



Allan J. Formicola, DDS, MS
Dean Emeritus, Columbia University
College of Dental Medicine

An Argument **Against** a Dental School Ranking System

Charles Bertolami's essay, "The Dental Education Bubble: Are We Ready for a LEED-Style Rating?" raises myriad questions far beyond the usefulness of developing a system to rate dental schools, as he proposes. In order to support the notion of a rating system, he describes the current and recurring dilemma dental education has faced and that once again has resurfaced. (1)

Namely, while it is generally recognized that the type of education students receive shapes the profession, the tension between the setting of dental schools in the nation's higher education system and the dual emphases on the technical training required to practice dentistry and on the biomedical sciences necessary to educate a learned practitioner has never been fully resolved.

Over the past five years, this issue has resurfaced due to the opening of 10 new dental schools, most of which are located on osteopathic medical campuses. Bertolami suggests that these schools are inferior and fears that they will lead to a decline in dentistry's professional reputation.

This commentary will focus on two underlying related issues raised in Bertolami's essay: (1) the vision for dental education, and (2) the research mission and the institutional setting for dental schools. The interrelation of these two issues and their impact on the dental profession will be discussed.

The Vision for Dental Schools from Gies Onward

The vision for dental education during the first and second decades of the 20th century was not clear. William Gies, a professor of biochemistry at Columbia University, was chosen by the Carnegie Foundation to assist the profession in standardizing the education necessary to become a dentist. The Foundation was well aware that when Gies began his five-year study of dental schools in 1921, "it was not then clear whether dentistry ought to become a specialty of the conventional medical practice, or whether it should remain a field of practice for a separate body of practitioners."

The general opinion at the time could be summarized as follows: Because of the "mechanical requirements made upon the practitioner...dentistry was a mechanical art of restoration and not a branch of medicine." However, *Dental Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*, which is better known as the Gies Report, published in 1926, concluded that the practice of dentistry should be a health service of equal recognition with other specialties of medicine, although it should remain a separate profession from medicine. The type of curriculum required for the study of dentistry was described in the report as follows:

"The courses should be equal in quality to those in the corresponding subjects in the undergraduate curriculum in medicine...." (2)

The Gies Report is largely credited with establishing the foundation

for dental education in the United States and emphasizing the need for full-time faculty who are devoted to pedagogy; for including a research agenda in dental schools; and for requiring two years of prerequisite college-level coursework for entry. Regarding the latter, Gies understood that a “liberal education...guards against the relatively narrowing influences of a professional training...” and that such preparation for dental school “awakens and stimulates curiosity and the spirit of enquiry (and) expands views and improves judgment....”

While the Gies Report was very clear in declaring the type of professional education required for the practice of dentistry, there has been a long-standing debate about the emphasis on the basic biomedical science courses and the technical clinical training needed to educate competent practitioners. For example, in 1941, O’Rourke and Miner (3) put the argument as follows: “A common aim of dental education has been that of providing opportunities for the development of skill.... The traditional, but fallacious, concept of skill as something almost entirely manual is common.... Motor activities must be incidental, however, to intellectual effort if the dangers of rule-of-thumb methods and empiricism are to be avoided.”

In more recent times, the 1995 Institute of Medicine (IOM) Report, *Dental Education at the Crossroads: Challenges and Change*, again discussed the pros and cons of dentistry as a medical specialty.

While the report concluded that such a designation was not possible for a variety of practical reasons, it urged dentistry to move closer to medicine so that “...practitioners will become better prepared to work as part of a health care team in a more integrated health care system.” It urged curriculum reform, closer integration between medical and dental education, and a year of post-graduate education for all graduates with an emphasis on general dentistry. The report noted that “too many dental schools and dental faculty are minimally involved in research and scholarship” and urged schools “to formulate a program of faculty research and scholarly activity that meets or exceeds the expectations of their universities.” (4)

