of the First District Dental Society of New York.

Joseph Schachner

Raymond Wenn of Charlottetown, Prince Edward Island, is serving as Vice-President of the Canadian Dental Association. Dr. Wenn is a Past President of the Prince Edward Island Dental Association and has been a Member of the Canadian Dental Association's Executive Council since 1987.

Raymond Wenn

Herbert K. Yee was recently selected for induction into the California Public Education Hall of Fame. He was also named University of Pacific Distinguished Alumnus for 1992. Dr. and Mrs. Yee served as Emperor and Empress at the Fifth Annual Asian New Year activities in Sacramento.



Herbert K. Yee

Clay E. Wilcox has developed and implemented a project to provide low-cost dental care for residents of long-term care centers. Working in conjunction with the Veterans Administration Hospital in Boise, Idaho and the A-dec Corporation, Dr. Wilcox has designed a self-contained, lightweight mobile dental unit.

Clay E. Wilcox

Jerome M. Sorrel is serving as President of the Northeastern Society of Orthodontics. Dr. Sorrel is also the President of the Dental Section and a Trustee of the Pan American Association. He is a Clinical Professor of Orthodontics at New York University College of Dentistry.

Jerome M. Sorrel

JOHN H. CORCORAN RECEIVES ACD'S DISTINGUISHED SERVICE MEDAL

Dr. John H. Corcoran was recently presented with the College's Distinguished Service Medal for 50 years of service to dentistry as a Fellow of the College. The citation and commendation were presented to Dr. Corcoran in Scranton, Pennsylvania by ACD Regent Ruth S. Friedman.

Photographed at the presentation of the Distinguished Service Medal are from the left: Drs. Albert F. Giallorenzi, John H. Corcoran, ACD Regent Ruth S. Friedman and Nicholas D. Saccone.

OSCAR E. RANFRANZ RECEIVES ACD'S DISTINGUISHED SERVICE MEDAL

Dr. Oscar Ranfranz was recently honored by the College with the presentation of the Distinguished Service Medal. Dr. Ranfranz was recognized for having given 50 years of distinguished service to dentistry as a Fellow of the College. The presentation of the award was made to Dr. Ranfranz in Houston by Dr. Darrell V. Hawkins. We were extremely saddened to learn that Dr. Ranfranz passed away a few days after the ceremony.

Dr. Oscar Ranfranz, left, photographed receiving congratulations from Dr. Darrell V. Hawkins.

SECTION ACTIVITIES

European Section

The European Section held a business meeting in Seattle during the Annual meeting of the American College of Dentists. Projects and concerns of this fast-growing Section were discussed with ACD President Thomas W. Slack, ACD President-Elect Albert Wasserman, ACD Executive Director Gordon H. Rovelstad and ACD Regency 2 Regent Ruth S. Friedman.

Photographed at the European Section's business meeting are seated, from the left, ACD President Thomas W. Slack, European Section Vice Chairman Gil Alcoforado, Secretary-Treasurer Juan Serrano and Regent Ruth S. Friedman. Standing, from the left, are Immediate Past Chairman of the European Section Pierre Marois, Philippi Gallon, Ajax Menakratis, Terge WahrHensen, Paul B. Feinmann and ACD Immediate Past President Robert E. Doerr.

Carolinas

The winter meeting of the Carolinas Section was held earlier this year in Charlotte, North Carolina. Section Chairman, Dudley C. Chandler, Jr. presided and Dr. Brian Summers presented a Scientific Program on "Esthetic Enhancement Through Periodontics".

Dr. W. David Brunson, Jr., from the University of North Carolina School of Dentistry presented materials from the ethics and professionalism workshop he attended in Seattle. The Fellows of the Carolinas Section voted to implement a program to train Fellows from each of the five districts in North Carolina and the four districts in South Carolina to present material on ethics and professionalism at local and district levels.

The following new officers were elected for the Section: Chairman, B. Thomas Kays; Vice Chairman, William C. Bean; Secretary-Treasurer, W. Lynn Campbell.

Photographed from the left are newly elected officers of the Carolina Section. Chairman, B. Thomas Kays, Vice Chairman, William C. Bean and Secretary-Treasurer, W. Lynn Campbell.

Dr. Dudley C. Chandler, Jr., on the right, photographed handing the gavel to incoming Chairman, B. Thomas Kays.

Photographed from the left are Program Chairman William C. Bean, guest speaker, Douglas Mayer, ACD Past President, James A. Harrell, Sr. and Dudley C. Chandler, Jr.

