

# Journal *of the* American College *of* Dentists

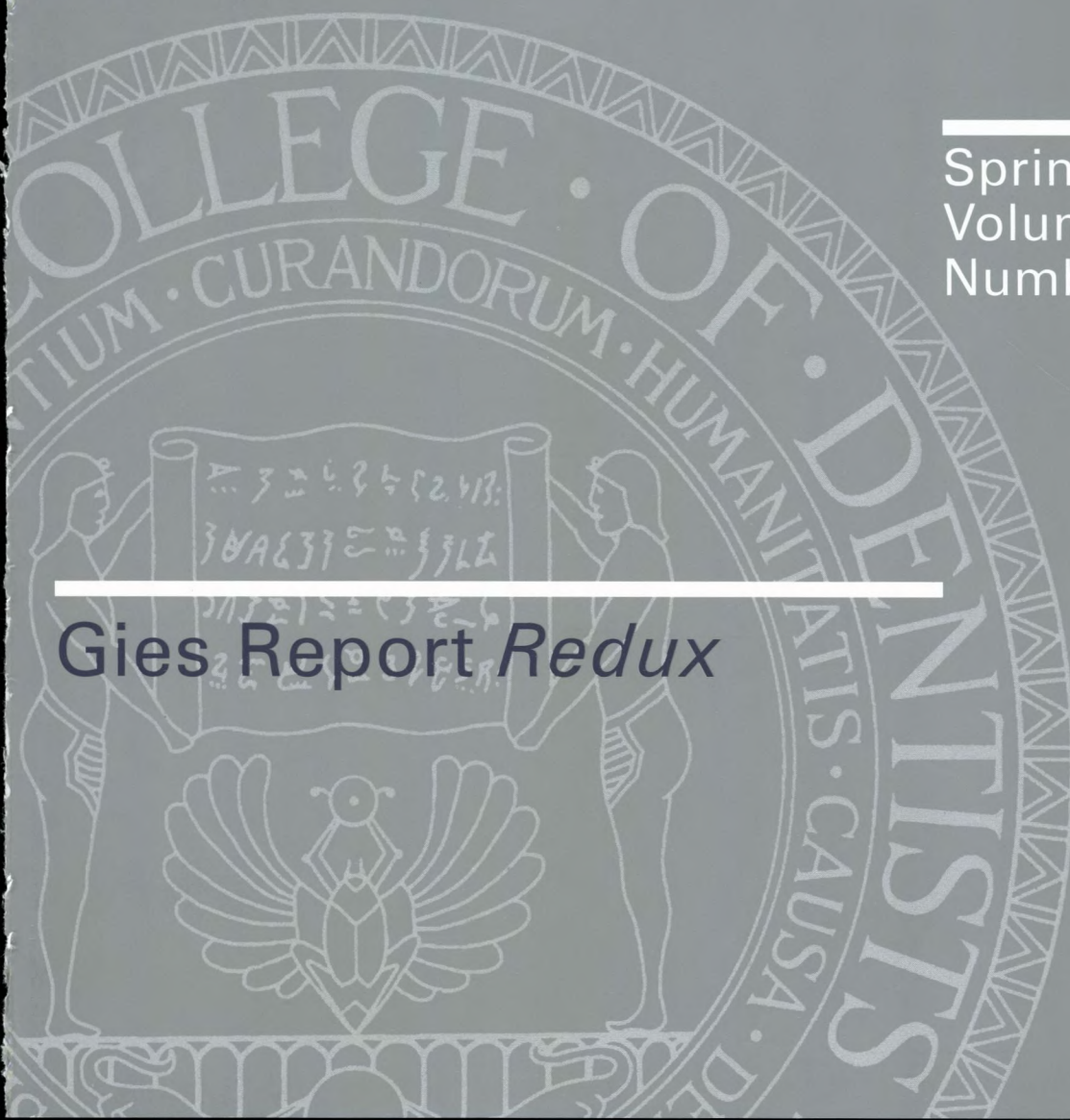
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Gies Report *Redux*



# Journal of the American College of Dentists

## A Publication Presenting Ideas, Advancements, and Opinions in Dentistry

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## Mission

THE JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS shall identify and place before the Fellows, the profession, and other parties of interest those issues that affect dentistry and oral health. All readers should be challenged by the *Journal* to remain informed, inquire actively, and participate in the formulation of public policy and personal leadership to advance the purposes and objectives of the College. The *Journal* is not a political vehicle and does not intentionally promote specific views at the expense of others. The views and opinions expressed herein do not necessarily represent those of the American College of Dentists or its Fellows.

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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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# FROM THE EDITOR

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## *Identity Theft*

**A**t least 4000 years ago identity theft was an important issue. The Bible takes a strong stand against it (Ex 20:7; Deut 5:11; Ps 139:20; Pr 30:9). Today, one may legally hold a proxy or exercise a power of attorney to act on behalf of another person. Throughout history, this practice has

had the influence (name) of a greater power when that is not in fact the case.

From time to time, one encounters cases of professional identity theft in the American College of Dentists. This has to do with the inappropriate use of the term Fellow of the American College of Dentists, or more typically with the

vided this is done in a dignified and professional matter and is consistent with other provisions of the Code of Conduct. The title shall not be used in the direct solicitation of patients or for strictly commercial purposes.

The title "Fellow, American College of Dentists" is conferred on all members of the College and is abbreviated FACD. It is understood that Fellowship is an honor, but it is not a degree. The conferring of Fellowship in the College may be announced to the public in accordance with the guidance provided by the Executive Director.

Fellows shall use the FACD abbreviation in the accepted manner. The use of the FACD abbreviation following the professional degree is limited as follows: (1) the abbreviation may be used together with academic or professional degrees on the title page of textbooks. (2) The abbreviation may be used in College registration where faculty listings are presented, together with other titles and degrees. (3) When presenting a paper or publication in a professional journal, a Fellow may inform the editorial board of Fellowship in the College and at their discretion, the abbreviation may be used following the author's name. (4) The abbreviation should not be used on office doors, office buildings, name plates, directories, or stationery, including personal, professional, or appointment

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***Never use the title or initials for commercial or other personal benefit, or when Fellows of the College might construe that this motive is involved.***

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been called acting "in the name of" another person.

Sergeant Preston of the Royal Canadian Mounted Police, in the radio programs I listened to as a child, concluded each show by arresting the bad guy "in the name of the queen." Historically, trusted servants were empowered to take action, quite literally in the name of their masters. Having the name means having the delegated power of another. The biblical admonition not to take the Lord's name in vain does not mean that it is useless to call on a supreme religious authority (Acts 4:10; Luke 24:47; John 20:31). It means that a grievous error is made when one acts as though he or she

initials FACD. The essential principle is that FACD does not belong to each Fellow individually; it is loaned to each of us by the College. When we use the title or the initials, we are acting in the name of the College. We have to be cautious not to take that name in vain.

Following is the policy regarding use of the College's name by its Fellows. This policy was outlined to each Fellow at the time he or she was inducted into the College.

Fellows may use "Fellow, American College of Dentists," or alternatively "Fellow of the American College of Dentists," on letterhead, business cards, and in biographical summaries, pro-

cards. (5) The abbreviation should not be used in flyer announcements, educational courses, seminars, or meetings where the Fellow is a participant or otherwise involved. (6) The abbreviation should not be used when signing a professional register, except in foreign countries where such recognition is expected.

Admittedly, there can be circumstances where it is ambiguous how the title or the initials might be properly used. Three rules might help. First, never use the title or initials for commercial or other personal benefit, or when Fellows of the College might construe that this motive is involved. That is a simple rule that should prevent most abuses.

Second, do not use the abbreviation FACD in circumstances where it could be confused with an earned degree. The DDS or DMD, the MSD, and PhD are examples of earned degrees, signifying a level of attained competence certified by an accredited educational institution. Mingling FACD with one's earned degrees on stationery sent to patients or in other public documents is inappropriate. The honor should be included in your curriculum vitae, resume, or in announcements of your accomplishments. Here the context makes it clear that Fellowship is an honor and is unlikely to be confused with an implied claim of professional expertise.

If you have glanced at my signature on the bottom of this editorial you will already recognize an exception. The third rule covers use of the title or ab-

breviation in College business, publications, and any other circumstances where it brings reputation to the College more than the Fellow. The abbreviation FACD is used in our journal and our

Norman and David Becker, Joe Blase, Jack Conley, Marjorie Jeffcoat, Daniel Laskin, Larry Meskin, Michael Nash, Roger Winland, and others. These editors follow, in almost every case, a policy

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***Wouldn't it be a wonderful day for the College and for journalism if all editors endorsed a policy that FACD would never appear in an advertisement or in any other commercial context?***

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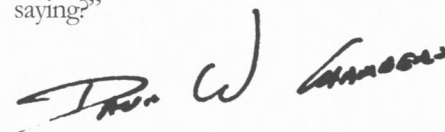
newsletter. When I write editorials or articles for other publications, the abbreviation is omitted. You will notice the same convention in other publications. Use of the title and initials in one's own publication but not in others is at the discretion of editors, but most follow this practice.

As an aside, a similar rule applies to capitalization of the individual and the organization in one's own publications but not when referring to membership in other organizations. For example, throughout our journal, the term Fellow is capitalized, as is the word College. By contrast, we would refer to an individual who held a mastership in the academy, meaning the Academy of General Dentistry. In *General Dentistry*, they would refer to Masters in the Academy and fellows of the college.

I would like to formally salute some of my editor colleagues, who happen to be Fellows of the College. Leon Assael,

of appropriately omitting the initials FACD in bylines and generally refuse to run advertisements where individuals title themselves as Fellows of the College or use the initials. Wouldn't it be a wonderful day for the College and for journalism if *all* editors endorsed a policy that FACD would never appear in an advertisement or in any other commercial context?

There will always be situations where individuals take the name of the College in vain. Sometimes this is an innocent oversight; and sometimes it is a moral lapse. It is quite appropriate to chat with your colleague Fellows about the difference. If you need an opener for this kind of conversation you might say "Did you see the editorial in the second issue of the Journal in 2002? Let's see if we can figure out what Chambers was saying?"



David W. Chambers, EdM, MBA, PhD, FACD  
Editor

# Introduction: Gies Report *Redux*

David W. Chambers, EdM, MBA, PhD, FACD

In 1926 the Carnegie Foundation for the Advancement of Teaching released the three hundred-page report, *Dental Education in the United States and Canada*, also known as *Bulletin Number Nineteen*, and more commonly as “the Gies Report.” It remains to this day the most comprehensive and influential look at dental education in the context

the beginnings of recognition that a scientific foundation for practice was necessary. Affiliation with medicine was an attractive option.

Probably during no single decade in the history of dentistry was so much attention focused on the multiple alternatives that could define a profession. The choices made then, and those not made

In this context, it is appropriate to have a fresh look at the Gies Report. Each year hundreds of practitioners and educators who have never read the report cite it in papers and speeches. What Gies actually said—dental education should be reduced from four years in length to three or research should be supported by the profession not the government, for example—might surprise those who quote him so lightly. This issue of the *Journal of the American College of Dentists* contains the essays of six leaders in the profession who were asked to read selected sections of *Bulletin Number Nineteen*; to summarize what William Gies had to say about licensure, accreditation, the dental curriculum, research, relations with medicine, and the Canadian perspective; and then to reflect on the state of the profession in light of that perspective.

Each year, the American College of Dentists presents its highest honor, the

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## *William Gies was passionate, irascible, and idealistic.*

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of a changing profession. It was conceived as a companion to the Flexner Report on medical education issued sixteen years earlier.

Dr. William J. Gies began work on this project in 1921, visiting every dental school in the United States and Canada, interviewing numerous individuals, and pouring over hundreds of documents. He was seconded by a committee of six dentists. The report is primarily a description of dental education and the forces acting on dental education during the “adolescence” of the profession. Dentistry was emerging from its status as a wonderfully skilled trade. Apprenticeship as a path to professional qualification was all but gone. Proprietary dental schools, those operated by dentists as an investment, had acquired a public odor but had not disappeared entirely. Qualifications for licensure were not standardized, and accreditation standards for schools were still ragged. There were

as well, continue to define the identity of oral health care today. To a surprising extent, Gies set the agenda for public debate that is still operational seventy-five years later. The curriculum, articulation between predoctoral education and predoctoral and postdoctoral experiences, accreditation, relationships with medi-

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*Probably during no single decade in the history of dentistry was so much attention focused on the multiple alternatives that could define a profession. The choices made then, and those not made as well, continue to define the identity of oral health care today.*

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cine, and the role of research are still lively themes. Licensure remains an open and contentious issue.

William John Gies Award, to a “Fellow who has made truly unique and exceptional contributions to advancing the

profession and its service to society.” The Gies name is associated with numerous other awards for leadership, editorial writing, and research. There is even a William J. Gies Foundation for the Advancement of Dentistry whose principal function is give such awards.

But who was William Gies? He was not a dentist: he was a biochemist who taught at Columbia from 1905 until 1937. His research included attention to dental topics such as the nature of caries. It was supported primarily by dentists, such as the First District Dental Society of New York. Gies was an organizer of incredible energy. He had a hand in the founding of Columbia’s College of Dental and Oral Surgery, a hygiene school in New York (there’s vision!), the American Association of Dental Schools (now ADEA), and the International Association for Dental Research. He initiated the *Journal of Dental Research* in 1919 and sustained it financially and served as its editor for six years. The American College of Dentists managed a fund-

raising effort in the mid-1920s to put the journal on a stable financial base. When *JDR* was taken over by the International Association for Dental Research, the funds raised by ACD were consolidated to form the William J. Gies Foundation for the Advancement of Dentistry. Gies is the only non-dentist inducted as a Fellow (not an honorary Fellow) in the American College of Dentists. He served as the Secretary of the College from 1937 through 1942—the only person ever to hold that position.

William Gies was passionate, irascible, and idealistic. He would approve of our looking with fresh eyes at the issues he felt were so important three-quarters of a century ago. Very likely, he would chide us a bit for making such slow progress. He would certainly be outraged at the commercialism that permeates the profession—especially the “authorized” commercialism of vendors at dental conventions, faculty members on corporate retainers, and journals as “profit centers” in organized dentistry.

He would have made our ears ring for such moral weakness. (But that’s another theme issue for the Journal.)

Because most of the authors in this issue reference three other reports in addition to *Bulletin Number Nineteen*, the references will be given below and not repeated in each article.

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# Legal Status of Dentistry and Licensure

James R. Cole II, DDS, FACD

## Abstract

The lack of a national standard for dental education and lingering proprietary interests in the 1920s formed part of the context for development of licensure statutes by individual states. In this report, Gies called for high standards on state boards and urged the National Association of Dental Examiners (now the AADE) to develop uniform statutes and examination practices. Significant progress has been made in the past seven decades (and especially recently) through regional examining agencies and in increasing the representation of membership on boards. The challenge posed by Gies to increase reciprocity has been refocused on credentialing, accreditation of specialists passed from state boards to the specialty groups, and uniform statutes have proven elusive.

At the time when it was not clear whether dentistry ought to become a specialty of medicine or remain an emerging profession of its own, Dr. William J. Gies undertook a five-year study in 1920 that provided for dental education what the Flexner Report had done for medical education ten years earlier. In his landmark treatise *Dental Education in the United States and Canada*, published by the Carnegie Foundation for the Advancement of Teaching in 1926, Dr. Gies ac-

knowledgeed that the practice of dentistry already was and would remain a distinct profession regulated and restricted within boundaries then being established by courts and state legislatures throughout the United States.

The regulation of the practice of dentistry would have a profound impact in determining its educational requirements, as well as determining the qualifications of its prospective practitioners. This was and continues today to be accomplished through the enforcement of state dental practice acts by state boards of dental examiners and the interaction of those boards with educators at the state, regional, and national levels.

## The Context of Early Licensure

By 1920 the practice of dentistry in the forty-eight states then comprising our nation was regulated by statutes under so called "police powers of each state" which enabled legislatures to prohibit "acts or practices that would impair or threaten the health of its citizens," and protect them from "acts of ignorance, incapacity, deception, or fraud." Courts had by then repeatedly upheld the right of a state to prescribe uniform requirements for admission to practice any health care profession within its borders, as well as to establish the method to qualify for and gain licensure to practice that discipline. These "states' rights" had been upheld on the basis that health care, "if conducted ineffectually or in an ignorant manner," would endanger the health

of the patient and the welfare of the public. Health care, the courts ruled, "can only be entrusted to persons who are learned, trained, and skilled in the art."

Thus legislatures across the country were actively establishing specific requirements in preliminary education, as well as in professional training, and prohibiting anyone from practicing dentistry in any state without a license issued from their dental boards. Legal precedent had established that a license to practice dentistry in one state would not automatically transfer that right to another state.

The necessity for the regulation and restrictions discussed above had been justifiably predicated on the manner in which practitioners of the healing arts received their education and training. In dentistry at the beginning of last century entry preparation for practice was for the most part via preceptorships offered by individuals practicing dentistry or through proprietary schools. Neither system had established any common criteria or prerequisites for acceptance or admission, nor was there, until 1938, an accreditation system in place to access the quality, quantity, or character of students' educational experiences under those edu-



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cational formats. Medicine had effectively made the transition at the time of Dr. Gies' report and he advocated the need to equalize the predental with existing premedical education and house the undergraduate dental curriculum of all dental schools, if not already so based, within the American and Canadian university systems as medicine had begun to do a decade before.

The lack of a formal accreditation process during the transition of dental education from a commercial, proprietary format to the non proprietary, independent schools and then again into the university format created a diverse educational and professional quagmire that justifiably allowed each state board to evaluate the competency of their candidates in terms of their own prescribed standards.

The dental statutes that were being enacted during this time were similar in prescribing "qualifications of possession of sufficient knowledge, training, and skill for the safe practice of dentistry." These statutes also empowered dental boards "to determine the fitness of individual applicants to practice dentistry and to issue licenses to persons legally entitled to them." The statutes differed widely in the details as to the delineation and definition of dentistry and of the particular acts that constituted its legal practice. "Scope of practice" as we now refer to it was generally a shopping list of procedures, void of anatomical boundaries beyond which procedures could not be carried, nor did they clearly include operations or treatments in adjacent regions of the oral and maxillofacial complex. Most permitted a dentist to lawfully provide general inhalation anesthesia. Some already had provisions for the licensure of trained assistants to provide dental prophylaxis, thus establishing the foundation for dental hygiene to develop and become formally recognized.

The legal boundary between dentistry and medicine was not sharply differentiated. While always regulated by separate practice acts in all states, some statutes exempted physicians from their dental practice act. Others "permitted physicians to practice dentistry incidentally but

not as a specialty without a license." It was uncertain in many states if a dentist could legally conduct all of the operations common to oral surgery or administer drugs systemically for their therapeutic benefits within the oral cavity. Custom within states and geographic regions was establishing distinctions in practice that the statutes had not recognized or which boards refused to address. This issue is ongoing today and was not addressed effectively until 1997 when the ADA House of Delegates defined dentistry in such a manner as to protect the profession and its specialists from pious physicians on medical boards who question the ability of dentists to provide care to their patients within the scope of their education, training, and experience.

The Gies Report acknowledged that "one of the most important aspects of protecting citizens from the consequences of the inept practice of dentistry was the determination that a candidate for licensure had a suitable education, had an adequate amount of professional training, and was competent and trustworthy." The precautionary function of assuring this was delegated to the state boards of dental examiners and could not be transferred by the boards to any other authority. This function of public protection could be accomplished by boards either by direct examination or by "special interstate agreements" commonly called "licensure by reciprocity." Laws in about half the states at that time specified that "licensure examinations must be conducted to determine the candidate's theoretical and practical knowledge in all or nearly all of these subjects": anatomy, anesthesia, bacteriology, chemistry, histology, hygiene, materia medica, therapeutics, metallurgy, operative dentistry, oral surgery, orthodontia, pathology, physiology, and prosthetic dentistry. Examiners assumed that proficiency in "these sciences and the evolving dental arts afforded a sound basis for the safe initiation of a dependable practice of dentistry."

Approximately half of the forty-eight states also had within their statutes laws that allowed them to "issue licenses

without examination to dentists who for the preceding five years had been continuously engaged in the lawful, competent, and reputable practice of dentistry by presenting certificates to that effect from boards of states with which reciprocity is maintained." With few exceptions these states did not grant licenses without examination to dentists from states which did not extend the same privilege to its own dentists, and due to the perception that most other state boards maintained lower educational or professional standards than the granting state, little freedom of movement was accomplished. Dr. Gies, while advocating that "the opportunity lawfully to practice dentistry at will in any state is an ideal that organized dentistry desires to promote" acknowledged that "the real objective in licensure should be the highest welfare of the public in each state and not the convenience of the individual practitioner."

In the 1920s boards of dentistry consisted of three to five members. The majority of boards had five representatives. Several states limited their executive functions, but all provided the ability for the board to conduct licensure examinations. All required members to be citizens of the state and, at the time of their appointment, to have been actively practicing dentistry for a period of three to ten years. Other qualifications might require board members to be graduates of "reputable schools" or engaged in "respectable practices" or be "members in good standing" in their state dental societies or be "free of any personal relationship with a school of dentistry."

The majority of dental board members were appointed by governors. A few states provided election directly by state dental associations. Half the states allowed governors to appoint at their whim, about a third required the governor to appoint from nominees selected by the state associations. Appointed terms were generally staggered, five-year terms. Many states allowed reappointment for unlimited terms, some limited appointments to two successful terms. Governors were always provided the power to remove board members for

“acts of immorality, criminality, incompetency, or neglect of duty.”

One must remember that when state boards of dentistry were first established many dental schools were rival proprietary schools and used every opportunity to advance the financial interests of their owners. This mistrust of the owners and

mance and significance of their functions.” He argued that organized dentistry should “insist that the duties of state boards of dental examiners be taken seriously and executed as effectually as their importance requires” and that “their work be given commensurate financial support.” He urged that all den-

Gies envisioned two areas where the National Association of Dental Examiners could have an impact, the first being “the desirability of improving and unifying the dental statutes” and the second being “the need for uniform national examinations as a basis for suitable interstate exchange of licenses.”