The 1995 IOM Report also noted the high degree of variability in curriculum emphasis based on course hours among dental schools, a situation that continues today. While there is consensus on the major blocks of subject matter (e.g., basic sciences, clinical sciences, and social sciences), there is no consensus on the emphasis among the different blocks to be studied, with the result that dental schools traditionally have had wide latitude in how much time they devote to subject matter. In fact, in 2008–09, the ADA Curriculum Survey showed that the range of total hours varied from 3,531 to 6,954. There was also

great variation in curriculum time for each of the major blocks of subject matter, specifically, basic biomedical sciences, preclinical science, and clinical sciences. For example, the variation among schools in biomedical sciences course hours is between 452 and 1,455 hours. The schools with the fewest reported biomedical sciences hours (University of California, San Francisco) and the highest number of hours (Harvard University) are both highly respected schools. (5)

Bertolami quotes from Dr. Peter Polverini, dean of the University of Michigan School of Dentistry and host of an invitation-only conference in Ann Arbor, in stating that “...for the first time in nearly a century [the importance of the biomedical sciences in the dental school curriculum...] is being challenged by this new direction in dental education” (6) In fact, wide latitude among schools on the emphasis of the biomedical sciences has always existed. Interestingly, of the three new schools listed in the 2008–09 American Dental Education survey of dental education, one reports over 1,000 hours of biomedical sciences instruction (A.T. Still-Arizona) and two report 505 and 546 hours of instruction

(Midwestern University Dental School and Nova Southeastern University College of Dental Medicine, respectively), more hours than the University of California, San Francisco, and close to Boston University's Goldman School of Dental Medicine, which offers 597 hours.

Similar variability can be seen in the percent of the clinical curriculum devoted to patient care in school clinics versus community locations. Even before the establishment of the new dental schools, there was no consensus on the emphasis in the curriculum required to educate a dentist.

The data clearly show that there is much variability in what the established dental schools consider necessary to educate students. The same is true of new schools. Simply put, the number of course hours devoted to the major blocks of course content do not necessarily equate with the quality of education, nor should they be considered representative of a dental school's educational philosophy.

The Institutional Setting for Dental Education and the Research Mission

To elevate dental education from proprietary status and to improve pedagogy, the Gies Report recommended that all dental schools be part of the higher university system in the United States and Canada. Bertolami suggests that the new schools may be shortchanging research—ostensibly in favor of teaching and service—and that they are not located in the “best” universities. He states that dental schools should be in major research universities and questions whether “the nation's finest universities may not opt to have a dental school.” He suggests that the incorporation of dental schools into the finest *research* universities is a way forward for dentistry “in reinventing it-

self not only as a discipline and vocation, but as a *learned* profession.”

Using National Institute of Dental and Craniofacial (NIDCR) grant support as a marker of a school's research productivity, about half, or 34, of the 62 operating dental schools in the United States had grants of \$1 million or more in 2011. (7)

Most of the funded schools are in the public or private Carnegie Doctoral/Research Universities-Extensive category (the term *Research I Universities* is no longer used). These schools must meet the mission of their universities through faculty research programs that are on a par with others within the university. The 34 schools on the list are generally recognized as doing so. In total, the 62 schools break down as follows: 37 are in the public or private Carnegie Doctoral/Research Universities-Extensive category and 25 are in the Carnegie Foundation Specialized/Medical institutions or similar campuses category. (The latter category was instituted by Carnegie to recognize the many academic medical centers that were established in the 1960s and 1970s that were not part of an existing university.) Research in a scholarly environment is going on not only in dental schools that are able to obtain grant funding from NIDCR, or those that are part of Carnegie Research-Intensive Universities, but also in schools that have a mission that includes a heavy commitment to community service and service learning. (8)

Boyer, in *Scholarship Reconsidered: Priorities of the Professoriate*, broadens the category of research to include scholarship of integration, application, and teaching, in which faculty integrate, interpret, and apply research findings to problems in society. (9) Unfortunately, it appears that Bertolami, using wording

from the Polverini article (6), narrowly defines research in the terms of “basic biology of oral structure and the pathology of oral-facial disease.” This leaves out the many questions inherent in being a profession that is in service to the public. Scholarly research in all these areas—public health, sociology, health services, bioethics, and economics—is important to the societal role dentistry plays. In many of the established dental schools, this type of scholarly activity is either self-funded by schools and universities or funded by foundations. New schools as well as established schools can create a scholarly environment with a public service or societal mission in mind.