Maryland

The Maryland Section recently conducted a dinner meeting which was attended by ACD and ICD Fellows, and their spouses, from Maryland as well as from the Metropolitan Washington Section. This joint event was held at the Engineers Club in Baltimore on April 29th with Dr. W. Michael Kenney, Chairman of the Maryland Section of ACD presiding.

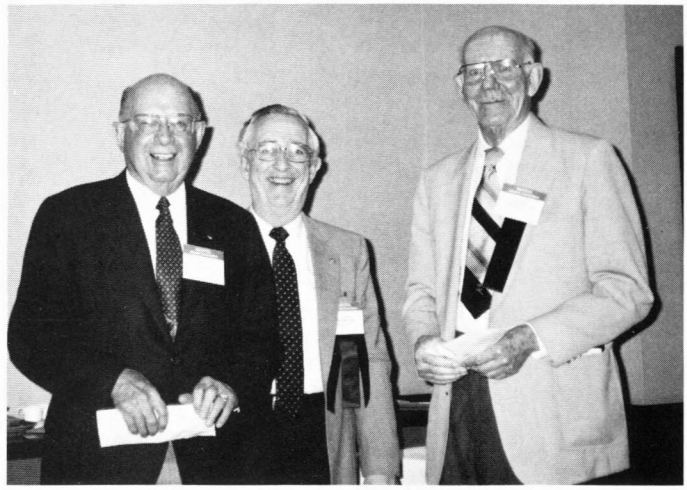
The Maryland Section will conduct its annual Student Day consisting of clinics, a forum and a luncheon on October 28th, during the Chesapeake Dental Conference. The Section will also conduct its annual Business Meeting and Awards Banquet on November 18th.

Dr. Harry W. F. Dressel, Jr., editor of the Maryland Section, has developed a program pamphlet for the year which contains the names of the officers, committee representatives and the schedule of events for the year. This program brochure has been mailed to each ACD Fellow in Maryland and will be an annual service of the Section for its Fellows.

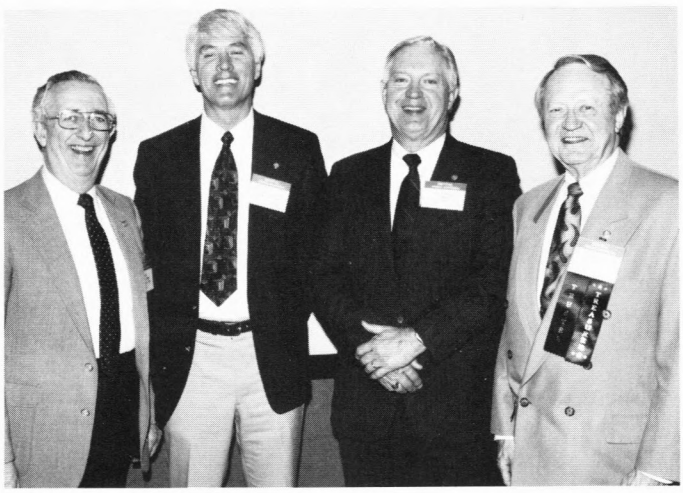
Kansas City Midwest

Kansas City Midwest Section held its annual meeting recently in conjunction with the annual meeting of the University of Missouri-Kansas City Dental Alumni Association. ACD President Thomas W. Slack installed the following officers of the Section: Chairman Ray E. Parsons, Vice Chairman Michael C. Reynolds and Secretary/Treasurer John I. Haynes. Dr. Harry H. Cook, Jr. and Howard H. Dukes, Sr. were recognized as 25 year Fellows of the College. Drs. Larry A. Jones, Dale J. Cartwright, Albert W. G. Schubert and W. R. Hiatt were recognized as 15 years Fellows.

Photographed from the left are Drs. Harry Cook, John Haynes and Howard Dukes, Sr. Drs. Cook and Dukes were recognized for 25 years of Fellowship.



Photographed from the left are Drs. Larry Jones, John Haynes and Robert Hiatt. Drs. Jones and Hiatt were recognized for 15 years of Fellowship in the College.



Photographed from the left are Drs. John Hynes, Michael Reynolds, ACD President Thomas Slack and Ray A. Parsons.

Mrs. Barbara Slack and ACD President Thomas Slack at the Kansas City Mid-West Section Meeting.

Michigan

The Michigan Section conducted its Annual Banquet and Business Meeting on April 3rd and 4th, in conjunction with the Michigan Dental Association's Annual Meeting. A gala banquet was held at the Renaissance Club in Detroit where the Section honored its own Dr. Robert E. Doerr, Immediate Past-President of the College.

The next morning, Dr. Melvin A. Noonan presided at the meeting and Dr. Doerr installed the following new officers: Chairman, Malcolm D. Campbell, Vice Chairman, Dean S. Fields and Secretary-Treasurer, Arnold P. Morawa.