The origin of the first dental statutes was significant. They were the result of the need, when the preceptorial method of training dentists was prevalent, to improve the quality of dentistry by attempting to restrict its practice to graduates of dental schools. Gies observed the unfortunate deterioration in the quality of dental education with the advent of the commercial or proprietary schools. Statutes were redrafted demanding as a requirement for licensure graduation from “reputable schools.” With the movement of dental education into the university system reputability was no longer an issue, but questions of quality remained. He advocated requiring candidates for licensure to pass examinations commensurate with the instruction received in “good schools” and with the requirements of “progressive dentistry.”

He felt the National Association of Dental Examiners’ responsibility was to

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***He urged that all dentists should be alert to the fact that state dental boards and their individual members “formally reflect not only the quality of the dental practice, but also the intelligence and character of dentistry as a profession.”***

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teachers to fairly evaluate graduates of their schools or of their competitors made educators ineligible for membership on state boards. This concept has with few exceptions become inbred in boards and still exists today.

Dr. Gies noted that board examinations ranged from “those with a high degree of competency” to “those that were inadequate or conducted superficially.” Wide variations in standards of practice, lack of validity, and demonstrated partiality or prejudice for graduates of favored or rival schools provided for a gate keeping system rather than an honest evaluation of what the candidate could do and how well they did it.

He also felt that licensure examinations would be “particularly effective” if every dental board consisted of “only members of the highest personal and professional character and ability, and who were notable for their comprehension of the quality, needs, and responsibilities of progressive dentistry.” Dr. Gies observed that “unfortunately, state boards have not always been selected on this plane” and that many appointments to state boards continue to be “purely personal or obviously political.” He noted “a general indifference to the conditions and methods of their designation and a similar disregard for the perfor-

mance and significance of their functions.” He argued that organized dentistry should “insist that the duties of state boards of dental examiners be taken seriously and executed as effectually as their importance requires” and that “their work be given commensurate financial support.” He urged that all den-

tists should be alert to the fact that state dental boards and their individual members “formally reflect not only the quality of the dental practice, but also the intelligence and character of dentistry as a profession.”

The Gies Report acknowledged the important “general advisory influence of the National Association of Dental Examiners (the predecessor of the American Association of Dental Examiners) and recognized the association’s initiation

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***He charged the association to be “particularly conscious of its opportunity by recurrent self examination and self criticism to elevate the standard of quality and achievement of the individual state boards.”***

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and continued support against the commercialism of dental education” in the early decades of the century and which in 1926 was about to witness the extinction of proprietary schools. He charged the association to be “particularly conscious of its opportunity by recurrent self examination and self criticism to elevate the standard of quality and achievement of the individual state boards.”

advocate for “improved statutes, improved state board procedures, and to improve practical relations between the boards and the schools.” To this end he advocated that the association publish “an authoritative collection of dental laws in force in the United States with a supplementary model statute.” Dr. Gies believed that “such an endeavor, if revised occasionally and supplemented

with annual or biannual legislative amendments and modifications of the model statute, would be an important factor in the progress of dentistry."

Dr. Gies foresaw the need for uniform national examinations as a basis to provide the opportunity for competent dentists to practice in any state. "Conducted on a high plane, with the most advance legal requirements under the auspices of the National Association of Dental Examiners" he felt, "uniformly high grade licensure examinations, approved by the most exacting state boards, would be a reliable foundation for an interstate exchange of an increasing number of qualified practitioners."

Finally Dr. Gies suggested "a national board of dental examiners devise and conduct examinations of prospective specialists who at present publicly announced themselves as being superior to general practitioners without having to demonstrate to an examining board the validity of such claims."

In summary, the Gies Report identified the following issues impacting the regulation and licensure of dentists in the 1920s.

- Regardless of whether dentistry would emerge as its own profession or become a specialty of medicine, courts and legislatures by 1926 had already established the regulatory boundaries of the profession and had drafted dental practice acts and empowered state boards of dentistry to enforce these regulations.

- The necessity for this regulation was predicated upon the wide variations in the undergraduate requirements and the preceptorship and proprietary dental school education available prior to and throughout the 1920s.

- Licensure examinations became the primary tool boards used to protect their state's citizens from the consequences of poorly educated, untrained, and incompetent dentists.

- Lack of meaningful interstate compacts prevented any significant movement of dentists between states, and the licensure examinations being offered by individual boards ranged from "highly competent to superficially conducted."

- The political nature of board appointments and the partiality of board members to graduates of favored schools led to a gate keeping system that would impact the licensure system for years after the Gies Report.

changed however. Forty states and the District of Columbia have modified their practice acts and now contract with regional examining boards to provide the clinical licensure examination they require their applicants to pass. Ten states

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***Finally Dr. Gies suggested "a national board of dental examiners devise and conduct examinations of prospective specialists who at present publicly announced themselves as being superior to general practitioners without having to demonstrate to an examining board the validity of such claims."***

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- The lack of a meaningful accreditation system of dental schools combined with the recognized need to protect the public, prevented a diploma holder from the dental school of a state university from automatically qualifying to practice dentistry.

- Gies believed that the National Association of Dental Examiners had the best potential to elevate the quality and achievement of state boards by advocating for "uniform dental statutes" and "uniform national examination." He also advocated the development of specialty licensure examinations.

### **Progress on Gies' Agenda for Quality Through Licensure**

Many would suggest after reading the Gies Report that much favorable change has occurred in the dental licensure and regulatory arena in the ensuing seven and a half decades. Some would argue that little has changed. I witness for the former rather than the status quo others within our profession might see.

Our courts and legislatures still empower health care boards, be they individual dental boards or umbrella agencies, with the right to issue dental licenses. This is accomplished as it was in Dr. Gies' era via a licensure examination or by a credentialing process. Much has

and two territories still provide the examination themselves. Thirty-seven states offer a credentialing process through which to obtain a license. Although more criteria are involved in this process, it is providing much more freedom of movement than the reciprocity agreements in effect at the time Dr. Gies authored his report. Unfortunately the current advocacy by the ADA's Council on Dental Education and Licensure (CEDL) to abolish the provision requiring that a practitioner "be in full-time practice or full-time education for a minimum of five years immediately prior to applying" for licensure by credentials will unfavorably impact this viable alternative to a clinical licensure examination which 74% of the licensing jurisdictions currently provide. If passed, it will eliminate a set time requirement to establish a performance record to use in lieu of an examination. Lacking the ability to evaluate this performance record, the fourteen jurisdictions currently not offering licensure by credentials are unlikely to do so. Many states currently using this alternative will cease doing so. This will have an unfavorable impact on freedom of movement and license portability which in today's society is so important and which has gained much creditably as regional examining agencies move toward more similar and comparable examinations.

The composition of state boards is now more diverse. Every agency has expanded its membership to include representatives from the hygiene community as well as the public sector. No single entity has the power to affect public policy without collaboration within the entire membership of the board. As a result, state dental boards are even more effective in disciplining those it regulates and protecting the public than they were in the past.

The identification of dental specialties by the ADA and the development of policy on specialty licensure have addressed Dr. Gies' concern regarding "prospective specialists, who presently may publicly announce themselves as being superior in particular branches of dentistry without having to demonstrate to an examining board the validity of such claims." Dental specialty certifying boards have developed examinations of such validity that specialists who hold diplomat status from these ADA-recognized specialty certifying boards and meet other state requirements for licensure are finding it easier than ever before for interstate movement. The mandated requirement of accreditation by CODA of all postgraduate training programs permits state boards a high degree of confidence that the specialists they are li-

related institution's undergraduate and postgraduate programs for a level of performance, integrity, and quality that entitles them to confidence of the education community and the public. Prior to 1998, the accreditation process was more a measure of the educational program as an instrument within education rather than a determinant of its product. It used a complex, entangled process to determine the degree to which an educational program complied with its minimum accreditation standards. That process lacked any demands for assessment of the competency of the individual who was soon to become a member of our profession.

Five years ago the American Dental Education Association adopted a model set of competencies for individuals ready to begin the independent practice of dentistry or dental hygiene. In 1998 CODA began using outcomes assessments based on these competencies in their accreditation protocols. Scores on Dental and Dental Hygiene National Boards and on regional and state licensure examinations will allow a broader insight into student performance by the accreditation system than it had previously.

Although educational standards are more uniform and higher than in Gies'

tion, accreditation, and independent licensure examination. Without this tripartite process, neither the profession, the student, nor the public are well served.

Perhaps the single most important force in licensure reform came in the 1970s and 1980s with the emergence of regional testing agencies. Collaboration between member states within these regions provided both the impetus to develop anonymous, valid, secure exams superior to those given up to that time as well as the financial and administrative resources to do so. The positive fallout of this process has "raised the bar" for individual state licensing agencies as well. The evolution over the past seventy years of the Part I and Part II (cased based) Dental National Boards and the establishment of the Dental Hygiene National Boards administered by the Joint Commission on National Dental Examinations (JCND) has provided written competency assessments of such validity that they are now recognized by all states and the District of Columbia as a benchmark requirement for licensure. The quality of these examinations enabled three regional boards (CRDTS, SRTA, and WREB) to focus on clinical aspects of examination only and to forgo a written examination as a part of their competency assessment model.

In recent years, dialogue stimulated at interagency meetings sponsored by the ADA and the AADE with representatives of regional and independent testing agencies has led to the development and publication of *Guidelines for Valid Dental Licensure Clinical Examinations*, *Guidelines for Examiner Standardization*, and *Guidelines for Scoring and Post Examination Analysis*. Agencies using these documents have created examinations which, although not uniform, are so similar that today twenty-three states are accepting multiple regional and independent agency exams in lieu of a state-specific one. CRDTS and WREB boards of directors are now urging their member states to accept either region's examinations in their application specifications.

Dr. Gies would be pleased with the progressive advances made in dental licensure examinations in the United States

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***Dr. Gies would be pleased with the progressive advances made in dental licensure examinations in the United States and with the continuous evolution of the accreditation process used to evaluate our dental schools.***

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censing bring reputable knowledge, training, and skill to its public.

The dental education accreditation system was initiated in 1938 and is now conducted by the Commission on Dental Accreditation (CODA), which was established in 1975. Operating under the auspices of the American Dental Association, this thirty-member body (only four of whom are from the examining community) assesses dental and dental

time, although the accreditation system has continually been refined and improved, a degree of disparity exists among our educational institutions. Delegating licensure authority to educators eliminates an extremely important set of check and balances which has helped assure that American dentistry is and will remain preeminent within the world.

State licensing authorities provide the third important leg of a triad of educa-

and with the continuous evolution of the accreditation process used to evaluate our dental schools. Each school must withstand a formal accreditation process by the ADA Council on Dental Accreditation (CODA) every seven years. The commission traditionally focused on evaluation of the educational process, i.e., what was being taught in the predoctoral years of dental school. This process-oriented accreditation system was excessively detailed and difficult to manage. In 1998 a more contemporary outcomes assessment program was implemented. Now CODA is attempting to measure outcomes, i.e., schools must now describe and document what their students have learned. A variety of assessment methods is now being used to evaluate the effectiveness of academic and clinical programs and the performance of students on a minimum of fourteen competencies. Performance on National Board Examinations, as well as state and regional clinical licensure examinations, are used by site visit teams of CODA in this outcomes assessments.

There has been progress toward the uniform dental statutes that Dr. Gies advocated, but this will never perhaps be based on a "model statute" advocated in his report. In the mid-1990s (seventy

manageable to develop a model so inclusive that it would be helpful to individual states, most of which have unique, specific laws applying to all licensure and

ability today to communicate via the Internet and view other agencies' web sites, attorneys can more simply access and research other states' laws. By doing this

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***More progress has occurred in licensure examinations in the past five years than was seen in the previous seven decades.***

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regulatory agencies within their states. The BAR then attempted to develop an outline of what a model practice act should include, leaving specific language up to each state. This too became unmanageable and no consensus was developed as to what an outline should include. The BAR's inability to accomplish this stems from two concerns. Since no existing state dental practice act is perfect, having a model practice act could be used as evidence against a board when challenged in court over a part of or the entire act. Little expectation exists that a majority of states could or would enact such a model, because not only was it an asset, but also a liability board attorneys felt could be used against their boards. Secondly, board attorneys come from private law firms, from attorney

on a case by case basis as necessary on a given topic, the model statutes envisioned in the Gies Report are unnecessary.

### **Synthesis**

In conclusion, the legality of state boards of dentistry to license, regulate, and discipline members of its profession is as irrefutable today as it was in the 1920s. The force most active in licensure then and today remains the boards of dentistry. They are evolving from frequently parochial bodies of dentists prone to gatekeeping for reasons obvious, or not, for reasons valid at times, or not; authorized and endorsed by legislatures to protect the health of its citizens to greater or lesser degrees, into diverse bodies reflecting a wider membership of the dental community and public sector. They have effectively removed themselves from the criticism inherent in providing licensure examinations by contracting with regional examining agencies and by developing "high stake" examinations in concert with testing specialists containing demonstrable reliability, anonymity, fidelity, and security. More progress has occurred in licensure examinations in the past five years than was seen in the previous seven decades.

This trend to provide state-of-the-art entry level licensure examinations has created a desire for regional and independent state testing agencies to collaborate in test development, scoring, and post-examination analysis such that examinations are becoming so similar that, in the near future, successful passage of any initial licensure examination will provide a credential accepted by almost every state

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***Rarely is the competence of a new licensee questioned after completion of initial licensure, but rather it is an individual whose established practice is impacted with accusation of substance abuse, insurance fraud, sexual misconduct, or failure to practice to a standard of care established by one's peers that boards are more frequently investigating.***

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years after his report was issued) the Board Attorney's Round Table (BAR) of the AADE began work on a model practice act for state boards. After much deliberation and work, the BAR concluded that it was impractical and un-

general's offices, and in house within a board. Because of this disparity of representation, much disagreement existed about "signing off" on a model statute without the specific approval of the employing law firm, the attorney general, or the attorney's board. Fortunately with the

board for initial licensure or for credentialing purposes.

This trend will allow boards to focus upon important regulatory issues and disciplinary hearings which, from a public policy perspective, are more important than ever. Rarely is the competence of a new licensee questioned after completion of initial licensure, but rather it is an individual whose established practice is impacted with accusation of substance abuse, insurance fraud, sexual misconduct, or failure to practice to a standard of care established by one's peers that boards are more frequently investigating. It also allows the educator and the examiner communities the opportunities to discuss new and innovative methods to deliver examinations to students. The AADE is actively engaged in facilitating this discussion between educators and regional and independent testing agencies to explore innovative

testing methodologies that do not draw the criticism current exams experience. The goal is, in effect, to develop a new generation of entry level clinical licensure examinations.

Dr. Gies identified issues in licensure that in the 1920s impacted unfavorably upon our profession. Barriers he identified in licensure and mobility are methodically being eliminated. The willingness of leaders in dentistry throughout the country to collaborate to provide the opportunity for those seeking entrance or already in the profession to practice at will in any state is a noble, and I believe, obtainable goal. But as Dr. Gies cautioned, "It must never come by forgetting that the highest standards of welfare to the public cannot be compromised or sacrificed to accomplish it."

But as the issues of initial licensure and freedom of movement are resolved, another of equal importance will

surface. Continuing competency, a cause Dr. Gies did not address, awaits its turn for open, passionate debate within the dental profession. Leaders among several of our dental specialty boards have effectively addressed and resolved it already by issuing time-limited certificates. The ADA's endorsement of lifelong learning obscures this important topic which state boards with integrity must soon begin to address. Why must we insist that those entering our profession demonstrate entry level competence, in order to protect the public, and not require evidence of continued competence of our licensee for the same reason? The issuance of a time-limited license coupled with a defined method of facilitating continuing competency at specific time intervals will further define the profession while providing an even greater level of public protection.

# Dental Schools' Relations with Organized Dentistry and Accreditation: The Gies Report Reconsidered

Eric Hovland, DDS, FACD

## Abstract

The American Dental Education Association was formed with Gies' help in 1923 from four existing groups to better represent the interests of dental schools. An independent organization of examiners, practitioners, and educators, the Dental Education Council of America, started in 1909 to rate and later accredit schools. Later this group came under the influence of the ADA as the Council on Dental Education. Modern accreditation of dental education began in 1941, under the ADA Council on Dental Education, but has gradually achieved more independence. Gies favored the work of guiding and developing dental education under the hand of a small number of representative experts, and he cautioned against the sway of politics—a warning as valid today as it was three-quarters of a century ago.

**T**he 1926 Gies Report specifically addresses the role of professional organizations in the regulation of dental schools. The major organizations of influence at that time were the newly formed American Asso-

ciation of Dental Schools, the National Association of Dental Examiners, the Dental Educational Council of America, and the American Dental Association. This paper will focus on the American Association of Dental Schools, the Dental Educational Council of America (and accreditation), and the American Dental Association, both from the time of the Gies report and today. It is fascinating to see that many of the issues, political forces, and concerns expressed by Gies in 1926 are still issues of concern and discussion seventy-six years later.

## American Association of Dental Schools

In 1923, the American Association of Dental Schools was formed through the amalgamation of the Canadian Dental Faculties Association and three existing national dental education associations.

The first organization was the National Association of Dental Faculties. Prior to the formation of this association in 1884, dental schools operated quite independently and in competition with each other. This competition was especially strong because many of the schools were commercial enterprises. A group of the better schools felt the need to establish a national dental education organization in response to a growing

trend toward the creation of many new and unnecessary dental schools. During its existence, the National Association of Dental Faculties was the most influential executive organization for the promotion of dental education. Although influential, it did not represent all dental schools because of the growing dissatisfaction with the organization's support of commercial dental schools. In 1923, its membership consisted of only twenty-eight of the fifty-one dental schools existing at that time. It is interesting to note that this organization, which consisted essentially of administrative officers, was titled an association of dental faculties.

The second association was the Dental Faculties Association of American Universities, formed in 1908. The commercial influence of the independent dental schools in the National Association of Dental Faculties created great dis-



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satisfaction among the university-based dental schools. Thus, a small group of six university-based schools formed the Dental Faculties Association of American Universities with the objectives of eliminating proprietary control of dental

problems of dental education; (and) provided exceptional opportunity for unprejudiced consideration of procedures of administration and methods of teaching." The report further states that this new organization brings all the

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***The organization was a strong critic and vigorous opponent of the activities of the National Association of Dental Faculties, which was perceived as an organization strongly influenced by commercialism.***

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schools, furthering higher standards of preliminary education, and making dental schools units within universities. The organization was a strong critic and vigorous opponent of the activities of the National Association of Dental Faculties, which was perceived as an organization strongly influenced by commercialism. By 1923, the DFAAU's membership had increased by seven schools to a total of thirteen.

The third association was the American Institute of Dental Teachers. This association was formed in 1893 in response to the National Association of Dental Faculties being mainly an organization of administrators, concerned with administrative issues. Also, there was a need for a group or association of faculty members to address the issues of teaching and instruction. The organization, consisting of faculty members from dental schools, focused mainly on academic matters of teaching and dental curriculum. By 1923, practically all of the dental schools, both United States and Canadian, were members.

The 1923 amalgamation of these three organizations and the Canadian Dental Faculties Association was praised in the Gies Report, which is not totally surprising since Dr. Gies assisted in the negotiations. The report stated, "It unified the administrative and teaching forces in dental education in North America; eliminated all causes of reasonable disagreement among the schools except such as are inherent in the real

strengths of the former organization and provides the conditions for leadership and progress in dental education in America. The one area of suggested improvement was that, "The American Association of Dental Schools has not yet exerted an important influence for the improvement of teaching."

Dr. Gies would be pleased with the strong leadership in dental education and the substantial influence for improved teaching that the American Association of Dental Schools and its subsequently named American Dental Education Association (ADEA) have provided in the seventy-six years since his report. Today, all of the United States and Canadian dental schools are active members of ADEA, and the organization is a unified

amalgamation of national dental education issues, institutional issues, and individual faculty and teaching issues does provide for the unity that was lacking in 1923. But it has also resulted in some present-day stress. ADEA is now both an institutional and a member organization. It is an institutional organization supporting dental schools and national dental education as the American Association of Medical Colleges (AAMC) does for medical schools. However, unlike AAMC, it is also a member organization, as is the American Dental Association, addressing issues of its diverse individual membership of administrators, dental and allied dental faculty, students, and corporate members. This dual responsibility has resulted in a very complex, large, and, some feel, cumbersome organizational structure. In addition, the breadth of activities of the organization in representing dental education, dental schools, dental disciplines, and individual members is at times overwhelming. Certainly dental schools, as institutions, need a national organization to represent their interests and to provide for national leadership in dental education. Faculty members also need an organization to address their teaching issues and to provide for their individual development as teachers. For one organization to meet both these needs with efficiency and equal priority is a challenge. The present leadership and staff of ADEA are do-

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***The Dental Educational Council of America was independent of any one professional organization.***

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force speaking for dental schools and dental education. Through the years, ADEA has had a major influence on improving teaching through its journal, national meetings, special teaching and curriculum committees, and the formation and activities of the Councils of Faculties and Sections.

Dr. Gies strongly advocated combining the teaching activities and the administrative and institutional issues of dental schools into one organization. This

ing an excellent job in addressing this challenge.

### **Dental Educational Council of America**

In 1909, the National Association of Dental Faculties and National Association of Dental Examiners, in an effort to improve the relations between examiners and dental schools, proposed the formation of a new council. This coun-

cil was developed similarly to the Council on Medical Education of the American Medical Association and would consist of equal representatives of the examiners (NADE), dental schools (NADF), and practitioners (National Dental Association, NDA). The important difference, however, between the Council on Medical Education and this new Dental Educational Council of America was that the Council on Medical Education was a standing committee of the American Medical Association while the Dental Educational Council of America was independent of any one professional organization. This newly formed independent council was to become the first national body to seriously address dental accreditation.