Schools that emphasize community service often are engaged with such research and can just as often be in Carnegie Research-Intensive Universities and/or academic medical centers as on osteopathic medical campuses. A “prevailing environment congenial to intellectual activity” can only go on, according to Bertolami, from research about “discovering new treatments, cures, and diagnostic methods, *not necessarily about teaching students.*” (Italics are mine.) This is a narrow view of scholarship and implies that pedagogy is not able to create a scholarly environment. However, Boyer, in *Scholarship Reconsidered*, further recognizes “scholarship of teaching,” which can be seen in many respected liberal arts colleges and universities. This also applies to dental education.

Research universities are beginning to recognize the importance of teaching in their tenure decisions. Boyer further noted that “When defined as scholarship, however, teaching both educates and entices future scholars. Indeed, as Aristotle said, ‘Teaching is the highest form of understanding.’ ”

The Accreditation Process, Benchmarking, and Rankings

Accreditation

Bertolami’s essay is pessimistic about the future of dental education based on what he calls the arrival of a two-tier system of schools engendered by the opening of new schools associated with osteopathic medicine. Because it *appears* that these schools emphasize community service in their mission, it is inferred that they will bring down the entire profession, making it more vocation than learned. However, that is not necessarily true, as a mission

that emphasizes community service does not translate into a school with a lack of scholarship, as discussed above.

There have always been different types of dental schools, some more research-oriented than others, just as there are different types of medical schools and law schools. This does not mean that we have a two-tier system of dental education, of medical education, or of law schools. In dentistry, all of the schools adhere to a set of standards set up by the American Dental Association’s Commission on Dental Accreditation (CODA). (10)

According to Bertolami, meeting CODA standards is not sufficient to differentiate schools’ philosophies, curriculum, and outcomes. He suggests that a ranking system is needed to inform the public and applicants and to differentiate between the schools that he infers are part of the two-tier system. My contention is that no ranking system will protect the public from unsavory practitioners any more than do the current li-

censing regulations of the states and the CODA accreditation process. Similarly, no ranking system can be devised that is better than the already extensive information available to inform students of a school’s philosophy, educational approach, and outcomes. Let’s first briefly examine the accreditation system’s ability to assure that there is only one tier for all dental schools—those worthy of being

accredited—and then look at benchmarking and ranking systems.

CODA examines six critical standards for dental schools: institutional effectiveness, edu-

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cational program, faculty and staff, educational support services, patient care services, and research program. Each standard has a set of substandards, which have been revised consistent with established trends in dental education and with national requirements for accredited institutions. Accrediting teams are drawn from knowledgeable faculty, and schools prepare a self-study assessment in relation to the standards. The standards are constantly reviewed, upgraded, and, to my mind, represent what a contemporary dental school should offer to students. New schools are granted *initial accreditation*, indicating that the “developing education program has the potential for meeting the standards,” and this status is granted after one or more site visits to the school and until the school is fully operational. It should be noted that the new schools are being led by deans and faculty recruited from existing schools.

It is beyond dispute that the faculty is

the most important ingredient in the quality of a school. While there are always shortages of full-time faculty, the accreditation process closely examines the number and distribution of faculty in relation to the school's mission, goals, and objectives. The accreditation standard does not stipulate a specific number of faculty or thwart innovation, but it assures that the faculty is able "to maintain the vitality of academic dentistry as the wellspring of a learned profession." So, there is a standard that promotes a learned profession, a vision upon which the entire profession agrees. Moreover, site visit teams are charged with assuring that schools meet that standard.

I disagree with Bertolami's essay because the accrediting process does take into consideration differences in dental schools' missions and goals, *but assures that all schools, new and established, meet standards that are accepted by the academy, the practicing com-*

munity, and the licensing community. If all schools meet these standards, there is not a two-tier system; instead, there is a system that allows *differences in program around a set of commonly agreed-upon standards.* This makes the entire dental education system dynamic and competitive and keeps the profession strong. Dentistry has made enormous advances as a profession in scientific understanding of disease, including prevention and treatment, from basic to translational research and into practice. The means are at our disposal as a profession through

accreditation to keep the profession vital and learned.

Benchmarking and rankings

The first system for ranking dental schools occurred in 1918, at the request of the Surgeon General. Schools were rated as Class A, B, or C schools. (2) The implication was that "The graduates of Class A schools are more competent than the graduates of Class B and C schools to pass a given state board examination." However, that was not the case, as there was no correlation between the two. Graduates of Class B and C schools were just as likely to pass the examinations as those of Class A schools. The ranking of dental schools was discontin-

ued in the early 1990s, and the Council on Dental Education (the predecessor to CODA) was set up to examine schools under an accreditation process.