Indiana

The Indiana Section held the inaugural Dr. Maynard K. Hine Scholarship Lecture, March 6, 1992. The lecture, co-sponsored by the Indiana University School of Dentistry, was also the occasion for the presentation of a $1000 Maynard K. Hine Scholarship to a graduate student from the Department of Periodontics. The Scholarship is funded equally by the Indiana Section and by the Procter and Gamble Company. Dr. Harold Loë, Director of the National Institute of Dental Research, delivered the lecture. On the evening preceding the lecture, over 100 friends honored Dr. Hine at a reception and dinner.

The Indiana Section held its annual business meeting following Dr. Loë's lecture and a senior dental student was presented an award of $200 as the winner of the best paper on Dental Ethics. Following the business meeting Dr. Muriel Bebeau gave a brief address.

In late March, four Fellows of the Indiana Section presented a forum on Ethics to the senior dental students at Indiana University School of Dentistry.

Dr. Thomas W. Slack, President of the American College of Dentists, installed the new officers of the Indiana Section who from the left are: Varoujan A. Chalian, M. Gilbert Eberhart and Jack P. Mollenkopf.

Photographed at the Indiana Section's Dr. Maynard K. Hine's Scholarship Lecture are from the left: Dr. Harold Loë, Dr. William E. Allen, Dr. Maynard K. Hine, Dr. H. William Gilmore, Dr. Alice Deforest, Dr. Norman H. Olsen, Dr. Jacob B. Freedland, Dr. David C. Vandersall, Dr. Brady Hancock, Dr. Donald E. Arens.

ACD President Thomas W. Slack on the left photographed with Dr. Maynard K. Hine.

Dr. Thomas W. Slack, President of the American College of Dentists, on the left photographed with Dr. Norman H. Olsen, ACD Past President and Dean, Northwestern University School of Dentistry.

Metropolitan-Washington

The Metropolitan-Washington Section held its Winter Meeting, January 22nd with 55 Fellows and guests in attendance. ACD President, Thomas W. Slack was present at the meeting and installed the new officers of the Sections.

Photographed from the left are: Section Secretary-Treasurer Robert S. Knight, Board Member George Young, Chairman Aida A. Chohayeb, ACD President Thomas W. Slack and Immediate Past-Chairman William H. Lady.

Photographed from the left are: Metropolitan-Washington Section Secretary-Treasurer Robert S. Knight, Jeanne C. Sinkford, ACD President Thomas W. Slack, Section Chairman Aida A. Chohayeb, Immediate Past Chairman William H. Lady and ACD Executive Director Gordon H. Rovelstad.

New York

The New York Section held its spring meeting at the Harvard Club recently. Dr. Andrew M. Linz spoke at the meeting on the need and opportunity to study ethics. Dr. David Valauri, Assistant Clinical Professor of Surgery at Mount Sinai Medical Center, also made a presentation.

Photographed at the New York Section's meeting are from the left Past Chairman Terrence J. McGrath and current Chairman George W. Schmitt.

Photographed at the New York Section's meeting are from the left Dr. Herman L. Bosboom and Dr. Andrew M. Linz.

Northern California

The Northern California Section conducted its general membership meeting earlier this year and inducted a new slate of officers. ACD Regent, Walter N. Johnson, Regency 8, addressed the meeting. The Northern California Section has, since 1984, presented a Willard C. Fleming Meritorious Service Award in recognition of significant contributions made to dentistry. Of the nine individuals recognized thus far, one is not a dentist and another a dentist but not a Fellow of the College. The Section presented its 1992 Willard C. Fleming Meritorious Service Award to Dr. Clifford Frank Loader of Bakersfield, California for 54 years of meritorious service.

The following officers of the Northern California Section were inducted into office by Dr. Fred B. Carlisle, a member of the Section's Executive Committee: Chairman Kenneth E. Follmar, Sr.; Vice-Chairman Louis S. Vodzak; Executive Committee Members Herbert C. Berquist and Alan J. Swimmer; Advisory Committee Member, Betty Vodzak and Secretary-Treasurer, George M. Yamamoto.

Dr. Richard Ennis, the out-going Chairman on the left, handing the gavel to Dr. Kenneth Follmar.

Dr. Clifford Loader, recipient of the 1992 Willard C. Fleming Meritorious Service Award being congratulated by Section Chairman Kenneth Follmar.

Photographed at the Northern California Section Meeting are from the left: Executive Committee Member, Herbert Berquist; Chairman, Kenneth Follmar and ACD Regent Walter Johnson.