The Dental Educational Council of America initially confined itself to surveys of dental education, inspection of schools, and advice on policy and curriculum. However, in 1918, it began rating dental schools using a highly controversial rating system. The council used categories of "A," "B," and "C" to rate dental schools, with "C" indicating a failure to meet council standards. The controversy revolved around the awarding of "A" and "B" ratings to several proprietary schools (McCluggage, 1959). The university-related dental schools were especially upset with a system that gave an "A" rating to a proprietary school, and the inferior schools were upset with their "unacceptable" ratings. The council continued to revise its ratings, and by the time of the Gies Report in 1926, all of the better schools supported the council. Dental education had become a function of the university, and commercialism in dental education was no longer acceptable. The council at that time consisted of eighteen members with equal representation from the NADE, the newly formed AADS, and the ADA (formally NDA).

Gies, in his report, strongly advocated the continuance of the Dental Educational Council of America in order to protect dental schools from what he termed "mercenary spirit" or "indifferent attention" or "neglect" of some universities. He opposed the notion that

the dental schools or the AADS could assume the council's work of accreditation, stating "Direct or active censorship of one another cannot suitably be included among functions of the schools, individually or as members of the American Association of Dental Schools."

Gies strongly advocated the continued independence of the council and felt that control of the council by organized dental practitioners would severely weaken the council's usefulness, impair its initiative, and limit its freedom of expression. He stated that dental education's direction should be determined primarily from the point of view of public welfare and not professional partisanship: "In some quarters there is a disposition to forget that dentistry is neither a political party nor a secret society;

House of Delegates had the right to approve the members of the other two bodies. The new council was specifically described as the agency of the American Dental Association (McCluggage, 1959).

## Accreditation

Accreditation as we know it today came into effect in 1941 with the establishment of the ADA Council on Education Requirements for Approval of a Dental School. In 1973, the ADA approved the establishment of a Commission on Dental Accreditation of Dental and Dental Auxiliary Programs. In 1979, the name was changed to the Commission on Dental Accreditation. Members of the Council on Dental Education also served on the Commission on Dental Accreditation. In 1997, the Commission on Dental Accreditation became more

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that it is not an organization of dentists by dentists for dentists, but that it is an accredited agency for public service, open to public inspection, subject to public regulation, and subservient to public opinion."

The independence of the Dental Education Council of America, however, was not to last as the ADA leadership became increasingly concerned with activities of the council, and a series of moves took place that ended in the demise of the council. In 1938, a new Council of Dental Education of the American Dental Association was established with much the same structure as its predecessor. It consisted of three members from each of the national organizations of practitioners, examiners, and educators. The ADA assumed all expenses of the council, and the ADA

independent as the Council on Dental Education, and the Commission on Dental Accreditation became two distinct agencies with separate memberships (American Dental Association, 2000).

The issue of independence of a dental education and accreditation organization versus control by organized dental practitioners, which was of such concern to Gies, continues today with the relationship of the Commission on Dental Accreditation and the American Dental Association.

Since the 1938 establishment of the ADA Council of Dental Education, accreditation activities have become progressively and increasingly independent. The Commission on Dental Accreditation now has broad-based representation from practitioners, dental schools,

examiners, dental specialties, allied dental organizations, and a student. Four public members, representing public interests, also serve on the commission. The commission has autonomy and final authority in matters relating to dental program evaluation, accreditation status, and ac-

tional Council of America, which consisted of six members, each from the ADA, AADS, and NADE. He stated that the council of eighteen members was much larger than the amount and nature of the work required: "The deliberations of the council need more judg-

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***In 2000 the commission requested elimination of the requirement for approval of its rules or articles of incorporation by the ADA House of Delegates, but the ADA House of Delegates turned down the request.***

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creditation policies and guidelines. The commission independently develops and approves the accreditation standards. The commission is independent in its diverse composition and in its accreditation activities. In addition, the United States Department of Education recognizes the commission, and it must adhere to the department's procedures and criteria. However, it is not completely independent from ADA control. The ADA House of Delegates has final approval over the articles of incorporation of the commission, including membership, and its rules and amendments (American Dental Association, 2000). The ADA also determines the annual budget of the commission, and its staff is employed by the ADA. In 2000 the commission requested elimination of the requirement for approval of its rules or articles of incorporation by the ADA House of Delegates, but the ADA House of Delegates turned down the request. Although the present relationship between the ADA and the Commission on Dental Accreditation is harmonious, there has been stress in the past as members of the commission and dental schools felt the ADA was interfering with the commission's accreditation independence. Until the commission is completely independent from ADA House of Delegate control, there is the potential for future conflict.

In his 1926 report, Gies proposed a reorganization of the Dental Educa-

tion Council of America, which consisted of six members, each from the ADA, AADS, and NADE. He stated that the council of eighteen members was much larger than the amount and nature of the work required: "The deliberations of the council need more judg-

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***The Committee on the Future of Dental Education concluded that excessively detailed assessments of structures and processes should be trimmed from the accreditation standards and processes.***

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men who are obliged continually to encounter the temptations of direct self-interest. They would be more than human if, as judges, they could completely disregard their loyalty to the schools of which they are officers."

Gies would probably not be pleased to see that the present Commission on

Dental Accreditation has thirty members and a rather hefty travel budget. However, the number of programs and areas of dental accreditation have increased exponentially since 1926. He probably would be quite pleased with the addition of public members and with the accreditation of dental specialty programs and allied dental programs in addition to dental schools. He would also most likely applaud the unity of accreditation activities with one organization directing all dental accreditation activities. Addressing Gies' concern regarding the deans' ability to disregard their loyalty to their schools while serving on the council, the present commission requires any commission member who has an affiliation with the institution being discussed to leave the room during deliberation of that particular institution.

Although addressing state board regulations, Gies had strong comments in regard to dental curricula regulation that directly relate to the accreditation process and standards of today. He stated that specification of required educational details that schools must adhere to interfere with the orderly improvement of curricula. He reported "Where the dental regulations fit the number of hours for the subjects to be taught, the sequence of their presentations, and the years in the curriculum during which the subjects must be completed—all in a rigid program—desirable freedom in the evolution of dental education may

be seriously impaired. Curricula cannot be suitably improved when earnest teachers are prohibited from testing effectively the value of departures from conventional views."

It is interesting to note that the exact same concerns regarding dental accreditation were expressed sixty-nine years

later in the 1995 Institute of Medicine report by the Committee on the Future of Dental Education. The committee heard, however, that some of the schools had faced opposition from accreditors who had created time-consuming and stressful delays in implementing program innovations. For example, efforts to give students some leeway from the traditional "lockstep" curriculum by instituting special focus tracks encountered concerns that the tracks amounted to early specialization, which is restricted under current standards which state: "specialization must not be permitted until the student has achieved a standard of minimal clinical competency in all areas necessary to the practice of general dentistry. The committee concluded that excessively detailed assessments of structures and processes should be trimmed from the accreditation standards and processes."

The Commission on Dental Accreditation has recently addressed this issue of specificity and rigidity in accreditation standards versus flexibility and innovation in dental education programs. In 1998 the commission revised its standards for dental educational programs in order to allow for all dental schools to be more innovative and unique in their approaches to dental education. The commission significantly reduced the number of required standards. The standards are now more broad, less prescriptive, and allow schools to meet the standards in the manner they choose. The emphasis is on the outcomes of the educational program and the demonstrated competency of students rather than process (American Dental Association, 1998).

### American Dental Association Council on Dental Education and Licensure

As stated earlier, Gies felt the issues of dental education should be determined primarily from the point of view of

public welfare not professional partisanship. He was especially concerned that a large group of practitioners such as the present ADA House of Delegates would need to approve decisions of a more informed and representative education council. He stated, "It (the council) could not function to the highest degree of public utility, if its decisions were sub-

sure proposes policy for the ADA. However, it does set the potential, as Gies warned, for decisions to be made based on political or partisan reasons rather than from the view primarily of public welfare.

An example of a situation and outcome that Gies would have been most concerned about occurred in 1997 with

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### *The Commission on Dental Accreditation has recently addressed this issue of specificity and rigidity in accreditation standards versus flexibility and innovation in dental education programs.*

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ject, at annual meetings under stress of partisan maneuvers or political excitement, to modification, substitution, or rejection by a majority vote of less well-informed members." He went on to state, "The only necessary restraint on such a judicial and advisory body as the council is that of earnest selection of members who are notable for ability, independence, courage, disinterestedness, and trustworthiness. Their mistakes would hardly be more numerous or damaging than those of majorities at annual meetings of a national association of practitioners; and it would be far better for the dental profession to submit to the embarrassments from occasional errors of judgment of a council of highly reputable representatives, with public criticism as in effectual corrective, than to lose the many advantages that would accrue from unfettered expressions of the convictions of such a body."

The present ADA Council on Dental Education and Licensure has tripartite membership of dental practitioners, examiners, and dental educators. However, as Gies cautioned against, the decisions of the council are subject to House of Delegates approval. This House of Delegate approval is not that unusual for an organization like the ADA because the Council on Dental Education and Licensure

proposes the recognition of two new dental specialties, dental anesthesiology and dental radiology. The Council on Dental Education, represented by practitioners, examiners, and educators, after extensive examination and deliberation, concluded that the two proposed specialties be granted recognition because their applications met the established criteria for recognition. Subsequently, at the ADA annual meeting, under what some thought was the stress of partisan maneuvers and political excitement, the less well-informed members of the House of Delegates rejected the recommendation of the council. Whether this was a case of professional partisanship rising over public welfare is open to interpretation. But it certainly was a scenario that Gies cautioned us about seventy-six years earlier.

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# The Dental Curriculum in Gies' Time, Now, and in the Future

Rowland A. Hutchinson, DDS, MS, FACD

## Abstract

Writing in the 1920s, William J. Gies was a champion for the importance of dentistry to general health, the scientific foundation for dentistry, and the need to develop and integrate an efficient curriculum. He argued that admissions standards should be made uniform and raised. He also proposed that the predoctoral dental curriculum should be reduced to three year's length by eliminating unnecessary material and improving efficiency. Gies called for available postgraduate experiences on an optional basis. Perhaps it is time to consider a three-plus-one model combining a three-year program focused on general dentistry with a mandatory fourth year along the lines of a postdoctoral general education experience.

Gies brought back after seventy-six years. The return of the famous *Carnegie Foundation Report on Dental Education in the United States and Canada—Bulletin Number Nineteen* published in 1926—is not only appropriate but also enlightening in 2002. John Updike named his novel *Rabbit Redux* as he brought back the protagonist to *Rabbit Run* and Anthony Trollope titled his chronicle about the revitalized career of Phineas Finn, *Phineas Redux*.

Like Updike and Trollope, "Gies Redux" allows us to bring back what Gies said in both the context of 1926 and 2002 and to consider if there are forces from 1926 that are the same or similar today. If there are such forces should we consider them as we plan for the future?

In the area of dental school curriculum, I submit that many of the Gies' findings and recommendations in 1926 are very appropriate to both current and future curriculum considerations in dental education. The preface to the Gies Report, written by Henry S. Pritchett, states "In the medical school, anatomy, bacteriology, chemistry, pharmacology, physiology, and pathology tend to become separate and distinct studies just as in the engineering school, mathematics, physics, chemistry, and mechanics tend to become unrelated studies instead of the common soil out of which the theory and practice of engineering rise by a natural growth." Pritchett further writes "A large amount of time is now consumed in teaching medical students redundant details of anatomy, of physiology, of chemistry, which they quickly forget and which the teachers do not long remember. These details ought to come to medical students as matters of illustration and experience in the course of their medical study. This is a problem of education, not of medicine. It is the most important problem that confronts the modern medical school."

I believe the same or a similar situation is still present in many of the current dental schools' curriculums. The standards by which the Commission on Dental Accreditation and its consultants evaluate dental education programs clearly state in Standard 2-9 that "biomedical, behavioral, and clinical science instruction must be integrated and of sufficient depth, scope, timeliness, quality, and emphasis to ensure achievement of the curriculum's defined competencies" (American Dental Association, 1998). The intent of this standard is that "development of the curriculum should be integrated and sequenced to allow for the optimal development of students into practitioners." Integration of both the biomedical and behavioral sciences in a meaningful manner with clinical education and practice continues to be a problem in some of our schools.

One of the most quoted conclusions from the *Report of the Surgeon General: Oral Health in America* published in 2000 is that oral health is extremely important



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to general health and that oral diseases and disorders affect health and well-being throughout life. It is interesting to note that in 1926, Pritchett wrote, "only in recent years has it been fully recognized that dental disorders are directly related to the general health." The Gies Report itself states "The profession of dentistry, in order to discharge its obligations in the matter of oral health-service, must require for entrance to the profession such equipment in preliminary education as will prepare the candidate for professional study, and must also offer in the dental curriculum training in the medical sciences, in dental technology, in clinical dentistry, and in oral medicine, such as will afford a sound basis for the general practice of dentistry."

Currently, all of the dental schools in North America have extensive biomedical and behavioral science courses. The important question is, are these courses integrated throughout the curriculum or are they being presented as compartmentalized entities? Many schools have incorporated Problem-Based Learning (PBL) in an attempt to better combine the biomedical sciences with clinical practice. According to Shuler (Shuler, 2001), "The PBL pedagogy naturally integrates discovery, mastery, and application through the focus on analyzing the condition of the patient. The use of patient presentations as a focus for learning mimics the eventual practice environment and builds student confidence in problem analysis through a critical-think-

interests as servants of the public health. It further states that "The immediate and direct obligation upon both the medical school and the dental school is to reexamine the courses of study and to con-

these two conclusions, however, they are only indirectly related to curriculum considerations. The other non-curricular conclusion that is as important to dental education in 2002 as it was in 1926 is

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***Standards for admission to dental school were greatly elevated. Dental education became an integral component of universities, and the curriculum became based on a scientific foundation.***

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vert them into effective agencies for the training of those who are to make their professions in the service of the public health."

There is little doubt that this 1926 report had a profound effect on dental education throughout the twentieth century. Standards for admission to dental school were greatly elevated. Dental education became an integral component of universities, and the curriculum became based on a scientific foundation. This was in distinct contrast with the dental schools prior to 1926. Although some of the early dental schools were based in universities, many were commercial schools that were essentially proprietary in nature.

The Gies Report suggested a reorganization of dental education with five general conclusions. I will not discuss the "preparatory education of dentists" or

that "in dental schools, teaching and research should be as effectual as the best in a good university, and the status of dental teachers should be raised accordingly." Although the implementation and success of this conclusion are vital to the future of dental education and dentistry, it is only indirectly related to the curriculum.

The two other major conclusions of the report directly involve the curriculum and will be discussed in the context of 1926 and 2002.

- The undergraduate curriculum in dentistry should be devised for intensive preparation for the duties of general practice only, and should be so organized that earnest and competent students could complete the training in three years.

- Optional full-year graduate curricula, separate or combined, including dispensary and hospital experience as well as opportunity and encouragement in research, should be provided for all types of specialization in oral science and art, especially those of private practice, public-health administration, teaching, and investigation.

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***The Gies Report repeatedly emphasizes the relationships between medicine and dentistry and their intimate mutual interests as servants of the public health.***

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ing process. Problem-Based Learning provides a pedagogy that works not only for basic science content in areas but also for the clinical sciences."

The Gies Report repeatedly emphasizes the relationships between medicine and dentistry and their intimate mutual

the fact that "in universities, dentistry, an independent division of health service and, in effect, the oral specialty of the healing art, should receive the quality of consideration and support now deservedly accorded to medicine." Tremendous progress has been made regarding

### **Three Years Focused on Preparation for General Practice**

This recommendation was based on the premise that the plane of preliminary education was raised to a requirement of at least two years of approved work in an accredited academic college and that a

proposed test of professional aptitude was introduced. Most of the students accepted in dental schools today have four years of college and an under-

physical reactions of many of the students and instructors in the technical laboratories, and as a consequence much time is wasted that might be saved un-

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***In addition, "unprofitable repetition" and "dawdling characterizes the mental and physical reactions of many of the students and instructors in the technical laboratories, and as a consequence much time is wasted that might be saved under a more effectual and intensive system of education."***

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graduate degree. Many of today's students have more than four years of college and a graduate degree (Valachovic, Weaver, Sinkford, & Haden, 2001). The Dental Admission Test (DAT) (American Dental Association, 1950) was introduced in 1950, and most dental schools rely on the results of this examination as an important factor in the admissions process. The Gies Report was truly futuristic when it posed the following quotation. "If it be conceded that dentistry is a mode of health service that requires an understanding analogous to that demanded of practitioners of accredited specialties of conventional medicine, and in addition exacts a broad comprehension of mechanical principles as well as a sensitive esthetic appreciation, it would seem to be inevitable that predental education should be similar in general scope and equal in quality to that of premedical education, in order to ensure desirable intellectual parity between prospective students of medicine and dentistry, and equivalent capacity to master their responsibilities as practitioners."

The report advocated that the undergraduate curriculum in dentistry could be completed in three years. One of the reasons for this recommendation was that "practice in manual procedures, which is essential for the attainment of digital facility, is often carried to an enervating extreme, yet is traditionally interrupted by long summer vacations." In addition, "unprofitable repetition" and "dawdling characterize the mental and

der a more effectual and intensive system of education."

Over the past seven decades most schools have eliminated or greatly reduced summer vacations, however, it is my opinion that unprofitable repetition and dawdling still exist in many of the technical laboratory courses. I am not alone with this opinion as Dean Bruce Graham, in his commentary on Dr. Michael Cohen's article, states "we spend too much time and faculty effort (and, therefore, too many faculty salary dollars) on teaching dental students to be dental laboratory technicians" (Graham, 2002).

Standard 2-5 of the Commission on Dental Accreditation states, "The curriculum must include at least four academic years of instruction or its equivalent" (American Dental Association, 1998). Although several dental schools

The University of the Pacific School of Dentistry, during the Commission on Dental Accreditation site visit in 2000 met all of the criteria established for a fully accredited school. Dean Arthur A. Dugoni has successfully led the faculty in assuring that students learn through the humanistic model of education in a technologically-advanced facility with a thoroughly streamlined curriculum. Year after year, this school ranks in the top half dozen in number of patient treatments completed by its students.

Many dental educators believe that with the tremendous explosion of knowledge in science and technology, three years is not sufficient to teach everything that a competent dentist needs to learn to begin independent practice. It is my contention that extensive curricular revisions can be accomplished to remove redundant and outdated material. Faculties are comfortable teaching what they were taught, using the methods that were used to teach them. In addition, many dental schools do not use the academic year in the most efficient manner. Just as the Gies Report observed, change in the future will be viewed as a disadvantage or threat to what is generally perceived as an already excellent dental educational system.

Dean Charles Bertolami has addressed a critical issue in dental education in his August 2001 publication "Rationalizing the dental curriculum in light of current disease prevalence and patient demand for treatment: form vs. content." The premise of Dr. Bertolami's paper is

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over the years have attempted to develop an equivalent curriculum in fewer than four academic years, only one school, the University of the Pacific, has been successful with a curriculum that is fewer than forty-five months in length.

that the manner in which dental education is conducted does not support what is being taught. His conclusion is "when the form and content of dental education do not reinforce each other, what results is an inadequate learning experi-

ence and dissatisfied students. Absent reform, the capacity of dental curricula to be responsive to change will be compromised." In this very enlightening paper, Dr. Bertolami, suggests an asynchronous model of dental education where improving the form of the dental curriculum might begin by recognizing that people learn at different rates. Advances in problem-based learning (PBL), pre-clinical simulation systems, distributed models of clinical experiences, and a comprehensive patient care philosophy could all assist in moving toward this type of curriculum change. Dr. Bertolami also states that "while various curricular proposals may differ, all acknowledge a need for reform because all understand that the dental curriculum must be responsive to forces that are coming into play and that are already in evidence." This type of futuristic thinking is extremely important in 2002, as was the futuristic thinking expressed in the Gies Report in 1926.

### A General Practice Fourth Year

This Gies Report conclusion is what many current dental educators have been advocating under the title PGY-1 (Journal of the American College of Dentists, 1995). Although in 1926 this was proposed as an optional year, the recommendation could well be added as a mandatory general dentistry experience in a three-plus-one model. Specialized training in the current nine Commission on Dental Accreditation recognized specialties require from two to six years additional study after receiving the DDS/DMD degree. However, many advanced general dentistry programs (AEGD and GPR) are one-year programs. An innovative approach to the current severe shortage of dental faculty and research-trained dentists would be to use the fourth year of a three-plus-one curriculum for training in education and research.

It was my hope during the ten years that I served as dean of two dental schools that many of the unique components that make the University of the

Pacific School of Dentistry so effective could be incorporated into a three-year curriculum. This would allow the traditional fourth year to be used for advanced general dentistry programs

lum during the past seventy-six years have been significant and have been instrumental in facilitating excellent dental education programs in North America. Many of the Gies Report recommenda-

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## *An innovative approach to the current severe shortage of dental faculty and research-trained dentists would be to use the fourth year of a three-plus-one curriculum for training in education and research.*

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(PGY-1 programs) that have been strongly advocated by many dental educators. This proposed fourth year could be under the control of the parent dental school with the dental degree awarded at the end of four years. With only three years of the traditional curriculum and creative financing (to include clinical revenue cost sharing) during the advanced general dentistry fourth year, the total cost of a complete dental education could be substantially reduced. The cost of dental education has been cited as a major concern in the American Dental Association's *Future of Dentistry Report*. The mean educational debt of dental students who had debt in the year 2000 was \$106,000 (Valachovic, Weaver, Sinkford, & Haden, 2001). Any innovative curriculum changes that would reduce the cost of dental education should bode well for the future of our profession.

### Conclusion

Henry S. Pritchett in the preface to *Dental Education in the United States and Canada—Bulletin Number Nineteen* stated that "The study has been carried out by Dr. Gies with an open mind and with the single desire to be of service to the cause of professional education." There is little doubt that Dr. Gies and his colleagues approached the state of dental education in 1926 with such an open mind, and that they were of great service to the cause of professional education in dentistry. The changes in the dental curricu-

tions are still pertinent today. The leaders in dental education in 1926 were remarkable in their vision for the future. The 2001 American Dental Association *Future of Dentistry Report* states "The dental education curriculum should become more relevant to the practice of modern dentistry." If we are to continue to provide excellent dental education in North America, the current leaders in dental education must be willing to take risks, make changes, and have the courage to develop visions for the future.

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# The Gies Report and Research

R. Bruce Donoff, DMD, MD, FACD

## Abstract

In the eyes of the intellectually curious William Gies, dentistry and dental education in 1926 was mechanical, empirical, commercial, reparative, and isolated from other disciplines. The solution proposed in the Gies Report included making dental schools parts of universities and collaborative equals with medical schools, increasing full-time teachers, promoting graduate study, and especially, grounding dentistry in science. Early attempts by the American Dental Association to develop and support a research agenda floundered, and scholarship was left to the universities and the government, and more recently to commercial interests. To a disappointing extent, the separation of practice from science remains today as the technologies of the scientific spirit remain unfamiliar and vaguely threatening.

The Institute of Medicine Report (IOM), *Dental Education at the Crossroads*, characterizes the history of dental education in the past century as transformational.

"The twentieth century opened for dental education with an abundance of proprietary schools, a trade not fully transformed into a profession, and a primitive regulatory structure. The popu-

lation was beset by serious dental disease, resigned to tooth loss, and limited in the treatments available to it. The science and research base was minuscule. During the twentieth century, dental

the United States and Canada during 1921-22 and revisiting some of these during 1922-23.

Gies was an exceptional person. A first-rate scientist, he established the first

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***Gies lamented that investigation in dentistry had mainly consisted of the development of profitable, patented invention with commercial support and motivation. Research he said, had been almost exclusively mechanical and only incidentally biological.***

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practice, education, and regulation have been transformed. Proprietary schools have vanished amidst a series of educational reforms, and a significant—albeit still limited—research capacity has emerged."

The Carnegie Foundation for the Advancement of Teaching supported evaluations of a number of existing educational paths in the early nineteen hundreds. It issued the Flexner Report evaluating medical education in the United States in 1910, and in 1922 chose William J. Gies to head a commission to study dental education. The report, known as the Gies Report or *Bulletin Number Nineteen* resulted in the reorganization of dental education. Its visionary, courageous, and imaginative content was based upon Gies' visits to all dental schools and associated medical schools in

department of biological chemistry at Columbia University Medical School. His interest and passion for dentistry led him to suggest and promote a School of Dentistry at Columbia. *Bulletin Number nineteen* was the culmination of his intense study and involvement in dentistry, its research and education and collaboration with the First District Dental Society of New York. One cannot help but be awe struck by this man's intellect, energy, and accomplishments which are



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chronicled in a 1992 biography by Frank Orland.

## The Separation of Practice from Science in the 1920s

What did Gies have to say about research specifically? "The practice of health service in any branch, unless animated by research, is weakened by the complacency of empiricism." He lamented that investigation in dentistry had mainly consisted of the development of profitable, patented invention with commercial support and motivation. Research he said, had been almost exclusively mechanical and only incidentally biological. He felt that the dental profession concentrated on immediate and obvious remedial needs rather than prevention and understanding of disease. He suggested that the existing system of dental education failed to make research important to its teachers and a goal of its students and therefore hurt the future.

Gies saw the disparity between research at medical and dental schools, but was particularly critical of the lack of interest in solving biological problems by dentists. He described this perceived lack of intellectual quality and felt it was a critical constraint on full development of dentistry as a learned profession. In considering special conditions that interfered with research in dental schools, Gies included:

- Lack of general scientific education of dental students and faculty;
- Disinterest of medical faculty to include the mouth in their research interests;
- Disregard for medical sciences by dental schools and the profession;
- Students projected their future needs almost exclusively along mechanical lines.

So in 1922, we had teachers lacking the inspiration for the ideals or values of research or scientific inquiry and a profession unable to make anything other than mechanical things relevant to practice. Sound familiar today?

Recall the opening statement from the Institute of Medicine report and compare it with the situation Gies described. Then think how far things had

come in 1923 since the turn of the century. A succession of discoveries, inventions, devices, and procedures had been introduced. Alleviation of suffering and removal of disability had truly been a success. Yet the Gies Report states "Dentistry has been triumphant in the art of repair, but has been baffled by the

nized dentistry felt that the universities should do their jobs of scholarship without ADA dues. Gies bemoaned this philosophy and the commercialism associated with it.

Gies felt that the biological problems for dentistry required the highest degree of scholarship and the most complete

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mysteries of prevention." He felt this was a direct result of dentistry's lack of scientific comprehension and medicine's lack of interest in the treatment of and prevention of dental disorders. This is an important message for the future existence of a separate National Institute of Dental and Craniofacial Research (NIDCR).

The Gies Report's description of the special agencies created for the promotion of dental research pays homage to the *Journal of Dental Research* and the International Association of Dental Research (IADR), which Gies promoted. An Institute for Dental Research, and the American Dental Association's Scientific Foundation and Research Commission were fleeting failures. The politics, and most importantly, the values of organized dentistry were reflected in decisions that did "nothing to solve one of the most pressing problems—the discovery of young men and women who are exceptionally qualified to devote their lives to teaching and research." There were no NIDCR and no training grants in 1926. In 1925, the ADA decided that support of more relevant practical aspects of oral health, those more supportive of guiding practitioners, were worthy of financial support. So, orga-

understanding of the fundamental sciences. The report in its section on research is worth reading for it raises critical thinking issues and topics for investigation like the reparative powers of teeth compared with bone, genetics and inheritance, and microbiology and nutrition. He lamented the poor understanding of and study of periodontal disease and its drowning in a passion for oral hygiene. Interestingly, this continued well into the 1960s until microbiology made periodontology the apex of "basic science" for dentistry.

One cannot read this and not ask why he said it in 1926. Clearly this was what he found in his tour of American and Canadian dental schools. Yet he advised that dentistry as a health profession remain separate from medicine. He predicted the successful transformation of dentistry into a service equal to medicine. The report does cite evidence for its recommendations. The University of Michigan had reduced technique and replaced it with engineering courses in 1925 without negative impact on the quality of clinical work. Marquette accepted students with advanced standing in 1925 and found their performance better than those admitted with lesser preparation.

The critical factors for Gies were research, inquiry, and scholarship. Improving the quality of students and faculty were the basis for reorganization. One of the most important recommendations of *Bulletin Number Nineteen* was that schools become integral parts of universities and develop strong collaborations

with medical schools. Equalization of premedical and predental education should become the norm. The biomedical sciences should receive an important place in the dental school curriculum and dental clinical subjects should be taught by full-time teachers. Additionally, involvement in graduate education was needed and specialties such as orthodontics and oral surgery would need additional study. The proper place of basic science might even one day be recognized by advanced degree programs. Gies' recommendations were to change dental education by improving its applicant pool, upgrading faculty, and improving the curriculum. The Gies Report is about research and scholarship and these are two of the critical issues to-

day. Clayton M. Christensen, a professor at the Harvard Business School has coined the phrase "disruptive technology" in his 1997 book, *The innovator's di-*

lemma. He describes technology as the processes by which an organization (and I will add profession) transforms labor, capital, materials, and information into products and services of greater value. This concept of technology, therefore, extends beyond engineering and manufacturing to encompass a range of marketing, investment, and managerial processes. Innovation refers to a change in one of these technologies. Christensen points out that processes can be inflexible and values, the criteria by which decisions about priorities are made, are even more important. (For a discussion of Christensen's and others' work on technology transfer relative to oral health care see Chambers, 2001.)

linked to reimbursement. CAD/CAM fabrication of restorations, 3-D printing, and laser tooth preparation are readily seen technologies poised to disrupt. In 1955, Dr. Theodor Rosebury paid a tribute to Dr. Gies on the thirtieth anniversary of *Bulletin Number Nineteen* (Orland, 1992). He pointed out that in the thirty years since the issuance of the report, medical schools, and, indeed, the whole of medical practice had been transformed by the influence of experimental science. "What seems to me most significant in this transformation is the idea that disease can be understood, and if understood, controlled." As a result, clinicians have become convinced of the importance of science. "Science as an attitude and as a method of learning has permeated every branch of medicine; and it is more in consequence of this event than any other that medical education has reached its present eminence."

Rosebury didn't suggest that medicine as a practice is any more scientific than dentistry. He suggested that the practitioner of either medicine or dentistry needed to understand science, but needn't be a scientist. That state of knowledge would permit the patient to be seen as a whole being, not just an eye or a mouth or a leg. Medicine, Rosebury said in 1955, "has come to accept the spirit of science." Rosebury suggested

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### ***Gies' recommendations were to change dental education by improving its applicant pool, upgrading faculty, and improving the curriculum.***

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with medical schools. Equalization of premedical and predental education should become the norm. The biomedical sciences should receive an important place in the dental school curriculum and dental clinical subjects should be taught by full-time teachers. Additionally, involvement in graduate education was needed and specialties such as orthodontics and oral surgery would need additional study. The proper place of basic science might even one day be recognized by advanced degree programs. Gies' recommendations were to change dental education by improving its applicant pool, upgrading faculty, and improving the curriculum. The Gies Report is about research and scholarship and these are two of the critical issues to-

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### **The Separation of Practice from Science at the Turn of the Century**

Which forces active in 1926 are still important today and which have changed? The influence of the mechanical arts on dentistry remain as dominant today as in 1926. Separation of science and practice continues and we have a critical need for full-time teachers and dentistry must become a true branch of medicine, like orthopedics and dermatology. Comparison to medicine as a whole is unfair and regressive. The critical issues are about values and processes. The establishment of the National Institute of Dental Research (NIDR) in 1948 was a critical fac-

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### ***I would argue that the profession has made great strides and that the inability of the profession to innovate (change) is matched only by the inability of the dental education community to change (innovate).***

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I would argue that the profession has made great strides and that the inability of the profession to innovate (change) is matched only by the inability of the dental education community to change (innovate). Recent examples of disruptions of processes include the fluoride varnish effort by pediatricians in North Carolina, dental management companies, and the development of practice guidelines

that no comparable transformation had occurred in dentistry because dental research had not solved any of the problems of dental disease and had contributed little to the everyday practice of dentistry. Fluoridation, a triumph of public health, was the exception. Rosebury exhorted his audience to follow the path mapped by Dr. Gies and achieve for dentistry a status fully equivalent

lent to that of the best specialties of medicine, through the conquest of dental disease.

It is of interest, that in his remarks Dr. Rosebury highlights comments in a book by Dr. A. LeRoy Johnson, one of my predecessors as Dean at Harvard, who pointed out that at the time of the Flexner Report, medicine was better positioned for change since it already had an experimental school, Johns Hopkins. The Gies Report stimulated several experimental schools in dentistry such as Rochester and Harvard. The Rochester experiment won general esteem from the start, while that at Harvard was first received in a spirit of controversy and even of hostility. Johnson suggested that the varying reception of these two was related to Rochester never having had a dental school while Harvard did, albeit of a new sort. Harvard was a challenge to entrenched notions and the status quo. It was a disruptive technology of sorts, much like Internet-based higher education today. Yet, the influence of politics and the status quo played an important role. Barbara Tuchman, the noted historian said, "Men will not believe what does not fit in with their plans or suit their prearrangements." The importance of the times in which we live and man's coming to terms with his world is the lesson of history. The implementation of the Gies Report's recommendations is a clear example of evolution rather than revolution.

Dr. Herbert J. Bartelstone paid tribute to Dr. Gies on the fiftieth anniversary of the IADR in 1970 (Orland, 1992). He challenged dentistry to revamp its systems of dental manpower development and dental health care delivery to bring its abilities to effectively limit caries and periodontal disease to bear. He stated, "Our system of education produces a mechanistically oriented dentist whose inadequacies become glaringly apparent when both the state of dental health needs and the right of man to be free of dental disease are joined conceptually." He exhorted the members of the IADR

to take a more active role in bringing science to the clinicians and closing the gap between what is known and application.

William Gies had the curiosity that underlies both clinical practice and research and scholarship. Critics must agree

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***It is impossible for dental schools to educate their students to become "persons of science" and to acquire a taste for complexity, problem solving, and understanding of disease without putting science into dental schools.***

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Might Christensen's disruptive technology concept be informative today, as vaccines for dental caries find it difficult to gain funding for adequate clinical trials? Successful vaccines threaten the status quo, challenge current business models based upon treatment rather than prevention, and are, therefore, disruptive technologies. Will greater understanding of the relationship of periodontal disease to systemic disease provide the clout for oral disease to meet the test of medically important? What if in the next year definitive research demonstrates that healthy gingiva reduces heart disease as dramatically as streptomycin added to isoniazid improved the treatment of tuberculosis?

I could go on and on but the major message of *Bulletin Number Nineteen* must be repeated today. The role and importance of research and scholarship in dental education and practice was the keynote address (Bertolami, in press) and response (Garcia, in press) at the October 2001 American Dental Education Association (ADEA) and NIDCR co-sponsored meeting, "Conducting and Putting Science into Practice: The Role of the Dental Schools." The message, education informed by research and scholarship, education made relevant by science, and direct education and experience in the conduct of research, is one way of achieving the intellectual rigor needed for the professional.

that subjects other than science require scholarship and the differences between education and training need to be remembered to keep dentistry a profession and not a trade (Donoff, 1994). Inarguably, it is impossible for dental schools to educate their students to become "persons of science" and to acquire a taste for complexity, problem solving, and understanding of disease without putting science into dental schools (Donoff, 2001). That message is the headline of the Gies Report and it is well worth repeating today.

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# Eighty Years of Dental Education in Canada

Gordon Thompson, DDS, PhD, FACD

## Abstract

The many similarities between dentistry and dental education in 1920 between Canada and the United States continue to exist today. These have led to parallel development of dental education and practice and to extensive sharing between the two countries. However, the provincial rather than national approach to education and health care in Canada has not facilitated national outcomes.

The dental schools in Canada and the United States were so similar that it was difficult to distinguish them in the 1920s or now as two separate systems. When William Gies made his report on the status of dental education, there was the opportunity for the Canadian schools in their development to use the programs and program standards that had been previously developed in many schools in the United States. Early, there did not appear to be the perceived need for the profession in Canada as early as there was in the United States. This was based on the population base and need that was not there in Canada. As well, there were staff members from one country who also helped out at one or more programs in the other.

## The First Dental Schools

Eighty years ago, dental programs existed only in Ontario, Quebec, Nova Scotia, and Alberta. The first school had

been started in Ontario by the Royal College of Dental Surgeons of Ontario. This was the first structured program after dentists had learned their profession by being apprentices for a period from three months to one year, although a few were graduates of medical or dental schools in Europe or the United States. No formal education was needed, as there were no controls on what services were provided. Some of those who had done the apprenticeship program were associated with the North West Mounted Police. One of these police officers, Dr. F. D. Shaw, born in Nova Scotia, graduated from the New York Dental College in 1878. He extracted two teeth for Chief Sitting Bull after the Battle of Little Big Horn while Sitting Bull was seeking refuge in Canada.

The Royal College of Dental Surgeons started the first dental school in 1869, and it was not associated with a university. The college was created by bringing together all of the practicing dentists in the province. They controlled all aspects of the program, including admissions and training. This was in the end considered to be a proprietary school, and Gies felt that the program did a disservice to the profession as he similarly disliked proprietary programs in the United States.

In the next iteration of dental education in Canada, the Royal College of Dental Surgeons of Ontario established the School of Dentistry of the Royal College of Dental Surgeons of Ontario, which after a few years was affiliated

with the University of Toronto. Later on, the University of Toronto took over the dental education program, and the Royal College of Dental Surgeons of Ontario looked after the practice of dentistry in Ontario, but only after this was voted on by the membership of the Royal College of Dental Surgeons of Ontario.

It was proposed that the Canadian schools were more advanced than many of the dental schools in the United States. This was partially due to the preprofessional education that was required by Canadian schools. The four schools required various preprofessional programs—Toronto one year, McGill (Montreal) two years, Montreal three years, and Dalhousie (Halifax) one year. Graduates of the University of Alberta (Edmonton) had to complete one year of preprofessional education and at that time completed the clinical program at a Canadian or American school. Gies noted that the Canadian dental schools had a greater focus on medical sciences and less emphasis on the technical aspects of dentistry and dental education than their U. S. counterparts. He felt that technical skills were obtained with time



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and by being in practice. The programs at McGill (Montreal) at the Montreal General Hospital (where the clinical program is located) and Dalhousie (Halifax) were particularly noteworthy to him because they were associated with hospitals and gave students and faculty the advantage of working with physicians. The Canadian Dental Faculties Association that was established in 1920 provided an advisory function for the Canadian schools. Later in that decade, the American Association of Dental Schools was formed by the amalgamation of three American organizations and the Canadian Dental Faculties Association.

Gies may have considered the Canadian programs as being educationally superior, but they did not have the same research base as American schools. Nor were there courses for graduates of the dental program or programs for staff. The Canadian dental programs were not well funded and the status of the library collections was scattered at best and clearly inferior.

One would have expected that the profession of dentistry in Canada would have taken on a European format. This likely would have been the case if it were not for the ties of mutual recognition and friendship that existed between dentists in Canada and the United States. Gies noted the exchange of ideas, staff visitations, and membership in common organizations, and he felt these could have been facilitated further as a free trade of professional development with an invisible international border.

### Lacking National Focus

The structure of organized dentistry was such that the Canadian Dental Association was the national organization that coordinated the activities of the profession within Canada. There were also provincial and urban dental organizations that handled issues on a more local level. The Dominion Dental Board of Canada had been established to standardize professional requirements but did not have any regulatory functions.

Gies reported on the state of affairs for dental education in Canada by comparing it to the programs in the United

States. These comparisons are appropriate and well founded. However, Canada had a major obstacle that was not the same in the United States and it is more apparent today than it was then. As a result of the British North American Act of 1867, which founded the Confederation of Canada, education and health programs are planned and funded on a provincial and territorial basis. That was bad enough in 1926 when there were fewer jurisdictions than the current ten provinces and three territories in Canada that develop programs and determine human resource requirements in virtual isolation of the other provinces and territories.

In 1926 there were only four dental schools that graduated about 205 students annually. Now there are ten dental schools which are located in all areas of Canada. The provinces of British Columbia, Alberta, Saskatchewan, and Manitoba each have a single dental school. Quebec has three dental schools and Ontario has two. The Atlantic region, which is comprised of the four provinces of New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador, share one dental school (Dalhousie University in Halifax, Nova Scotia). The province of Newfoundland and Labrador was not part of Canada until 1949. The Canadian dental schools provide not only dental undergraduate programs with about 425 graduates annually but also some graduate programs and some dental hygiene programs. There are also "qualifying programs" in five dental schools that provide a two-year program to prepare graduates from dental programs outside North America for the National Dental Examining Board examinations. While the Gies Report supported a three year program, all of the Canadian dental schools now have four-year programs with varying levels of preprofessional education. For many years, the University of Saskatchewan had a five year program. With the significant expansion of knowledge in dentistry, the Canadian schools have not been able to derive a curriculum that can be completed in three years.

All of the Canadian dental schools are members of their own organization, which is the Association of Canadian Faculties of Dentistry which was established in 1967. This association is well represented in many organizations such as the Council on Education of the Canadian Dental Association and the Commission on Dental Accreditation of Canada. This provides a format for representation without having to have all ten schools at the table. The interaction between the Association of Canadian Faculties of Dentistry and the American Dental Education Association (the former American Association of Dental Schools) has had a very positive and significant impact on dental educators in Canada. For many years, Canadian dental educators have met at the site of the American meeting to conduct their own meeting and to participate in the American program.

Affiliation with a university was an important issue in the Gies Report. Is it noted that proprietary programs had not been that successful in Canada and the United States. All of the dental programs are university based in Canada. The respective provincial governments fund all these programs as there are no private dental schools in Canada. However, because the funding generally comes from the Department of Education rather than the Department of Health, dental programs are funded like other university programs. This is particularly difficult for dental programs because they are often the most expensive programs on campus. As a result, they are seriously under-funded. This has brought about significant increases in student tuition fees at most institutions.

No dental schools have been closed in Canada, but two programs have been assimilated or amalgamated with medical schools. The Gies Report and some other U. S. reports have noted the importance of affiliation with medical schools. If this recommendation has merit, then the recently amalgamated Canadian programs will have an advantage. These programs provide for further integration of medical and dental students. This is in congruence with the Gies Re-

port that looked upon the dentist as the oral health specialty of the practice of medicine. Those dental programs that are part of a combined faculty are confident that this is the best structure, while those who have autonomy wish to retain that structure. Both are right because they have optimized their resources and developed their best possible program.

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***Unfortunately, the level of underfunding has been a serious determinant in the level of research productivity at Canadian dental schools.***

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However, life was simpler when each dental school was a faculty (school).

Research was noted in the Gies Report, but it was not a significant factor in 1926. Most of the research at that time was done by companies and not in dental schools. Unfortunately, the level of underfunding has been a serious determinant in the level of research productivity at Canadian dental schools. There has not been appropriate funding to develop a more reasonable full-time staff complement. The full-time staff are so busy teaching that there is no time for doing research. The dental schools must rely on limited provincial and national granting agencies for research funds without the availability of funds from a national institute for dental research or an oral health directed agency. Consequently, lack of research has been an issue in recent initiatives to close one or more of the Canadian dental schools.