Photographed at the Northern California Section Meeting are from the left ACD President-Elect, Albert Wasserman; Alan J. Swimmer; Immediate Past Chairman Richard J. Ennis; Herbert Berquist; Fredrick Carlisle and Anthony Cusenza. Seated from the left are: Section Chairman Kenneth E. Follmar; ACD Regent, Regency 8, Walter Johnson; Betty Vodzak and Chairman-Elect Louis Vodzak.

Wisconsin

The Wisconsin Section held its Spring Meeting in Milwaukee on April 2 with Chairman Russell T. Kittleson presiding. Thirty-two Fellows and several guests attended a business meeting and luncheon which was followed by the ACD lecture presented to Fellows and dental students from Marquette University. The speaker was ACD Fellow Harold Perry, the former Chairman of the Department of Orthodontics at Northwestern University Dental School, Chicago.

The Section honored Dr. Robert V. Winders and Dr. John F. Goggins for their significant contributions to dentistry. Dr. Winders is a past chairman of the Marquette University Department of Orthodontics and Dr. Goggins is the Dean of the School of Dentistry at Marquette University.

The Wisconsin Section voted to name its annual spring lecture in memory of Dr. Henry L. Banzhaf who was Dean of Marquette University School of Dentistry from 1913 to 1942. Dr. Banzhaf served as the first President of the American Association of Dental Schools (1924) and was President of the American Dental Association (1926-27). He was also a founder of the American College of Dentists and was President of the college in 1928-1929.

Photographed from the left are: Wisconsin Section Editor George Rooney, James Englander, Edward Leone, Peter Murrell and Section Secretary/Treasurer Donald Pricco.

Some of the Fellows of the Wisconsin Section photographed at the Spring meeting.

Photographed at the Wisconsin Section's Spring meeting are from the left: Section Chairman Russell Kittleson, Secretary Treasurer Donald Pricco, L. Thomas Johnson, Speaker Harold Perry, Section Vice Chairman Elise Sampson, Honoree Robert V. Winders, Honoree John F. Goggins and Regent Prem S. Sharma.

New Jersey

The New Jersey Section has implemented a program to provide information about ethics and professionalism to students at the University of Dentistry and Medicine of New Jersey, New Jersey Dental School. The program has been organized by Section Chairman, James L. Palmisano with assistance from the Sections Executive Committee and advice from Dr. Muriel J. Bebeau of the University of Minnesota. Fellows of the New Jersey Section act as facilitators and guide dental students through ethical dilemmas and predicaments. A joint luncheon is held for the dental students and the Fellows of the Section. Later in the spring, a similar program is presented to the junior class. The Dental School Administration has agreed to make the New Jersey Section's Program a required part of the formal curriculum. The Section now plans to expand the program to include sophomore and freshmen dental students.

To prepare to serve as facilitators for the program, Section Fellows attend a mandatory training session. The Education Committee of the New Jersey Section is meeting with the Curriculum Committee of the Dental School to develop schedules and lesson plans for future sessions. Further information about this program may be obtained from the New Jersey Section Secretary-Treasurer, Gregory C. La Morte.

New Jersey Fellows who serve as facilitators, photographed attending a training session from the left are: Drs. Edward Bresmen, H. Curtis Hester, Frank G. Landry, Hermon R. Katz, John De Voy, James Palmisano, Greg La Morte, Peter Clemente and Leonard H. Goddard.

New Jersey Fellows serving as facilitators guide dental students through ethical dilemmas. ACD Past-President, H. Curtis Hester, photographed addressing a group of dental students.

Southern California

The Southern California Section presented its annual Achievement Award to the most deserving senior dental student from each of the three Southern California dental schools at its meeting held during the California Dental Association Annual Session at Anaheim. Pictured, left to right, are award winners D. Michael Duggan of Loma Linda University, Gordon Poelman of USC and Anthony P. Potente of UCLA. ACD Regent Richard B. Hancock, right, was the Section Awards Chairman. Winners received an engraved plaque and a check for $250.

Pictured during the Southern California Section Meeting, held in conjunction with the California Dental Association Annual Session at Anaheim this year are, left to right, Immediate Past Chairman Edward B. Cowan, ACD Regent Richard B. Hancock, Outgoing Secretary-Treasurer Michael R. Miller, Incoming Secretary-Treasurer Jean E. Campbell, Vice Chairman Hans S. Sjoren, ADA President-Elect Jack H. Harris and Section Director Ernest L. Casares.

NOMINATION FORM REQUEST

Name _____ F.A.C.D.