### The Canadian System Today

The Canadian Dental Association completed a *Report of the Task Force on Dental Education* in 1998. This report recognized that, relative to the Gies Report, "much of the situation ... is unchanged." However, the report acknowledged amongst other issues that oral health care is an essential primary care service that must be recognized by governments, clinical education is a vital part of dental education, the consideration of the regionalization of dental education, increased prelicensure clinical experiences, in-

creased support for dental epidemiological studies, the importance of continuing competency, the need to determine human resource requirements, and the need to provide care to various segments of society."

The testing of aptitude for dental education is somewhat similar in both countries. Aptitude testing in Canada is

administered by the Canadian Dental Association. The test batteries used in Canada are purchased from the American Dental Association. The main difference is that the Canadian Dental Association uses a manual dexterity test, formerly chalk carving, but now soap carving. This provides an additional admission standard over and above perceptual ability. As well, the Canadian Dental Association has developed a structured interview for evaluating applicants. The interview would probably be acknowledged by Gies who indicated that the technology could be learned with expe-

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***Dentistry was required to develop a Mutual Recognition Agreement that outlined the requirements for the labor mobility of a dentist from one province or territory to another.***

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rience but the medical sciences were important in an undergraduate program. It is clear that the personal attributes determined in an interview are important selection criteria.

The qualifications and standards for dentists in Canada have been coordinated nationally by the National Dental Examining Board of Canada since 1952 (which succeeded the Dominion Dental Board of Canada) and by the Canadian Dental Association, which celebrates its centenary this year. Neither of these

bodies handles any regulatory functions as these are carried out provincially by the provincial Dental Regulatory Authority. In turn however, representatives of the Dental Regulatory Authorities constitute the National Dental Examining Board of Canada. The Commission on Dental Accreditation of Canada is responsible for the accreditation of dental programs in Canada. The examination of graduating students is done by the National Dental Examining Board of Canada.

Reciprocity of the accreditation of undergraduate and graduate programs between Canada and the United States is a model of international acclaim. The Canadian program standards are usually derivations of the Commission on Dental Accreditation of the American Dental Association. Members of accreditation teams from one country are representatives on survey teams in some of the accreditation visitations in the other. This allows direct access to board examinations in the other. Dentists from the United States do not have to take provincial examinations or regional boards but only need to obtain the certificate of the National Dental Examining Board of Canada. They take the same examinations as graduates from Canadian

dental schools. This reciprocity helps Canadian students who take graduate programs in the United States or can sit the regional board exams.

The seamless border should be easier now than it was in 1926 with signed continental free-trade agreements. However, the fact of the matter is that the regulations passed by both countries have compromised this aspect of program development for the dental programs, particularly in Canada. There is a continued exchange of personnel be-

tween the two countries despite the regulations that exist in many jurisdictions for the hiring of new full-time staff from outside of the country. This has not been an impediment to hiring deans and department chairs from the other country. There are and have been several deans in the United States who graduated in Canada and vice versa. Due to government regulations, it is not as easy for Canadian faculties to recruit junior staff from the United States when there are Canadians with similar qualifications. The pool for recruiting academic staff is often very small nowadays as there are

another. All provinces and territories were signatories to this agreement for an effective date of July 1, 2001 for general practitioners, which includes the requirement of a certificate from the National Dental Examining Board of Canada for the purposes of portability. Not all of the jurisdictions signed the agreement for dental specialists, but they all support it for new registrants. For the purposes of portability within Canada, all new registrants must pass the National Dental Specialty Examination administered by the Royal College of Dentists of Canada.

offer a wide variety of courses. The university dental schools provide some of the programs, but many of the courses are put on by dental organizations. These courses can easily influence the type of dentistry that is the accepted norm in the region.

## The Future

The Gies Report became the framework for dental education in the United States and Canada. It has stood the test of time and provided a structure for program and curriculum development. The successes of the dental programs in Canada have been a direct result of the cooperation with various dental programs in the United States. The focus in Canada has been on the 1998 *Report of the Task Force on Dental Education* and is now on the 2002 summit (Academic Dentists and Practitioners: Together Forging a Future for Our Profession) to develop models for staff recruitment and retention in Canadian dental schools. Other factors such as the North American Free Trade Agreement, globalization, research, technological advances, and healthcare delivery systems changes will have significant impact on dentistry and dental education in Canada. We can only hope that the Canadian initiatives that have been established will maximize the present professional and environmental scan of the issues the way it was accomplished in the Gies Report.

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## *Continuing dental education was not a factor in 1926. Many providers now give courses.*

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so many open academic staff positions in North America. Another reality for recruitment to Canadian dental schools is the weak Canadian currency. Notwithstanding the problems with the Canadian dollar, the purchasing power of the Canadian currency within Canada is very strong.

The parochial approach to the transfer of goods and services within Canada was underscored with the signing of the Agreement on Internal Trade which was designated to facilitate free trade between all provinces and territories. This agreement resulted indirectly from the lack of free trade of beer which had to be brewed in the province in which it was consumed and the accessibility of construction workers to work in another province or territory. Dentistry was required to develop a Mutual Recognition Agreement that outlined the requirements for the labor mobility of a dentist from one province or territory to

One of the areas that has developed since 1926 is the evolution of allied dental professionals. Some of the issues associated with these groups were greater in Canada and came to light earlier than they did in the United States. It was more difficult to handle these issues in Canada because the provincial governments determine scopes of practices, titles, and duties which may be quite different from adjacent provinces or territories. Consequently, dental educators and organized dentistry need to develop initiatives to restore the dental team.

According to the Gies Report, the undergraduate curriculum was developed primarily for educating the general dentist only. There are now other aspects that must be considered. The focus has to be on developing a competent dentist for practice, education, research, government, and other health careers.

Continuing dental education was not a factor in 1926. Now, many providers

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# Dentistry and Medicine, Then and Now

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## Abstract

Two factors have, at times, pushed dentistry and medicine together and pulled them apart. The factor acting to create a symbiosis is the common biomedical or scientific foundation for these fields. The factor causing independence deals with socio-cultural matters impacting on the professions and the public. These two factors will be examined at three points in time when the relationship between the two professions was significantly important for the welfare of the public: the 1920s and '30s, the 1960s and '70s, and our own time. Contemporary major discussion about the alignment of dental education, scientific advances, and societal needs point to a need for a new look at how dentistry and medicine relate to one another.

By 1920, dentistry in the U. S. had evolved as a separate profession from medicine. During a previous eighty-year period, however, the abuses in the manner of practice and the educational system underpinning a poor model of dental care had risen to the level of alarm among the major thinkers of the day. In Illinois alone, between 1883 and 1902, twenty-eight dental schools were chartered. Most were diploma mills, spinning out a profit for the owners. The practice of dentistry was mainly restorative and highly commercialized, with dentists as well as phy-

sicians having little to no regard for the biology or pathology of the oral cavity. Practice was mainly a mechanical art.

port was definitive in setting down how the two fields should be related. Characterizing dentistry as "a form of health

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***Gies also argued that service to the public could best be achieved through a separately organized dental profession, one that he cautioned needed to reform itself in order to elevate dentistry into a respected position in society equal to medicine.***

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## The 1920s and '30s

The 1926 Carnegie Foundation Report by William J. Gies exposed these abuses and is largely credited with establishing the relationship between the two professions as we know it today. Gies maintained that the professions had a common biomedical bond and should be closely aligned. But, he also held that they should remain separate because the culture of two distinct professions was already well established in the U. S. and Canada, and that there was little interest on the part of either profession to integrate. Gies also argued that service to the public could best be achieved through a separately organized dental profession, one that he cautioned needed to reform itself in order to elevate dentistry into a respected position in society equal to medicine.

*Bulletin Number Nineteen* of the Carnegie Foundation, popularly known as the Gies Report, summarized the prevailing wisdom on the relationship between the two fields at the time. The re-

service to be made equivalent to an oral specialty of the practice of medicine," Gies urged that dental education should be part of the university system of the U. S., have entrance standards comparable to medical education, share a science education equal to medicine, and be pursued in schools with high standards and faculty who would devote their energies to teaching and research.

There were several key statements and observations in the Gies Report that were pertinent then and have bearing today. For example:

- *On research advances:* "Recent advances of science on the borderline be-



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tween medicine and dentistry... have shown that certain common and simple disorders of the teeth may involve prompt or insidious development of serious and possibly fatal ailments in other parts of the body."

- *On the need to improve research in dental schools:* "Dental schools show high appreciation ...to (for) the invention of better instruments ... and ... active interest in devices of value in dental practice. But, with a few notable exceptions, the teachers have very hazy conceptions of the biological problems of dental science."

- *On the lack of appreciation of dentistry by medicine:* "Even research in dental fields is regarded, in important schools of medicine, as something inferior. Most of the medical schools...do not recognize dental services in its true relation to human welfare. It is also true that the biological ignorance of many dentists, occurring due to deficient education in medical sciences and in the requirements of oral medicine, often accounts for the disrespect of physicians for the views of dentists."

- *On the public's interest on the relationship between the two fields:* Due to research findings that "dental service ... may hide or evolve local pathological conditions favorable to the onset of infectious disease elsewhere in the system...antagonism between medicine and dentistry cannot be explained on any basis of public interest."

- *On the relationship between medicine and dentistry:* "The practice of dentistry should be made either an accredited specialty of the practice of conventional medicine or fully equal to such a specialty in grade of health service." Gies further noted that prevailing law and "neither organized medicine nor organized dentistry desires a conversion (of dentistry as an accredited specialty) or would be content with it."

- *On the service to the public and the rationale for maintaining two separate professions:* "If the dental schools were discontinued and dentistry taught only to medical students, the growing demand for dental practitioners could not be met. According to the need for exceptional digital facility in the manifold intraoral procedures

of dental practice...the extensive technical training and the clinical instruction ... cannot be superimposed upon a con-

standards, be put into place. But, societal issues in the 1960s and 1970s prompted the need for a new look at the relation-

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***Federal legislation known as the Comprehensive Health Manpower Acts of 1963 and 1971 provided incentives to academic medical centers to strengthen their ties with underserved communities through the development of Area Health Education Centers and other incentives were put into place to build Community Health Centers and to encourage school's graduates to practice in areas of shortages.***

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ventional medical curriculum ... without making the period of dental training prohibitive in length."

While the debate on the proper relationship between dentistry and medicine lingered into the early 1930s, the Gies Report put to rest the notion that dentistry should be an accredited specialty of medicine, but set the stage for dentistry to become the service equivalent of an oral specialty of medicine independently organized.

To become that oral equivalent, the Gies Report set out four standards. It recommended that students have at least two years of predental college education for admission to dental school and that the predoctoral curriculum be reorganized to be equal in quality to the corresponding courses in medicine and three years in length. Further, it recommended that graduate curricula be developed in all types of oral specialties, including advanced degrees at the Masters and PhD levels, thus uniting medical and dental training of specialists in maxillofacial surgery and dental internships in hospitals. And finally it called for active promotion of research, almost nonexistent at the time, in the schools of dentistry.

Until the 1960s, the dental schools in the United States and Canada worked to implement the Gies educational model, which was supported by accreditation

ship between dentistry and medicine to ascertain how each was serving society.

### **1960s and '70s**

There was little to no talk about integrating the fields of medicine and dentistry thirty-five years ago, although there was much encouragement by the government at the time for the two fields to cooperate. Public policy intended to improve access to care for the poor, the handicapped, and the elderly, as well as government incentives to spur the health sciences to become proactive in societal issues were becoming more intense. Many strategies and categorical government programs were implemented to encourage new action by medical and dental schools. Federal legislation known as the Comprehensive Health Manpower Acts of 1963 and 1971 provided incentives to academic medical centers to strengthen their ties with underserved communities through the development of Area Health Education Centers (AHEC). Other incentives were put into place to build Community Health Centers and to encourage schools' graduates to practice in areas of shortages. Schools were provided capitation funds to expand enrollment, construction grants to build new facilities, and financial incentives to revise curricular content. Congress was urged to invest in biomedical

research at levels well beyond previous commitments.

In assessing progress on the 1963 legislation, a Carnegie Commission Report in 1970 urged congress to renew the Act in 1971 because the "nation has a vital stake in maintaining high standards of health among its residents. In recognition of the social benefits flowing from medical and dental education, the federal government should pursue a stable policy of financial support of university health centers ..." because "the problem of geographic maldistribution of medical and dental practitioners is still serious ... in states with low per capita income, rural areas, and inner city areas." The solution at the time was a combination of policies including expansion of the National Health Service Corps (NHSC) and NHSC scholarships, financial incentives for practicing in underserved areas, changes in Medicaid/Medicare policies for private care, AHECs, and expanded auxiliaries in medicine and dentistry.

Most of us know the results of the government changes during the 1960s and 70s. New dental and medical schools were opened and enrollments were greatly expanded. Experimentation with increasing the functions of nurse practitioners, physician assistants, and expanded duty dental auxiliaries proliferated throughout the nation. Curriculum

favorable to early introduction of clinical experience.

Some notable cooperative programs between the medical and dental professions were launched, reflecting what many thought was an enlightened time in health profession's education. Funding for geriatric fellowship programs required that dental fellows be part of the medical residency program. The Robert Wood Johnson Foundation funded the Health Service Research Fellowship program to help dentistry better integrate its service delivery system with the needs of the public. The integrated OMFS residency programs with the MD degree gathered steam. Schools were encouraged by NIH to develop, with their growing academic health sciences campuses, PhD programs for dentists in order for dentistry to become a strong partner in the growing science revolution.

In 1985, on the 75th anniversary of the Flexner Report in medicine, Pelligino summarized this period by expressing the opinion that the health sciences were fulfilling the second half of the Flexner Report. The full effect of those decades on society and the professions is still being analyzed. However, dentistry emerged from this era somewhat wounded. Medicaid coverage for dental care became optional (except for chil-

locate in underserved areas. Instead, with an economic downturn in the country beginning in the late 1970s and continuing into the 1980s, the outcome of this era was a perceived glut of dentists for the "have" portion of society—since the "have nots" were excluded from access. The rest of the story is now well known: closure of seven dental schools, followed by a period of contraction and introspection.

But the scientific revolution was moving ever forward, and concomitantly a new look at the profession's responsibility to society was emerging due to the drastic shift in demography to a more racially and ethnically diverse population and a society growing older. Startling advances in fields such as genetics, immunology, and bioengineering developed, prompting new questions about how medicine will be practiced in the future and whether dentistry will be prepared to enter into the world of molecular medicine.

### 1995 to the Present

So now where is dentistry today and how is the profession emerging? Two very important reports urge us once again to pay new attention to education and practice issues. They are the 1994 IOM Report, *Dentistry at the Crossroads*, and *The Year 2000 Surgeon General's Report*. Both have set the stage for dentistry's next leap forward. From these reports and others stimulated by them, it is quite clear that new trends are taking place, which make it important for us to look at our relationship to medicine again. There are five factors that lead to this conclusion. They are expressed best in the following statements:

1. Scientific advances are "shifting its (dentistry's) emphasis from drill and fill to antibiotics and biotechnology ... dentists, not physicians, may become the ones to sound the early warning for a wide variety of illness" (Genco, Scannapieco, & Slavkin, 2000).

2. The relationship between oral infections and systemic disease, and vice versa, is becoming clearer. You must have oral health to have general health.

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***However, dentistry emerged from this era somewhat wounded. Medicaid coverage for dental care became optional (except for children), Medicare did not cover most dental care, and dentistry was largely left out of the Area Health and Community Health Centers that sprang up across the nation.***

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innovation was the order of the day. The dental curriculum rapidly shifted from a horizontal design favorable to fundamental studies in the first two years of the curriculum as recommended by the Gies model to the diagonal design more

dren), Medicare did not cover most dental care, and dentistry was largely left out of the Area Health and Community Health Centers that sprang up across the nation. The NHSC never funded sufficient positions to make even a small dent in effectively encouraging graduates to

3. The health and social consequences of poor oral health in underserved communities and for neglected population groups has made it to the national radar scene through the Surgeon General's Report.

4. Manpower concerns are becoming real, as the already reduced dental workforce continues to shrink in relationship to the population and concern grows over covering the "have-nots" as well as those who can currently afford care. The lack of diversity in the workforce, especially in regard to African-Americans and Hispanics, requires new attention.

5. Shifting patterns in private practice reveal an astonishing range of oral health needs in the nation from very basic restorative to esthetic and from prevention to implants.

The IOM report was far-reaching and examined aspects of the profession from education to practice, from societal needs to research advances, and from school missions to curriculum. While this thorough report has not received widespread acclaim in the profession, it is very prophetic and pointed to many issues raised by the subsequent Surgeon General's Report. Pertinent to the relationship between dentistry and medicine, the IOM Report stated:

"To prepare future practitioners for more medically based modes of oral health care and more medically complicated patients, dental educators should work with their colleagues in medical schools and academic health centers to:

- Move toward integrated basic science education for dental and medical students;
- Require and provide for dental students at least one rotation, clerkship, or equivalent experience in relevant areas of medicine, and offer opportunities for additional elective experience in hospitals, nursing homes, ambulatory care clinics, and other settings;
- Continue and expand experiments with combined MD-DDS programs and similar programs for interested students and residents; and

- Increase the experience of dental faculty in clinical medicine so that they—and not just physicians—can impart medical knowledge to dental students and serve as role models for them."

The Surgeon General's Report spoke to the factors affecting the capacity to meet the oral health needs of the nation. In that report, it was pointed out from the review of all the relevant data that the oral health needs and wants of Americans is challenged by numerous factors. Among them are:

- Concerns about a declining dentist-to-population ratio,
- An inequitable distribution of oral health care providers,
- A low number of underrepresented minorities applying to dental schools,
- The effects of the cost of dental educational debt on the type and location of practice,
- Expected shortages of personnel for faculties and research, and
- An overcrowded curriculum with an ever-expanding knowledge base.

Yes, we truly have coming together at the same time the two issues that have pushed medicine and dentistry together at times or pulled them apart at other times. Scientific advances and societal issues have caught up with each other in our field and it's time for us to wonder whether a new paradigm is needed to move us forward.

## The Future

These observations represent another opportunity for the leaders of the profession to revisit how dentistry will be practiced in the future as both an independent profession and in a new alignment with medicine. First, there is a need to begin to think about educational reforms if practice paradigms are expected to change. The class that will enroll this fall in 2002 will be at the prime of its practicing career in 2025. Therefore, it is not too soon to begin thinking of the following:

1. Will scientific advances allow the dentist to perform more prescriptive functions, as do physicians, and if so, will

the nature of practice need to shift? Are we preparing students for the exponential change into the realm of molecular biology and biotechnology? Are dental students receiving a science education equal to that of medical students as Gies urged or does that not matter today?

2. Will manpower shortages and public demands for care alter the delivery system to one in which paraprofessionals will become a necessity? Will physicians become more interested in oral health problems as research advances knowledge on the systemic and quality of life relationships between oral disease and general health? What are the implications of physicians integrating some aspects of dentistry into their practices and does dentistry have an obligation to the public to better educate physicians about oral disease?

For those thinking through these issues, opinions vary on a spectrum of action from maintaining the status quo to seeking an interim position, to pursuing greater integration with medicine. On the traditional or status quo part of the continuum, we have seen the IOM report receive little to no serious attention by the profession. Some suggest this far-reaching report was premature and politically incorrect in its development. I don't remember any major discussion or decision about the findings and recommendations from this very important report, but I do remember the opposite, a quiet campaign to discredit and dismiss the findings. On the other hand, the Surgeon General's Report is stimulating new thoughts in the profession and in the public arena.

In the middle of the spectrum, schools such as Columbia and others are wrestling with the reality of change and the need to take interim steps to bring more medicine into dentistry. Beginning in the late 1980s we asked ourselves the question whether it was time to integrate dentistry into medicine. Our conclusion was not yet, but it was time to bring more medicine into dentistry. We therefore revised our curriculum to permit students to take more of the medical curriculum. We believe our graduates to-

day have a very similar foundation in the biomedical sciences to most medical students after the first two years of the curriculum.

On the other end of the continuum, calling for integration with medicine, we have seen the University of Kentucky at-

those countries. In Europe, a consensus arose that the interests of the public were above professional concerns as they worked toward a common goal to improve the oral health of their countries.

In conclusion, there needs to be greater thought given to what we teach

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***In Europe, a consensus arose that the interests of the public were above professional concerns as they worked toward a common goal to improve the oral health of their countries.***

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tempt a joint MD/DDS program at the predoctoral level. As far as we can tell that effort has not been successful, maybe because it was premature and maybe because no one school can take isolated action before there is adequate discussion and consideration of these matters by both professions.

But is there a willingness to address this complex and complicated issue? I applaud the steps taken by those in the European Community to make major change to the system of dental education in Southern Europe. I believe we should look more closely at their experiences with systems change. However, when I studied that change process, it was quite clear that Italy and Spain in the 1980s and the 1990s moved from the stomatology model of dental education (that is one in which the DDS was earned during residency years and superimposed on the MD training), to the autonomous model because that would lead to better care of the public. There was much discussion by government, as represented by a Committee on Dentistry of the European Union, and by both the medical and dental professions in those countries prior to a phase-in of this major change by all of the medical schools in

if we are to adequately address where emerging science can lead us and to better serve the needs of all of society. I believe we have the capacity within the profession to think through the issues and take appropriate action. I urge us not to ignore the growing body of literature and authoritative, well thought out reports on this subject because the status quo is comfortable.

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# What About Dental Care for People with Mental Retardation? A Commentary

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## Abstract

People with mental retardation have untreated oral health needs that are comparable or even greater than those of individuals in the general population. But dental students have limited experiences in providing care for patients with special needs. In addition, there are numerous other barriers that current practitioners must overcome if we are to provide needed services for a population that increasingly resides in our communities.

“Only after all is said and done with the nondisabled community do people with disabilities get any attention” (Hunt, & Growick, 1997; Rimmer, 1999). “Among the fifty-three million adults with disabilities in the United States in

Emphasis on the prevention of diseases and disabilities has long been a basic tenet of our health care system. This orientation may well be the underlying reason why it has taken so long for health prevention groups to consider the needs of people who “already are disabled” (Rimmer, 1999; Brandon, 1985; Stuijbergen, Gordon, & Clark, 1998). We must first recognize that for all of us, health is not a static state, but rather a continuum throughout an individual’s life. It is easier then to understand how the health of a person with a disability, either can improve or worsen in the same manner as anyone else. “The only difference, however, is that people with disabilities often start at the lower end of health continuum due to secondary conditions that overlap with their primary disability” (Rimmer, 1999).

Of primary importance is the fact that people with disabilities are highly susceptible to secondary health condi-

complications for those individuals who already have disabilities (U. S. Public Health Service, 1998). Oral health problems, visual impairments and mental health disorders (e.g. depression) are among some of the more significant secondary health conditions that contribute to the compounding difficulties faced by individuals with mental retardation (Horwitz, Kerker, Owens, & Zigler, 2001).

## Oral Disease

“Children and adults with mental retardation have more untreated caries than the general population” (Horwitz, Kerker, Owens, & Zigler, 2001; Costello, 1990). “(Studies on oral health indicate)...prevalence estimates of gingivitis in the range of 60% to 97% among individuals with mental retardation with estimates of 28% to 75% in the general population” (Horwitz, Kerker, Owens, & Zigler, 2001; Costello, 1990; Cumella, Ransord, Lyons, & Burnham, 2000).

***Of primary importance is the fact that people with disabilities are highly susceptible to secondary health conditions.***

1997, thirty-three million had a severe disability and ten million needed assistance in their daily lives” (Census Bureau, 2001).

tions. The working document, *Healthy People with Disabilities, 2010*, emphasizes this point in its call for the prevention of health conditions that contribute further

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National and international studies have not provided definitive data on the prevalence of dental conditions among those with mental retardation, relative to the general population (Shapira, Efrat, Berkey, & Mann, 1998; Waldman, Perlman, & Swerdloff, 2000a). An extensive series of community studies do indicate that, like the general population, two of the most common oral health problems of children and adults with mental retardation are dental caries and periodontal disease. For example: Studies show youngsters and adults living in institutions and in local communities have DMF/T scores that are reported to be close to those in the general population (Costello, 1990; Nowak, 1984; Gizani, Declerck, Vinckier, Martens, Marks, & Goffin, 1997). However, the proportion of missing teeth (M) to filled teeth (F) was much higher among individuals with mental retardation than in the general population, suggesting (by the writer) that extractions, rather than restorations are the primary treatment of dental problems among individuals with mental retardation (Nowak, 1984). Youngsters with severe mental retarda-

tion had fewer dental caries than children with mild or moderate mental retardation. "It is likely that the low prevalence of dental caries found among those with severe mental retardation living in institutions ... resulted from the prior removal of decayed teeth and the low sugar diet served in institutions" (Shapira, Efrat, Berkey, & Mann, 1998; Gabre, & Gahnberg, 1994; Tesini, 1981).

Specific studies of athletes at Special Olympic events report that six-to-eight-

year-old children with mental retardation had similar patterns of dental caries to children of the same age in the general population. Overall prevalence of untreated caries and gingivitis in athletes, however, was greater, than in the general population. Further, only 14% of eight-year-old Special Olympic athletes in one study were reported to have received dental sealants, compared to 23% of the general population of eight-year-old children (Feldman, Giniger, Sanders, Saporito, Zohn, & Perlman, 1997; Special Olympics Inc, unpublished; White, Beltran, Malvitz, & Perlman, 1998).

Overall prevalence of untreated dental decay among Special Olympic athletes of all ages is 24.6%, compared to prevalence estimates in the general population (20% among school-aged children and 14.2% among working adults) (Special Olympic Inc, unpublished; Kaste, Selwitz, Oldakowski, Brunelle, Winn, & Brown, 1993; Winn, Brunelle, Selwitz, Kaste, Oldakowski, Kingman, & Brown, 1996; Brown, & Lazar, 1998).

Individuals with Down syndrome may be more susceptible to gingivitis and periodontal diseases because they

have underlying abnormal immunological responses (Nespoli, Burgio, Ugazio, & Maccario, 1993). The increased prevalence of oral health problems among individuals with mental retardation may be related to their oral habits—poor oral hygiene, (i.e. limited brushing) which, in the cases of moderate or severe mental retardation, may be associated with impaired physical coordination (Nowak, 1984).

Much of the variation in oral health status stems from where the individuals with mental retardation reside (i.e. the availability of service in a large state institution vs. the need to secure services from community practitioners) and the reluctance of community practitioners to provide needed services (Waldman, Perlman, & Swerdloff, 2000b).

## Mainstreaming and Community Residences

During the past thirty years, the proverbial "playing-field" has changed for one large group of individuals with disabilities—the hundreds of thousands of persons with mental retardation/developmental disabilities (MR/DD) who once were housed in large state institutions and psychiatric institutions. Between 75% and more than 90% of these former residents with MR/DD now reside in our local communities (Anderson, Lakin, Mangan, & Prouty, 2000).

Changing social policies, favorable legislation for people with disabilities, and class-action legal decisions which delineated the rights of individuals with mental retardation, have led to deinstitutionalization (i.e. establishment of community oriented group residences and enhanced personal family residential settings) and closure of many state run large facilities.

The success of community based programs depends on the availability of support services, particularly by private dentists (and physicians) who are convenient and accessible to the deinstitutionalized individual and are trained and willing to provide the needed care (Waldman, & Perlman, 2000). The reality is that, "for some individuals with disabilities who reside in the community, comprehensive oral health care is inaccessible" (Burtner, & Dicks, 1994). The perceptions of staff members of community residences are that residents receive poorer quality health care, with particular emphasis on the limitation of dental services (Conroy, 2001).

In the past, large state institutions (to some degree) offered a wide range of

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in-house health services provided by medical and dental staff employees. Most current community residential facilities, however, are too small in size to provide intramural services. As a consequence, the monitoring and delivery of health care can be difficult when the services and health records are disseminated among multiple providers and locations. And most important, the residents in the community facilities are dependent upon local practitioners for health services.

### Producing The Needed Dentists

In 1993, the Academy of Dentistry for Persons with Disabilities surveyed all U. S. and Canadian dental schools to determine the amount of curriculum time devoted to the care of patients with special needs. The average number of lecture hours devoted to the dental management of individuals with disabilities in a typical four-year curriculum was 12.9 hours, and fourteen schools reported fewer than 5 hours of time. The average clinical instruction per student was 17.5 hours. Thirty-two schools reported fewer than 10 hours in the curriculum (or five patient appointments) (Fenton, 1993).

In 1999, a second study showed an actual decrease in the time spent by students in the didactic and clinical phases of care for patients with special needs. Fifty-three percent of dental schools reported that they provided fewer than 5 hours of didactic training in special care dentistry. Clinical instruction in the care of patients with special needs constituted 0% to 5% of a predoctoral student's time in 73% of the responding dental schools (Fenton, 1999; Romer, Dougherty, & Amores-Lafleur, 1999). "The results of these two studies clearly indicate that, during their predoctoral education, current dental school graduates do not gain the necessary expertise to treat the special-needs patient" (Fenton, 1999). The level of training among practicing dentists is unknown.

The procedures used for the treatment of patients with special needs usually do not differ from those used for

the general population, except that certain modification of these procedures may be required. The most important aspects of clinical practice involving patients with disabilities are learning to apply previously learned procedures to the particular situations (National Conference, 1979). Graduates who haven't had sufficient number and variety of patients with special needs during their formal years of training, "will not feel confident inviting these individuals into their private practices" (Fenton, 1999). Should recent graduates join ongoing practices, they still may not gain sufficient experience since most private practices excluded special need patients from their patient pool. (This exclusion may well occur because dentists who are willing to treat persons with disabilities often are inundated by referrals from colleagues who are not so inclined (Fenton, 1999).

### There Are Barriers

"Research indicates that most individuals with mental retardation do not receive the services that their health conditions require. In fact research on the access and quality of ...dental care demonstrates that individuals with mental retardation receive little...care, as compared with the general population" (Horwitz, Kerker, Owens, & Zigler, 2001; Howells, 1986; Wilson, & Haire, 1990).

There are reports which suggest that individuals with mental retardation have four times more preventable mortality than individuals in the general population—suggesting that care may alter the health trajectories of individuals with mental retardation (Barr, Gilgunn, Kane, & Moore, 1999; Dupont, & Mortenson, 1990). But there are real obstacles. For example, managed care and fee schedules pose barriers. As with the general population, many individuals with mental retardation who receive Medicaid have been transferred into managed care plans. The combining emphasis, however, on financial "bottom lines" and closed panels may not provide the additional necessary resources for persons with special needs, as well as the coordination of providers experienced with

mental retardation (Walsh, & Kastner, 1999; Waldman, Perlman, & Swerdloff, 1999). Many writers have reported that health providers have negative attitudes and stereotyped feelings about individuals with mental retardation and their ability to maintain their health status, as well as "value judgements about the worth of individuals with mental retardation... suggest(ing) that (providers) with negative attitudes may withhold treatment" (Garrard, 1982). There is the added reality that other patients may feel uncomfortable sharing waiting rooms with these patients. Individuals with mental retardation may be reluctant to seek health services because they are frightened of new surrounding and treatment procedures—in particular dental visits. Pre-medication, restraints, and operating room procedures may be necessary for behavioral management difficulties and the contributing problems of complex dental procedures needed to repair long-delayed oral health care (Gordon, Dionne, & Snyder, 1998). Physical and behavioral difficulties associated with comorbid neurological conditions (e.g. individuals with athetoid cerebral palsy have increased involuntary movement during stressful situations) also may add further complications to the delivery of services.

### The Challenge

Yes, the availability of dental care for people with mental retardation often is complicated by the inadequacy of third party reimbursement. In addition, there can be real difficulties in providing care to patients with mental retardation, many of whom live in our communities and may be members of families we already treat. But before the dental profession can "legitimately" make the case that the failure to provide the needed care is a reflection of inadequate fee schedules and specific difficulties, we must be certain that we prepare dental students and current practitioners (e.g. with needed continuing education and workshop programs) to provide the necessary services for people with mental retardation/developmental and other disabilities.

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# Issues in Dental Ethics

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## Is It Ethical to Involve Patients in State Board Examinations?

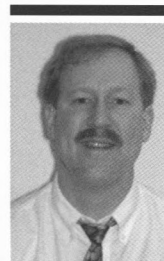
Larry E. Jenson, DDS, MA

### Abstract

It is argued that the state becomes an ethical agent when it requires that candidates for licensure perform dentistry on patients. As an ethical agent, the state is required to give full information, obtain true voluntary cooperation of patients, not expose patients to increased risk, and provide oversight while unlicensed dentists are practicing and follow-up care where untoward outcomes occur. The possibility of unsuccessful outcomes is known in advance, and there is no evidence showing that known exposure of individual patients to risk is compensated by decreased risk to patients generally.

Several authors and professional groups have called for the elimination of board examinations involving patients for a variety of reasons (American Dental Association, 2000; American Dental Education Association, 2001; Chiodo & Tolle 1996; Damiano, 1993; Damiano, Shugars, & Freed, 1992; DePaola, 1992; Dugoni, 1992; Howard, 1991; Meskin, 2001; Nash, 1992). Organized dentistry is on record with policy calling for the elimination of live patients from initial licensure examinations by vote of the American and California Dental Association's Houses of Delegates. Courts in the states of Hawaii and Florida have appointed external consultants to correct identified problems with current examination practices. Generally, dental schools and recent graduates concur in these concerns.

Some argue that either the validity or the reliability, or both, of such examinations has not been established (Damiano, 1992; Hangorsky). Testing agencies point out correctly that content validity has been vigorously addressed in recent years through efforts to improve the way initial licensure examinations are conducted. Critics continue to note, however, that evidence regarding concurrent and predictive validity (do the tests have the re-



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sults that are claimed for them?) has yet to be established or even discussed. Others in the practice community argue that these examinations are demeaning, unfair, and overly costly to the candidates. Most include some reference to the ex-

that demands that certain members of its population agree to be examination subjects if dentists are to be licensed in this manner. If dentists are to be licensed under the present examination structure, some people must agree to be subjects.

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***We need to be clear that it is indeed the state and not the licensing candidate who is primarily responsible for putting patients into this examination setting and that the state bears significant responsibility for the patients' well being during the examination.***

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aminations being unethical in their treatment of patients. But what exactly are the ethical issues and underlying ethical arguments? Why is it unethical to involve patients in these examinations and, if it is, can dentists ethically continue to support and participate in the present examination process?

States that require the involvement of patients in dental licensing examinations also clearly recognize a moral obligation to protect their populations from incompetent dental care. They must believe that the best way, of those practically available, to test for competency is by directly observing candidates rendering dental care in a controlled setting. Unfortunately, these states fail to recognize another moral obligation, specifically to the individuals who are the subjects of this type of examination, the patients. I shall argue that states must take greater moral responsibility for the patients involved in these examinations. I shall further argue that involving patients in state board examination is unethical if the examination in any way diminishes the oral health of the patients or puts the patients at an increased risk of harm.

To begin, we need to be clear that it is indeed the state and not the licensing candidate who is primarily responsible for putting patients into this examination setting and that the state bears significant responsibility for the patients' well being during the examination. It is the state

The state, then, whether it acknowledges this or not, is as surely a *de facto* provider of dental care during the examination of the candidate. The state is therefore bound by the same ethical obligations as any dental professional. It must assure that patients are not treated without appropriate informed consent, it must protect the patient from harm, and it must promote the oral health of the patient. Though states might like to place this ethical burden solely on the shoulders of the candidate, they may not ethically do so.

Nor may the state claim that this obligation should fall principally on the candidate because success on the exam advances his or her own interest, namely that of making a living as a dentist. For it is specifically the state that requires this particular type of examination and thus requires that patients participate. The state's obligations in the matter most certainly do not eliminate the candidates' professional obligations to the exam patient; by choosing to participate, candidates assumes all the ethical obligations in the dentist-patient relationship. However, because the state has the greater power to change the situation, and gives the candidate no choice, it is the state whose obligation to the patients is the greater.

A second point to make is whether true voluntariness can occur for patients in this situation since the state has insisted on patient participation. Although it may

seem as though the state is merely asking for volunteers, it is in reality creating a situation in which genuine voluntariness cannot occur. Patients must be able to choose to be a part of the examination without undue controlling influence (Beauchamp & Childress, 1983). This means that, at a minimum, prospective patients must be fully informed of all potential risks by those who intend to render diagnosis and treatment. And, as argued above, this is a responsibility of the state as well as the candidate.

Furthermore, the state certainly cannot claim that examination patients face no increased risk of a bad outcome. The state must inform the patient that a certain percentage of candidates typically fail the exam precisely because they deliver incompetent dental care. Moreover, the state must inform these patients that they will be subjected to conditions that would be far more uncomfortable than normal dental procedures due to the length and process of the exam and may encounter an increased risk of transmissible diseases as well. In summary, the state is obligated to make sure that all potential exam patients understand that the exam situation is not the same as ordinary dental care and that they will be at increased risk for harm.

In addition, consent to this increased risk may not be won by exercising coercion or manipulation or other controlling influence, whether in monetary or some other form. Without some sort of incentive (i.e., controlling influence) it is hard to imagine anyone consenting to this process. Presently, candidates are in the unenviable position of trying to bribe or otherwise influence the patient into agreeing to a process that the patient would not normally seek in order to be able to obtain a license and make a living.

Now, even if the state did a good job of informing patients and could find willing subjects, it is generally recognized that full disclosure to the patient hardly discharges all the ethical duties of dental care providers towards patients. It is generally accepted that patients cannot ask providers to harm them no matter how informed the consent is and that the provider has an obligation to decline to

treat when he or she has determined that the oral health of the patient would be diminished in some way by the procedure (Ozar & Sokol, 1994). These same obligations apply to the state when it is the state that requires the exam to involve actual patients. The only ethical way for a state to discharge these duties is to make sure that the exam patients are in fact not at risk of significant harm during the exam. But the fact that candidates do fail these exams demonstrates that these candidates' previous training is not a guarantee against significant harm. In fact, the state knows that a certain number of harmful events are extremely likely in the process.

Furthermore, as these exams are presently constructed and administered, there is no continuous oversight of patient care during the procedure, as there is in a typical dental school setting where the attending dentist supervises the work of the unlicensed practitioner, checks each minute step of the procedure, and has full legal and ethical responsibility for the outcome of any procedure. Because of this lack, the potential for the board examination to have a bad outcome is considerably elevated.

But as has been indicated, it is exactly this possibility of bad outcomes that purportedly makes it a screening tool for incompetence in the first place. That is, states rely on the known certainty of failure to create an exam that is both specific and sensitive enough to differentiate competent and incompetent practice and thus make it valid as a evaluative tool.

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***The exam is either valid and harms patients or it is invalid and therefore useless.***

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How else to justify its use in the examination setting? The exam is either valid and harms patients or it is invalid and therefore useless.

As currently constructed, there is no provision in the states using these examinations for follow-up care for examination subjects if they are harmed. Here again, the states leave this up to the failed candidates, who are by legal definition

unable to provide the continuity of care normally expected of any provider. Not only are some subjects likely to be harmed but also the logical remedy of this harm is made unavailable by the examination process itself. If harm does occur, the state holds itself harmless in the matter, in clear violation of its duties as a co-provider of care with the applicant and, within their relationship, as the

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***In summary, the state is obligated to make sure that all potential exam patients understand that the exam situation is not the same as ordinary dental care and that they will be at increased risk for harm.***

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more powerful and therefore the more responsible of the two.

Based on the argument so far, should the candidate decline to participate on ethical grounds? Quite possibly yes. Yet the candidate is only directly responsible for one patient, not the population of patients for the examination that the state is responsible for. In addition, he or she could ordinarily in good conscience treat an individual patient with a reasonable expectation of a good outcome (since standing for the exam without such a view of his or her own skills would be unethical in the first place). Thus the candidate can ethically treat the examination patient within his or her professional obligations to the patient. It

is the state that must expect some possibility of poor treatment if the exam is to be an effective licensing tool. So clearly it is the state that has the principal obligation to act in order to guard against such possible harm occurring and that therefore has the greater responsibility for rectifying such harm when it occurs.

On the other hand, dentists do have an obligation to protect the oral health

of the general public. This is exactly why tests of competency have been supported by organized dentistry. So every dentist who is aware that the public is at risk in this type of exam setting should protest this sort of examination. This includes candidates even though their situation is clearly the most precarious, because their ability to practice their profession depends on the state and its re-

quired examination structure. Clearly, they would be ethically justified in refusing to be examined in this way, and ideally they ought to boycott such exams based upon this ethical obligation. But it would hardly be just for the dental community to expect or permit the burden and the financial loss of such action to be born solely by those applying for licensure.

Now, it might be possible for a state to design and administer a practical examination involving patients that acknowledges and attends to these ethical shortcomings. The state could accept its role as a provider of dental care and take full responsibility for patient care itself, providing patients to the candidates and also providing close supervision of every step of a procedure and consistent follow-up care like the situation that now exists in dental schools.

Most if not all state dental boards would probably consider this option to be far beyond their resources. The cost, they might argue, would outweigh the ultimate benefit to the population. But is it true that the public actually benefits in some measurable way from these examinations? Do state board examinations involving patients actually reduce the exposure of the public to incompetent dental care? Is there a known correlation between exam scores and future

cases of negligence prosecuted by the board? Are exams involving patients better at identifying incompetent dentists than other forms of exams?

These, of course, are empirical questions and the subject of a very different

dollars that support this system are performing a useful service. But in actuality, no such protection has been demonstrated and the states that use examinations involving patients without the safeguards described above are in violation

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***The available literature on the subject is far less than clear and certainly not sufficient to overcome the ethical problems discussed above.***

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type of paper. Suffice it to say that one would have to show clear and scientifically substantiated evidence that these types of examinations are valid and, moreover, better at detecting incompetent dentists than tests that did not involve patients. Only if there is clear evidence of validity and superiority MAY one argue that the benefits to the population somehow outweigh the costs and risks to the individual patients involved. However, the available literature on the subject is absent and certainly not sufficient to overcome the ethical problems discussed above.

At best, present board examinations that involve patients give the population a perception that something is being done to protect them and that the tax

of ethical obligations to the patient that are undeniable. For this reason, members of the dental profession who continue to support and participate in these exams are on questionable ethical ground.

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# Ethical Issues of Performing Invasive/Irreversible Dental Treatment for Purposes of Licensure

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## Abstract

A case involving a patient sitting for an initial licensure examination is used to develop several ethical issues in detail. These include misalignment of those bearing the risks and dangers of such tests, lack of respect for patient autonomy, and compromises in the standard of care and avoidable and dysfunctional stress inherent in the examination system as it is currently conducted.

## Case: "Will You Hurt Me?"

The following ethics case is a composite of dental licensure examination stories gathered over twenty-five consecutive years of experience with such examinations. The elements of the case are assembled from observations by candidates, faculty members preparing candidates, and a clinical administrator responsible for overseeing the event. The case will be used to identify the ethical issues discussed in this essay.

David Wong is a "back-up" patient for the amalgam restoration for senior student Casey Arnold who is preparing for the regional licensure examination. A back-up in licensure jargon is a patient who agrees to be used for the examina-

tion if the "ideal" patient is rejected or is unwilling or unable to attend. Casey screened David six weeks ago and identified distal decay on tooth #4 that, while more extensive than ideal, could serve as a back-up amalgam for the exam.