Address _____

City _____ State _____ Zip _____

_____

Signature

A nomination portfolio to be used in nominating to Fellowship is obtained from the Executive Office upon the signed request of any Fellow in good standing.

February 1, — Closing Date for Nominations. Send the form to the American College of Dentists, 839 Quince Orchard Blvd., Suite J, Gaithersburg, MD 20878-1603

INFORMATION FOR AUTHORS

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, advances and statements of opinion pertinent of dentistry. Papers do not necessarily represent the view of the Editors, Editorial Staff or the American College of Dentists.

EDITORIAL POLICY

The editorial staff reserves the right to edit all manuscripts to fit within the space available to edit for conciseness, clarity, and stylistic consistency. A copy of the edited manuscript will be sent to the author. All manuscripts are referred anonymously. Only original articles that have not been published and are not being considered for publication elsewhere will be considered for publication in the Journal unless specifically requested otherwise by the Editor.

The primary author must ensure that the manuscript has been seen and approved by all co-authors. Initial receipt of all manuscripts submitted will be acknowledged and, at the conclusion of the review procedure, authories will be notified of (1) acceptance, (2) need for revision, or (3) rejection of their papers.

PREPARATION OF MANUSCRIPTS

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

All pages, including Title Page, Tables and Figure Legends, should be numbered consecutively in the top right-hand corner. The first page should list title of manuscript with the first letters of the main words capitalized (do not use Part I, etc.), author's (or authors') initials and name(s) in capitals (no titles or degrees), complete professional address(es) (including ZIP or Postal Code), a short title of NOT more than 45 characters in block capitals, and, as a footnote, any change in corresponding author's address since the paper was submitted. With multiple authors, relate them to their respective institutions by superscript numbers. The first author is assumed to be the one to whom correspondence and reprint requests should be directed unless otherwise stated.

The second page should be an abstract of 250 words or less summarizing the information contained in the manuscript.

Authors should submit an original and four copies of the manuscript and three original sets of illustrations to: Dr. Keith P. Blair, Editor.

Dorlands' Illustrated Dictionary will be used as the authority for anatomical nomenclature. The American Heritage Dictionary will be used as the authority for spelling nonmedical terms. The American English form of plurals will be used where two are provided. The Index Medicus and Index to Dental Literature serve as authorities for standard abbreviations.

CORRESPONDENCE

Address all manuscripts and related correspondence to: The editor, JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS, 839 Quince Orchard Blvd., Suite J, Gaithersburg, MD 20878-1603.

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.

1. Smith, J.M., Perspectives on Dental Education, Journal of Dental Education, 45:741-5, November 1981.
2. White, E.M., Sometimes an A is Really an F. The Chronical of Higher Education, 9:24, February 3, 1975.

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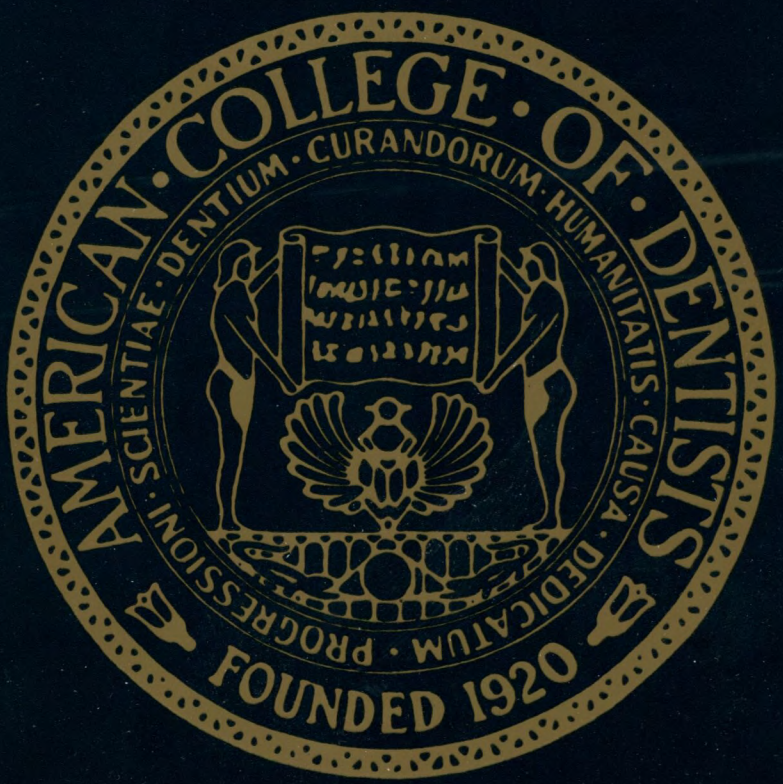

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