David is a thirty-year-old Asian male with stable vital signs, an unremarkable medical history, and a history of episodic dental care with his last examination one year ago. He has some discomfort with tooth #30, and radiographs reveal that he has extensive occlusal decay and may need root canal therapy. He has had "flare-ups" with the molar, but right now there is only an occasional "dull ache." He has not had the best experiences with dentists and admits that he is fearful of the "needle and drilling." That is why he did not return for treatment of the molar from his last dentist. The only reason he is participating is that his good friend, Celeste Norton, is a patient for another student. She asked David to be screened as a favor to her and arranged for the screening. However, since her student had his patients, Casey, another of Celeste's friends, asked if he could screen David for the exam. David reluctantly agreed, but since that first meeting he has been impressed with the thorough and professional way that Casey conducted his examination and the way

he explained what to expect as a patient. Although it took three tries to get the X-rays "perfect," David appreciated that they were of good quality. By now the two had developed a good relationship, and David told Celeste that he trusts Casey and that makes him feel better about the examination.

On the day of the examination David's molar is throbbing, and he has been taking 1000mg of Ibuprofen every six hours for two days now. He is seated in the reception room with five other back-ups and waits for word from Casey. Casey's ideal patient is accepted, and as he leaves the clinic to tell David, Jim Edwards, a candidate from out-of-state, asks Casey if he has any extra amalgam patients as he just found out that his patient was incarcerated last night in the local jail. While Casey is somewhat cautious because he does not know Jim, he decides to help him as Jim is emo-



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tionally distraught at the thought of failing the exam for a second time. David was quietly hoping that he would not be "used" for the examination and was pleased that Casey's ideal patient worked out. Then, Casey introduces David to Jim, who explains his predicament. After

of testing is not reliable enough (Chambers & Loos, 1997; Collins, 1985; Dugoni, 1992; Field & Jeffcoat, 1995; Hutchinson, Haden, & Valachovic, 2000; Yaple, Metzler, & Wallace, 1992). No other health profession requires invasive/irreversible treatment as a part of

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### ***No other health profession requires invasive/irreversible treatment as a part of demonstrating competency for the purpose of earning a license to practice.***

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some discussion and some pleading from Jim including an offer to double the "setting fee," a fee some candidates pay their patients to compensate them for their time and to encourage them to be prompt or to show up at all, David reluctantly agrees to be his patient. David then turns to Jim, and the last question he asks before they enter the clinic is, "Will you hurt me?"

Later Casey sees David sitting in line with the other patients, waiting with their rubber dams on, mouths open, all holding tissues dabbing at the drool, quietly embarrassed, and waiting to be graded.

#### **Licensure Requiring Invasive/Irreversible Procedures**

Clinical faculty and administrators who prepare dental students for dental licensure examinations will find this story familiar because these circumstances or ones like them have been observed so often. The ethical issues discussed here in relation to this case include: (1) the benefits and harms of licensure examinations requiring invasive/irreversible procedures, (2) respect for the autonomy of patients in licensing examinations, (3) the risks that applicants faced regarding professional integrity and standards of care, and (4) the role of stress on the delivery of competent care.

First of all, using "live patients" as a part of licensure examinations is a matter of ongoing debate across the profession because of claims that this mode

demonstrating competency for the purpose of earning a license to practice (Guagnano, Merlitti, Manigrasso, et al, 2002; Nash, 1992). Medical educators hold that for assessment purposes, invasive procedures cannot be duplicated and are unreliable, not to mention ethically problematic. Patients are often involved in the assessment process in medicine, but most often as standardized patients. According to Swanson and Stillman (1990), "A standardized patient is a non-physician trained to accurately and consistently portray a patient in a simulated clinical situation for teaching and testing purposes." Standardized patients feign certain conditions, and students can be tested on their ability to gather and interpret clinical patient data, communicate effectively and render a differential diagnosis with no risk to real patients (Stillman, Swanson, Smee, et al, 1986). The National Board of Medical Examiners plans to start a clinical skills assessment test in 2004 that includes ten standardized cases including standardized patients (American Medical Association, 2001). The Western Regional Examination Board (WREB) last year added a standardized periodontal patient component to test candidates' diagnostic skills (Western Regional Examination Board, 2002). No invasive procedures are involved, and candidates diagnose and formulate a treatment plan based on the materials and patients provided by the site. The standardized patients are screened and selected by the site and paid by the WREB.

Although there have been notable court-ordered improvements in the way licensure examinations are conducted, there is still no evidence to support the assertion that such tests protect the public. So even if there were no other ethical questions, it is worth asking if this mode of assessment is valid enough to justify patients receiving invasive/irreversible treatment.

#### **"Using" Patients and Respect for Autonomy**

Second, there is the moral issue of "using" patients and respect for autonomy. If you put yourself in David Wong's place, it may very well feel like you are being used. After all, while you are now another amalgam restoration who will set for the exam, you are only a "back-up" because your disease is not "ideal." Add to this mix a frantic candidate (does he really want to be treated by someone that stressed?) who is not even the one he agreed to help and this candidate is offering to pay him large sums of money to set for this exam. And what is this about him failing the last exam, if this is mentioned at all? Did he hurt his last patient? David already has pain from the lower tooth. What does this second dentist know about David's real pain and fears as a dental patient? Jim has never treated David. Will he be gentle or rough and will he even care about his feelings? David may indeed sign some forms agreeing to be a patient and assuring that he will not sue the examination company. But the situation is far from fully voluntary on many counts. There is also the patient's desire to not see someone fail and feeling partially responsible for this person being able or not to practice dentistry, mixed in with the patient's own real fears of being hurt, both physically and psychologically, during the examination. Who in this setting really cares about David Wong? The question, "will you hurt me?" is a real one.

The philosopher Immanuel Kant proposes the idea of human dignity and respect for persons as a basis for morality. One foundation for his philosophy is

the moral principle stated as: "Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only" (Rachels, 1986).

Unlike "things" that have no inherent moral value, Kant maintains that humans have an intrinsic worth and therefore dignity because they are rational agents, free to make their own decisions, set their own goals, and to be guided by their own reasons. The philosopher Rachels explains this in the following way, "On the most superficial level, we have a strict duty of beneficence toward other persons: we must strive to promote their welfare; respect their rights, avoid harming them, and generally endeavor, so far as we can, to further the ends of others."

Related to Kant's theme, the ADA Code focuses on the importance of the patient's best interest. The Code calls upon dentists "to follow high ethical standards which have the benefit of the patient as their primary goal." But how do we respect patients' dignity when they sit in lines with their mouths open, drooling, wearing a rubber dam, waiting to be evaluated like typodonts? And more importantly, do their goals and their status as free choosers have any real impact on the exam situation?

While a relatively new principle in the history of health care, we recognize today the importance of the respect for persons in the form of patient autonomy. The ADA Code defines patient autonomy as "self-governance" and notes that the dentist has a duty to respect the patient's rights to self-determination and autonomy. The ethical problem here is that we may not have respected the autonomy of David Wong, but instead have systematically used him as a means to test for competence and to attain licensure for the candidate. While it may be argued that David Wong will receive a competent service and perhaps some cash at the completion of this experience, it is appropriate to ask at what costs to his dignity and with what measure of respect for his autonomy?

### Standards of Care at Risk

Third, in order to pass the exam, candidates are being asked to practice in ways that violate the very standards that have governed their professional education. For example, Standard 5-2 of the CODA Accreditation Standards for

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*But the situation is far from fully voluntary on many counts.*

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Dental Education Programs states that the "use of quantitative criteria for student advancement and graduation must not compromise the delivery of comprehensive care" (Commission on Dental Accreditation, 1998). But comprehensive patient care is clearly not the focus of licensure examinations. The focus is on very specific dental procedures as if they measured the overall competence of the candidate.

Moreover, standards of care are at risk in this process. For example, one of the first standards at risk occurs during the screening process. Radiographs are intended to be used to discover and define the type and extent of disease in many clinical situations (Eastman Kodak Company, 1999). But there is no limit on the number of unproductive radiographic exposures—that is, routine screening, or administrative exposures (Atchison & Brooks, 2000) that do not yield the "ideal" lesion. The Center for Devices and Radiological Health encourages compliance with the selection criteria derived from patient signs, symptoms, and history (Eastman Kodak Company, 1999). So, even though prospective board patients may be informed of the nature of the screening examination, the exposures and retakes that follow must be considered as departures from standard selection criteria and instances of unnecessary risk. Casey Arnold's exposure of three radiographs for David Wong may have been needed for purposes of the examination but exceed what is appropriate for standard technique for his particular treatment.

Here is a true conflict of interest between radiographs that benefit the patient and those that are exposed in order to present the most favorable case for purposes of licensure. How can we claim the patient's well-being is the highest priority here?

A second standard that is at risk is the philosophy of comprehensive patient care. Under general practice and comprehensive care guidelines of dental schools, David Wong would have his painful molar treated before the "back-up" premolar. This is not simply a matter of standard sequencing of treatment; it is a true conflict with proper priority of care for the patient's health. There is no provision, opportunity, or obligation to address his painful molar during or after the examination, and David may leave the experience with the persistent throbbing untreated. In a similar way, board patients that require periodontal scaling of a single quadrant of teeth may leave the examination with the majority of their periodontal needs untreated.

### Stress and the Provision of Competent Care

Furthermore, the very quality of the doctor-patient relationship that is core to the profession is placed at risk in the examination setting. Ask any practicing dentist and they can probably tell you with remarkable clarity about their board experience. Dental licensure examinations create stresses or emotional costs rarely encountered in the "real world" (Reed & Hocott, 1995; Debate, 1985; Meskin, 1994).

It is difficult to measure the stress of each person taking a board examination. We do know that the failure to pass resulted in delaying the start of practice for the 51.5% of seniors graduating in 2000 who were planning to enter private practice. Considering that the average

educational debt for these graduating seniors with debt being \$105,969, this delay is not a small matter (Weaver, Haden, & Valachovic, 2001). Candidates who fail the examination may need to take their patients to another, possibly unfamiliar, facility to retake the test months later. If they fail the examination enough times, they will be subject to further remedial conditions prior to reapplying.

Add to this stress the conditions under which candidates must perform during the examination itself. First they must present patients who match the criteria of the examination and any candidate may lose, for example in the

narrowly on the examination procedure, on the dental lesion on #4, and on the clock. Neither party in this relationship is able to do and be what he or she ought to.

## Conclusion

In summary, providing invasive and irreversible treatment for patients during entry-level dental licensure examinations creates inherent risks to ethical values and professional standards. These include disrespecting the dignity and autonomy of the patient, pressuring the candidates to set aside the profession's own standards of care, and putting candidates in

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***We would not ask an orthopedic surgeon to replace a hip joint under these constraints, nor would we expect his or her patient to agree to these conditions.***

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WREB, from five to thirty-five points due to patient selection (Western Regional Examining Board, 2002). Lose over thirty points and you fail the examination. Further, not only are they to practice competently but also within a prescribed time limit. If candidates exceed the time guidelines by one to five minutes they will have two points deducted, and if they exceed sixteen minutes total, they will lose all remaining points for the procedure. We would not ask an orthopedic surgeon to replace a hip joint under these constraints, nor would we expect his or her patient to agree to these conditions. Yet these requirements seem necessary in order to have a well-managed examination and to promote standardization. Not only are patients prevented by the nature of the situation from acting like autonomous persons choosing their dental care, but also the applicant candidates themselves can hardly interact with their patients as caring, patient-centered professionals. They must, in order to succeed, focus

circumstances that challenge the very core of the doctor-patient relationship. And all of this for the sake of an assessment method of uncertain validity. The dental profession must find a way to eliminate the unethical practice of performing invasive/irreversible procedures for purposes of testing candidates' competency to practice.

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# A Response from the American Association of Dental Examiners

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## Abstract

The American Association of Dental Examiners supports a testing environments that include supervision of patient care. Extensive steps are taken in licensure examinations to ensure content validity through standardization by practice surveys, standards of competency, common core content, dental school curricula, and the limitations of practical constraints. Examining agencies report consistent, high collaboration among examiners. The examining community has developed comprehensive standards that compare favorably with standards in the testing community generally. When more reliable and valid alternatives to existing testing methods become available, they will be employed.

When Professor David Ozar, editor of *Issues in Dental Ethics*, approached the American Association of Dental Examiners (AADE) in mid-March, 2002, requesting us to respond to Dr. Larry Jensen's article, "Is it ethical to involve patients in state board examinations?" and Dr. Tom Hasegawa's article, "Ethical issues of performing invasive/irreversible dental

treatment for purposes of licensure," we were immediately intrigued as to how to address yet another assault on the dental

mandated within boundaries established by our courts and legislatures throughout the United States and delegated to state

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***For our association to attempt to counter the many distorted assumptions that these two authors make in the short space available here is logically impossible.***

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licensure process as it currently exists in the United States. It is, we believe, noteworthy that this criticism of using patients for testing comes principally from an insular group of students and educators who, in all due respect, have a preconceived assumption that matriculation and graduation from any dental school within the United States in the year 2002 should provide the sole credential required to establish a dental practice in any of our fifty states, territories, or the District of Columbia, i.e. that licensure is a right of passage superseding even the right of the state.

The dental licensure examining community throughout our country is cohesive in the belief that protecting the public from acts or practices that would impair or threaten the health of its citizens is not only highly ethical but has been

boards of dental examiners for nearly a century.

For our association to attempt to counter the many distorted assumptions that these two authors make in the short space available here is logically impossible. We will make some general comments regarding the two articles and the dental licensure process as it currently exists, a process that has seen more progressive change in the past ten years than

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has occurred in the previous seventy years.

The concept discussed by Dr. Jenson of obligating the state for a patient's well-being during a dental licensure examination is illogical and convoluted. On

ceptable outcome. Patients volunteering for today's clinical exams are being treated for dental disease in need of attention. They are fully aware that the care they receive is not comprehensive nor does it fulfill their total dental needs.

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***Any perceived ethical issues or burdens involved in conducting a dental examination are outweighed by the burden mandated by our courts and legislatures to protect its citizens by identifying and licensing only those competent graduates of our fifty dental schools.***

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whom an ethical burden of any inappropriate treatment should be placed is debatable. While the state does provide a mechanism for licensure, it renders no treatment, *per se*, and it seems illogical to hold it accountable for candidates' inadequacies. Any perceived ethical issues or burdens involved in conducting a dental examination are outweighed by the burden mandated by our courts and legislatures to protect its citizens by identifying and licensing only those competent graduates of our fifty dental schools. A very high percentage are competent and, as stated in several of AADE's position papers, we assert that an independent third-party evaluation of a candidate's clinical skills as a part of the licensure process is of critical importance in this assessment evaluation.

Patients agree to participate in the licensure examination process for a myriad of reasons. They range from those of an altruistic nature to strictly financial gain. What is important is that they currently participate in the process with informed consent, and that the overwhelming majority receive quality care that meets or exceeds what they would receive in other dental environments. Contrary to Dr. Jenson's assertions, the oversight that occurs during the examination process provides a high degree of patient protection. Currently potential substandard treatment is intercepted before it evolves into an unac-

The question of validity of the current examination formats is questioned repeatedly by both authors. Validity is the degree to which logic and evidence support a specific examination score's interpretation or use. Validity exists in degrees and depends on the strength of the logical argument and the validity evidence in support of a specific interpretation or use. Validity does not refer to "the examination" but rather to the appropriateness of an examination score's interpretation or use. In our clinical licensure examinations, the main intended interpretation of an examination score is as a measure of competency, and the use of examination scores is to make pass/fail decisions. This is a critical step in achieving a license to practice in each state.

When documenting validity, testing agencies verify the process of how an

skills required for practice, most testing agencies reference the examinations against five benchmarks:

1. **Practice Surveys.** These surveys query practitioners to profile the incidence and frequency of services provided in a typical general practice. These surveys may be conducted within a specific testing jurisdiction or include periodic surveys conducted by the ADA.

2. **Standards of Competence.** While standards of competence have historically not been clearly defined or widely accepted, they have begun to emerge as testing agencies attempt to define performance criteria. Recently the American Dental Education Association (ADEA) has adopted competencies for dental and dental hygiene students who are ready to graduate.

3. **Common Core Content.** Throughout the 1980s and 1990s the AADE and the ADA collaborated in projects that attempted to bring greater uniformity and validity which includes reliability into the clinical examination process. In 1988, a comparability study of exams in all jurisdictions led to the development of *Guidelines for Valid and Reliable Dental Clinical Examinations* in which a suggested core content for dental clinical exams was outlined. The common core content was developed from a survey of practitioners, examiners, and educators about the essential content of a clinical exam and whether the appropriate assessment methodology for a given procedure should be written, patient-based, or manikin-based.

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***Validity exists in degrees and depends on the strength of the logical argument and the validity evidence in support of a specific interpretation or use.***

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examination is put together. The content of examinations is developed with the joint expertise of examiners, practitioners, and educators. To ensure that the exam content is a valid reflection of the

4. **Curriculum.** With input from educators, examination content is weighed against the current curriculum of accredited schools to ensure that examinations are a reflection of what is being taught.

**5. Practical Constraints.** All decisions about examination content must, by necessity, be weighed against logistical constraints. Patient availability is a primary concern for patient-based procedures. Does a sufficient pool of cases exist within the patient population to give each candidate a fair opportunity to demonstrate his or her ability? What amount of time is required for the candidate to complete the procedure and for the examiners to evaluate it? Is enough new information gathered about a candidate's ability to justify the time and cost of including the procedure in the exam? Does a procedure lend itself to objective observation and measurement? Can testing sites support the evaluation with sufficient equipment or technology for all candidates to be given an equal opportunity to demonstrate their ability? These are just a few of the many questions that must be addressed before examination content (be it on patients, manikins, or simulators) can be determined.

The examination protocol used in current clinical examination had its origins in a study conducted from 1975-78 under a federal grant from what was then the Department of Health, Education and Welfare, Public Health Service, Division of Dentistry, Contract No. 1-DH-4099. In the evolution of clinical examinations since that time, thirteen principles of evaluation (the length of which prohibits discussion in this article) have been accepted and employed by most testing agencies.

Several large testing agencies have historical data accumulated for well over twenty years that support the reliability and stability of performance results. Examiners are typically required to calibrate for four to eight hours prior to every examination. They must demonstrate reliability at the 80% level or higher. Actual post-examination analysis of data demonstrates that on average, examiners independent ratings are in agreement more than 90% of the time.

Several testing agencies regularly conduct periodic external reviews by outside

testing measurement specialists. Such reviews confirm the extent to which clinical examinations are in compliance with *Standards for Educational and Psychological Testing*, published by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education.

The most recent project of the AADE to develop *Guidance for the Scoring*

concepts, a new generation of simulators, or new computer-based methodologies will provide a viable alternative to the use of patients in licensure examinations. The dental and dental licensing community does not believe that this time has arrived. Incorrect assumptions and biased allegations from students and educators predicated on ethics, invasive/irreversible procedures, stress to candidates, alleged abuse of patients or in-

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***Actual post-examination analysis of data demonstrates that on average, examiners independent ratings are in agreement more than 90% of the time.***

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and Post Examination Analysis of Dental and Dental Hygiene Clinical Licensure Examinations has referenced all the guidelines to relevant standards from the *Standards for Educational and Psychological Testing*. It is anticipated that this document will be released in the fall of 2002. In April, the AADE launched another project to update its 1992 *Guidelines for Valid and Reliable Dental Clinical Examinations*. This updated document will also be referenced against the 1999 edition of *Standards for Educational and Psychological Testing*.

As evidenced from the above discussion, the AADE unequivocally maintains that the clinical dental examination formats currently used by the majority of testing agencies are valid and reliable assessment instruments demonstrating the highest degree of fidelity. For the authors to infer differently reflects the denial of the progressive changes that are occurring in dental and dental hygiene licensure.

More candidates than ever before are being evaluated and passing clinical examinations using these instruments. The AADE continues to advocate a realistic and responsible approach in assessing competency for licensure. The time will come, as technology evolves, when clinical examinations using newer testing

increased risk of infection cannot alter that fact. The examination and licensing community continually monitors all new developments in assessment including simulation for applicability, efficacy, and affordability.

At such times as new methodologies emerge for the valid, reliable measurement of competency, they will be incorporated into the calibration, standardization, and scoring protocols for testing and become an integral part of our clinical licensure examinations. Until then, we would respectfully challenge the authors to provide evidence that the clinical assessments in their schools are valid and reliable, that all their clinic instructors are highly calibrated and reliable assessors. When such evidence exists, senior students not currently prepared to successfully complete a clinical licensure examination will be identified more readily, remediated, and graduate with all the skill sets needed to pass any state or regional board examination.

*Editor's Note: The AADE position statement on The Impact of the Elimination of the Use of Human Subjects in the Clinical Licensure Process by 2005 can be read at [www.aadexam.org](http://www.aadexam.org).*



# Agents

David W. Chambers, EdM, MBA, PhD, FACD

## Abstract

Although health care is inherently an economic activity, it is inadequately described as a market process. An alternative, grounded in organizational economic theory, is to view professionals and many others as agents, contracted to advance the best interests of their principals (patients). This view untangles some of the ethical conflicts in dentistry. It also helps identify major controllable costs in dentistry and suggests that dentists can act as a group to increase or decrease agency costs, primarily by controlling the bad actors who damage the value of all dentists.

**T**he wag said, "Remember, the market is never wrong." The wag must have been an economist, since markets are only right by definition and they are notoriously variable and inefficient. Those smooth and logical curves in the economics textbooks are only roughly approximated in reality with very large numbers of transactions and in special cases. The laws of supply and demand are especially suspect in professional relations. There is a famous study comparing small towns, some of which had a single type of medical specialist and some of them having a pair. In this case, demand is constant and supply is increased where there are two specialists. The reasonable prediction of lower cost could never be

confirmed. It seems that the physicians in towns with multiple specialists work fewer hours and charge higher fees. It certainly seems to be the case that the availability of lawyers increases the likelihood of lawsuits rather than decreasing their costs.

Markets are reasonable approximations of actual exchange behavior only where there are a large number of both buyers and sellers who are fully knowledgeable and driven by economic self-interests and where all examples of the items exchanged are comparable (commodities). Another requirement for efficient markets is that all transactions are frictionless — there are no costs in time, money, or ego involved in the transactions. Even under these idealized circum-

stances, these problems with markets. This literature is known as organizational economics, and it is grounded in the observation that many, if not the majority of, economic interactions are concerned with relationships rather than transactions. Executives in a large organization may entertain their guests at meals by going to restaurants (unique market transactions), going to their club (a patterned transaction with some variability), or at the organization's dining room (a very patterned relationship).

Organizational economists are looking for ways people can conduct exchanges that are more predictable and less expensive than are markets. Relationships where people contract with others to help them generally—agency relation-

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stances, Adam Smith found it necessary to employ a "hidden hand" to get markets to work.

## Relations or Transactions

Economists, during the last thirty-five to forty years, have begun focusing on

ships—have many advantages as alternatives to markets. There are numerous examples. No one goes through the trouble each week of hiring new laborers and managing them to maintain their yards. Dental hygienists are not hired on the spot market, except in emergencies.



Insurance companies may buy and sell patients as classes of commodities, but few dentists do.

The best alternative to markets is the agency relationship. The key to this approach is that agents are contracted to act on behalf of others rather than contracting to perform specific services. Wedding vows describe promoting another's interests. There is a very old profession that is more focused on specific services sold in market transactions. Although there are discouraging examples where dentistry is reduced to isolated, market transactions, oral health care at its best is an agency relationship where dentists and others are compensated for serving the interests of their patients.

In an agency relationship, the principal contracts with the agent to act on behalf of the principal and to advance the principal's interests. The agent performs actions the principal cannot perform for himself or herself. The real estate agent is effective when the buyer's or the seller's interests are advanced over what they can do alone. A CEO is the agent for boards of directors and shareholders. The chief of building operations in that organization is the agent for the CEO. A car salesman is an agent, as are a stockbroker and a teacher. Virtually all profes-

Perhaps the most crucial difference between agency and markets concerns what the principal is actually getting. Prin-

not clearly aware of what is in their own best interests. The courts recognize professional relationships such as dentistry as

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***Patients cannot do for themselves what dentists do and most patients are not clearly aware of what is in their own best interests.***

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cipals use markets to purchase commodities, generally undifferentiated objects or services such as a loaf of bread, dry cleaning, or chain saws. Principals use agents to secure expert effort on their behalf. Taking one's car in for repairs (agency relationship) is not the purchase of an anticipated result. It is contracting for reasonable effort to achieve that result. One doesn't increase the chances of having the car fixed correctly by describing to the shop people the exact steps that should be taken. The probability of a more favorable outcome is achieved by selecting a shop with a better track record for success. (When items to be purchased in the market are of great value and difficult to obtain or evaluate, it is common practice to employ an agent as a market intermediary. These include real estate agents, lawyers, jewelry

being agency relationships when they deny patients the opportunity of suing dentists based solely on untoward outcomes. An acceptable defense is always to demonstrate that one was doing what colleagues would have done in the patient's best interests.

Because agency relationships are built on best effort in the principal's interests rather than specific and detailed actions or prescribed outcomes, agency is much more flexible than are markets. This flexibility translates into less friction and greater efficiency. In other words, agency relationships are less expensive to run than are markets, thus there is more wealth left over to be divided between the agent and the principal than there is between buyer and seller in the marketplace. Dentistry based on patients' best interests (agency) is ethically more defensible than dentistry based on procedures (markets). It is also less expensive.

When dentistry is viewed in market terms, the business about putting the patients' interests first is a little awkward. Several studies have shown that patient's primary interest with regard to dentistry, and health care generally, is to reduce costs. The fact that dental fees have been rising at twice the rate of inflation in the United States for more than a decade calls into question the market interpretation of putting patients' interests first.

This problem goes away, however, when dentists are seen as patients' agents. Providing valued knowledge and skill on their behalf is exactly what patients are paying for in an agency relationship. If dentists use agency to avoid the odor of self-interests, they cannot also use it claim

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sionals, and certainly most dentists are agents as well.

Agency relationships differ from market transactions in several ways. Agency almost always involves an interpersonal aspect and the strength of that interpersonal aspect actually has economic value. Principal-agent relationships last longer than do market transactions, principals have one or very few agents but many market partners, and principals transfer risk to agents.

or antique brokers, and the whole class of consultants in the case of business.)

The fact that agency is contracting for best effort rather than outcome is extremely important in the case of dentistry. Although there may be some market oriented dentists who sell crowns and fillings for a price, the vast majority in the profession see themselves as agents working to provide the care patients need. Patients cannot do for themselves what dentists do and most patients are



moral superiority. That loss is not as great as it may appear.

parties who try to create fair contracts and monitor them (this is almost the

***ADA dues are too high for those dentists who donate their time and talent to organized dentistry; and certainly too low for the free riders who don't even belong to their professional associations.***

### Agency Costs

The rap on markets is that they are inefficient—they contain unpredictable wobble. Such variation can cost those who use markets big time. Ask anyone who plays the stock market or who has purchased a car that turned out to be a lemon. Agency relationships tend to be more efficient, but they also have costs. The attraction of agency is that its costs are more manageable than are market costs.

The contract price a principal pays to an agent for advancing his or her interests has two parts: a benefit directly to the agent and expenses to make certain that the agent performs appropriately. The latter are called agency costs, and they include financial costs such as “signing bonuses” and incentives, paid third

definition of a lawyer), and one's own time and effort. An example of agency cost is health care professionals passing through the cost of malpractice insurance to their patients as a small tax on each procedure. The rest of this article is about identifying agency costs and reducing them where practical.

The two main categories of agency costs are called adverse selection and opportunism. Adverse selection occurs when an agent serves on behalf of a collection of principals. Although the contract between the agent and the group of principals might be the best possible, the relationship between agent and individual principals is not optimal in most cases. Conscientious dentists who pay attention to risk management overpay for malpractice insurance; while the

corner cutters fail to pay their fair share. ADA dues are too high for those dentists who donate their time and talent to organized dentistry; and certainly too low for the free riders who don't even belong to their professional associations.

Adverse selection is an ethical issue. What is right for the individual cannot be determined from knowing what is right for the group and what is right for the group cannot be determined from understanding what is right for the individual. Many of our news headlines and much of our literature is grounded in adverse selection, and Adam Smith and the enlightenment philosophers notwithstanding, there are costs to be born when simultaneously championing the rights of individuals and the group.

Economically, adverse selection works like this. An insurance company sets its premiums based on the average needs of a class of insured individuals. Over time, those with the lowest risks and utilization rates discover coverage options that better match their profiles and they opt out of the original plan. At the same time, heavy users of services remain, and even take steps to protect their status. The difference between a contract involving agents and a representative cross section of principals and the same

**Table 1. Major Types of Opportunism**

Type	Definition	Example
Shirking	Withholding full effort but getting full reward	Taking an office for the honor but not doing an effective job
Shrinkage	Transfer of principal's resources for agent's use	Padding the expense account
Extortion	Forcing principal to accept unnecessary “benefits”	Pushing treatment plans that exceed patient's wishes
Risk Shifting	Moving agency costs to principal	Insurance company requiring dentist to bear the cost of contract dispute settlement



contract with a self selected group of principals is the agency cost due to adverse selection. Adverse selection is at the heart of many ethical issues in managed care. It is rampant in organizations that pay employees. There are differences in the contributions of various workers within each job classification. Eventually, organizations lose the best and over-reward the worst so badly they will never leave. Smart employers look for ways to reward their best performers "out of contract" in order to avoid adverse selection.

The other major category of agency cost goes by the names of moral hazard, opportunism, and information asymmetry. Those are just three ways of saying the same thing: agents tend to take a little advantage of their principals because it costs too much to find out everything the agent is doing. By definition, agents know more than the principals for whom they work, they have latitude and flexibility in their approaches, and the principal is seldom present when the work is done. Who knows how long it should take to replace a circlips ring on the tire for your Mercedes? So the shop rounds up a few dollars. It's not worth the time and money it would cost to protect against this sort of opportunism. The extraction is almost an impaction; the staff photocopied their personal tax returns on the office machine, the expenses are a little less but the whole per diem is taken, and national studies show that the typical salaried employee is engaged in job related work approximately 65% of the working day.

Opportunism is more than some vague notion that human nature favors the old practice of "clipping coins" (shaving a little off the gold coins and keeping them in circulation at full value.) There is actually a science to this thing. Agents have worked out pretty accurately (if intuitively) how much it costs principals to protect against opportunism. Opportunism tends to reach equilibrium based on the cost of preventing it. Some of the major categories of opportunism are shown in Table 1.

Table 2. Mechanisms Used to Reduce Agency Costs

Type	Example
Supervision	Preauthorization, office visits, EOBs, peer review committees
Information Balancing	Informed consent, PPOs, most insurance arrangements, California's "Dental Materials Fact Sheet"
Indemnified Risk	Insurance, escrow accounts in practice purchases, reputation
Aligning Interests	Bonus plans, profit sharing, intrinsic satisfaction in work well done
Building Relationships	Trust, long-term association, connections other than business, volunteer work, community involvement

**Shirking.** Shirking means stinting on effort once the contract has been agreed. Employees shirk big time since one has to be a major goof off not to receive the same pay as others in the pay category. In dentistry, shirking shows up in the quality of work. All restorations that are charged the same UCR are not of the same quality. Those on the low end are examples of shirking since the means of identifying and remedying poor work are seldom available to the patient at a reasonable cost.

**Shrinkage.** Shrinkage means inventory loss. In commercial American establishments, such as department stores or restaurants, shrinkage can be as high as 30% to 40%. It is not as large a problem in dentistry as other forms of opportunism since the dentist is merely borrowing from himself or herself for personal rather than professional reasons. The people who get most upset about this are the IRS.

**Extortion.** That's a harsh word for the basic concept of doing work that is unnecessary for the principal in order to benefit the agent. How does a typical homeowner know when their air conditioning unit needs replacement? Does the

typical investor really understand when transactions are necessary on a commission basis to adjust the portfolio? Is a parent really in a good position to evaluate whether recommended tutorial for their child would be beneficial? Does a patient know that the treatment plan from his or her dentist is optimal? Over treatment is a significant temptation to moral hazard in all of the professions.

**Risk shifting.** Shifting risks from the agent to the principal is a subtle form of opportunism. Contracts are sometimes written so that the principal bears not only the cost of repairs or restitution should a problem occur, but also the costs of monitoring and detecting such problems and the legal costs of resolving disputes. Anyone who says "go ahead and sue me" is probably signaling substantial indulgence in opportunism and assumes your cost to recover losses will be greater than the losses. Risk shifting does occur in dentistry. In fact it is so common that it is seldom recognized. Although many dentists stand willing to absorb some of the costs of redoing work that does not turn out as expected, substantial out-of-pocket and emotional costs are involved to the patient. Part of



the reason dentists prefer to deal with individual patients rather than insurance companies is that the latter have so much more information relative to the dentist than the former do, therefore curbing

an unfair burden on honest agents who are forced to pay for the opportunism of their less ethical peers. It also has what attorneys refer to as a “chilling effect” on agent-principal relationships. EOBs are

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***Supervision makes sense in cases where the costs are low, the probabilities of detecting opportunism are high, and supervision can be focused on high risk transactions. It is almost always profligate nonsense when applied across the boards.***

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the tendency for risk shift opportunism. Table 2 identifies the major mechanisms used to counteract the asymmetry in information between agent and principal.

### Managing Agency Costs

Agency costs include both lost value (getting less than what you had anticipated) and the costs of trying to reduce or control opportunism. All of these mechanisms are taxes—they add to the cost of individual transactions in order to strengthen the overall viability of the system. Regardless of the mechanism used, these transaction costs are shared as lower profits for the agents and expenses passed through by them to the principals.

**Supervision.** Monitoring (watching what agents do) and metering (looking at outcomes) are among the most common agency costs and among the most expensive. Think of the impact on our economy if the whole class of supervisors, regulators, inspectors, claims reviewers, and state board examiners were no longer necessary. The differences of opinion about the balance between the costs of opportunism and the costs of reducing it through supervision are why we have Democrats and Republicans. Supervision makes sense in cases where the costs are low, the probabilities of detecting opportunism are high, and supervision can be focused on high-risk transactions. It is almost always profligate nonsense when applied across the boards. Indiscriminate supervision places

dramatic examples of the way agency costs in the form of supervision cast a shadow over future transactions.

**Information Balancing.** The fundamental condition for opportunism is the agent's relatively much greater knowledge of what is involved in the situation than the knowledge available to the principal. In dentistry, the asymmetry in knowledge is so enormous that it is formally marked by educational degrees and legally acknowledged through licensure. Nonetheless, there are numerous common mechanisms in the profession that attempt to reduce opportunism through education. Disclosure and conflict of interest statements signed by speakers and writers are such an example. The ADA's Washington office, screenings and health fairs, spokesman-ship training, and public service announcements by the profession are all such examples.

The American court system has used this argument to sustain the rights of professionals to advertise based on the impact of advertisements in increasing public awareness of needed services, differentiating services, and making the availability of such services known.

The fundamental opportunity cost with regard to dentists' reducing information asymmetry with their patients is informed consent. There is no doubt in the mind of any dentist I have ever spoken with that this is a significant constant cost in dentistry. Some simply say, “time is money.” Others are more specific in

noting that there is no procedure code for this activity. The courts have insisted, however, that this mechanism be in place and that it be sufficient to allow the principal (the patient) to make informed decisions of whether their interests are being attended to.

**Indemnified Risks.** Agency-principal relationships push risk towards the principal because of information asymmetry and because the agent is agreeing to perform activities but not normally to produce specific results. Risk is often indemnified through such methods as bonding, insurance, escrows, warranties, and guarantees. Brand names, and their professional counterpart—professional reputation—are also used for this purpose. Many dentists will readily redo procedures where the outcome is unsatisfactory, even when it is not obvious that the dentist caused the shortcoming. Peer review mechanisms further strengthen this system. Although peer review is an agency cost, it is typically much less expensive than the market costs associated with litigation.

**Aligning Interests.** The mirror image of indemnities is incentives. In this case, the principal pays extra to make certain their interests are addressed. Executives are given bonuses when stockholder value increases. Employees are offered profit sharing programs. Some lawyers work on contingency. And the best dentists have always commanded higher fees than their counterparts. The best practitioners are not always the ones with the golden hands or the brilliant understanding of their discipline. Much of what is excellent in dentistry comes down to being conscientious about making certain the patient receives the best care possible.

**Building relationships.** David Maister's little masterpiece, *The Trusted Advisor*, makes the point in dozens of ways that agents who earn the trust of their principals have more fun and share more profit. Trust drives down agency costs. Although the primary way to increase trust is to add value where the principal's interests lay, there are many other effective approaches. Repeat busi-



ness automatically builds trust. Listening skills and genuine interests in the patient also go a long way.

There are behaviors traditionally associated with professionalism such as maintaining confidences, a dignified manner, and acting in an authoritative fashion. Professionals such as dentists can also build relationships through community service, *pro bono* work, and leadership. There is a longstanding debate as to whether community service by professionals is altruism or good business. I think that debate is something like trying to decide whether the sign above a door should say entrance or exit? In the end, we know that professionals who volunteer their services to build trust and lasting relationships benefit all of society. This is why practices by insurance companies or others that damage the relationship between dentists and patients ultimately increase the cost of providing oral health care.

### Your Fellow Agents Keeper?

In a classical paper, George Akerlof analyzes the affect on the price of used cars generally due to the fact that a few of them are lemons. Here is how the analysis works. Everyone knows that many used cars run fine and are essentially what they are claimed to be. Everyone also knows that there are lemons in the bunch, and one can wind up with a bad experience. People may even know in some general way what they are prepared to pay for a good car and for a lemon. The problem is, most people have no way of knowing which cars are good and which are the lemons. The rational solution to this problem is to discount the price of any car proportional to the cost of getting a lemon and the probability of getting one. If there are lots of lemons and they would represent a substantial hassle, the discount, applied to good cars as well as bad ones, would be greater. An alternative is to pay an ad-

ditional fee to have an expert (personal agent) evaluate potential cars. This is a guaranteed agency cost that may be greater than the discount. The point is still the same, some lemons drive down the value of all cars.

The agency cost of protecting against opportunistic lemons is spread across the class of both buyers and sellers. This is a significant issue in professions such as dentistry. The more bad actors there are in the profession, the greater the discount applied by patients to the work done by all dentists and the more regulations that fall primarily on the most ethical dentists. Harvard Business School researchers Pratt and Zeckhauser warn that "masquerading mainly hurts not the one who is deceived, but the one who is imitated." It behooves professionals on purely economic grounds to monitor their colleagues and help them raise their standards of service. The agency costs of the profession providing this self-monitoring are usually substantially lower than the agency costs to the principal or to the public at large. This analysis of professional organizations policing themselves based on economic self-interests stands beside the more conventional argument from social contract. There have been several incidents recently in Texas and California where state legislators sunsetted boards of dental examiners because they felt the agency costs involved were not worth it.

There are no charlatans among loan shark. The concept of a charlatan trading on the good name of his or her colleagues does not exist among drug dealers, used car salesmen, or pimps. Agency relationships among professions such as dentistry have several characteristics that go beyond the general agency theory that has been developed to this point. I believe that three of these special characteristics should be mentioned.

**Altruism.** The motive to do good for others without regard to anticipated

reciprocal benefit does exist, and it is more common among professionals than among others, in my opinion. Altruistic motives can be generally sensed and they increase the level of trust and perception on the part of others that their interests will be protected even if they have no direct way of insuring that this is the case.

**Professionalism.** Professionalism is the notion that the resources and rewards available to dentists come from a common pool. The acts of each individually reflect on the reputation of all collectively and the shared reputation in the field is a resource for each.

To act professionally means to add more to the common pool of resources than one withdraws from it. This also implies a positive obligation to protect patients from the abuses of professional privilege engaged in by some. Active membership in organized dentistry is a universal requirement of professionalism, as is speaking out against any individual or policy that detracts from dentistry. Hand ringing and name calling do not count as active participation. Compared to other professions such as law and medicine or to semi-professions such as real estate or accounting, dentistry is a strong profession.

**Dental Practice.** At first it may appear paradoxical to say that the nature of dental practice itself helps protect patients' interests. Those silly surveys about dentists not doing it again if they had a choice are ridiculous. In a recent article in the *Journal of Dental Education*, I worked out that the average American is fifteen times more likely to change careers than is a dentist. Most dentists I know love what they do and they love to do good dentistry. Good dentistry is appreciated by both dentists and patients. There is an intrinsic alignment of the patients' and the dentists' interests. What better way to reduce agency costs?



## Recommended Reading

\* Barney, J. B. and Ouchi, W. G. (Eds.) (1986). *Organizational economics*. San Francisco, CA: Jossey-Bass.

A collection of papers in organizational economic theory, with introduction and commentary. These are reprints of some of the key papers in the field, from George Akerlof's analysis of the problem with lemons, to R. H. Coase's 1937 analysis of why organizations exist at all, and Hirshleifer's essay on economic survival of the fittest and why altruism really exists. The papers tend to the technical side, and some are largely mathematical proofs of economic theorems.

Chambers, D. W. The role of dentists in dentistry. *Journal of Dental Education*, 2001, 65, 1430-1440.

By temperament, dentists prefer those circumstances where the world can be described as black and white, where ambiguity (multiple interpretations of events are possible) is minimal, and where they are agents in the sense of having substantial control over outcomes. Data are also used to work out that dentists are very unlikely to leave the profession.

Chisholm, R. M. (1975). The agent as cause. In M. Brand and D. Walton (Eds.) *Action Theory*. Boston, MA: D. Reidel.

This is a philosopher's view on agency theory. The challenge is to discover what it means for a person to be the cause of events (as opposed to events causing events in scientific theory) and therefore, in what way a person is morally answerable for what they cause.

\* Maister, D. H., Green, C. H., and Galford, R. M. (2000). *The trusted advisor*. New York, NY: Simon & Schuster. ISBN 0-7432-1234-7; 240 pages; about \$15.

"You don't get the chance to employ advisory skills until you get someone to trust you enough to share their problems with you. The theme of this book is that the key to professional success is not just technical mastery of one's discipline (which is, of course, is essential), but also of the ability to work with clients in such a way as to earn their trust and gain their confidence." Readable and of full prescriptions—"to succeed, do this."

\* Pratt, J. W. and Zeckhauser R. J. (Eds.) (1985) *Principals and agents: The structure of business*. Boston, MA: Harvard Business School Press.

This is a wide-ranging set of essays on organizational economics commissioned to celebrate the fiftieth anniversary of the Harvard School of Business. Topics covered include the legal, labor union, multidivisional organization, government regulation, and pure economic perspectives.

\* Sharma, A. (1997). Professional as agent: knowledge asymmetry in agency exchange. *Academy of Management Review*, 22, 758-798.

In traditional agency theory, opportunism (taking advantage of others in a relationship) on the part of agents while working on behalf of principals is balanced by principals writing contracts to align the agent's goals with their own or by monitoring agents' behavior or metering their productivity. These remedies are not readily available when the agents are professionals because professional agents have specialized knowledge, because supervising the professionals is costly, and because principals typically are coproducers of results along with their agents. Sharma proposes four other mechanisms that are operational in the case of professional agents: Self control (a combination of self-interest and altruism), community control, bureaucratic control, and client control.

### Editor's Note

Summaries are available of the four readings preceding by an asterisk (\*). Each is about four pages long and conveys both the tone and content of the book through extensive quotations. These summaries are designed for busy readers who want the essence of these references in fifteen minutes rather than five hours. Summaries are available from the ACD Executive Office in Gaithersburg. A donation to the ACD Foundation of \$15 is suggested for the set of summaries on agency; a donation of \$50 would bring you summaries of all the 2002 leadership topics.

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