I don't agree that benchmarking or rankings of schools is nec-

essary or will provide the public and applicants with more information than is already available. The public is assured through accreditation that schools adhere to minimum standards and that their graduates are ready for licensure. In a 2010 American Dental Education Association (ADEA) Symposium, "Assessment: Portraits of Change," I made the following comments:

Ranking of universities and graduate schools became popular with the lay public in the 1980s

when the *U.S. News and World Report* began its ranking system. While medical schools are ranked, dental schools are not. Some have asked why *U.S. News* doesn't rank dental schools. Initially, there was a ranking for dental schools, but after examining the ranking methodology, there was a backlash by dental educators against the ranking system and all dental schools refused to participate. It was viewed as a popularity opinion poll of the faculty and administrators who answered the survey rather than a true assessment of the schools. Dentistry isn't the only component of higher education to criticize the rankings, but we are the only ones who have been able to keep out of what many consider a flawed system that doesn't fairly represent the quality of programs.

The *U.S. News* ranking system has come under much criticism and some critics state that it is just a list of criteria that "mirrors the superficial characteristics of elite colleges and universities" (11). The rankings are big business for *U.S. News*; the printed issue of the rankings sells 50 percent more magazines than the regular issue and the website has 10 million page views on a rankings issue compared to 500,000 in a typical month.

Given the flawed nature of the *U.S. News* rankings, are our potential students better off in selecting a dental school to attend without dentistry being included? Potential students for dentistry have to do more research and are far better informed about schools from their research than by blindly following the *U.S. News* rankings or any other such rank-

ings. Predental students can access much information on dental schools to make an informed decision. The ADA Annual Survey of Dental Schools has a plethora of data, from course hours to finances and from student tuition to clinic revenue, all in rank order. The official guide to dental schools published by ADEA has extensive information on every school, including the average DAT and GPA scores for all entering students. The NIDCR website has a ranking of research dollars received by dental schools.

A study of 239 applicants to the University of Pittsburgh demonstrated that, on average, applicants visited 13 different dental school websites and found that information on tuition, entering class statistics (DAT/GPA), admission requirements, acceptance rates and diversity to be what they sought the most. Forty percent of the applicants indicated that they based decisions equally on the dental school websites and other sources.⁽¹²⁾

Of course, college students also rely on peers and pre-health advisors, but they are searching the Web to get answers to their most important questions. So, we depend on students doing their own research regarding the best school for them to attend rather than some third party such as the *U.S. News* rankings. Personally, I'd rather have a student who does his/her own research and demonstrates independent thinking than one swayed by a superficial, one-dimensional ranking system.

A new ranking system along the lines that Bertolami suggests will be subject to



the same foibles as the Class A, B, and C rankings of old and the same subjective type of rankings as seen in the *U.S. News and World Report*. Who sets up the values, and how do you get balance between the social mission and the research mission? The thought behind Bertolami's ranking system as delineated in his essay is, it seems to me, based on a biased perspective; that is, unless schools are in research-intensive universities, they are unable to create a scholarly environment and to educate thinking professionals of

the highest levels. The ranking system proposed will not improve the profession.

We should keep in mind that all of our dental students are well prepared and can think for themselves in selecting a dental school. Eighty-nine percent of enrolled dental students hold bachelor's degrees, while only 30 percent of 25-year-olds in general hold bachelor's degrees, and 7.1 percent of dental school enrollees hold master's or higher-level degrees. These well-prepared students are

enrolling in the established schools as well as in the new schools. I have confidence that the next generation will continue the tradition of improving the profession and concern for the public's welfare, thus keeping the dental profession strong.

In Summary

Dental education has served the profession of dentistry and the public well over the course of the 20th century and into the 21st century. Startling advances in science and technology have dramatically improved treatment and prevention, and the public rates dentistry as a profession to be trusted. Schools in research universities have added immensely to the knowledge base of disease. However, since the 1960s, dental schools have realized their obligation to reconsider their patient care and service missions.

Schools reorganized clinical programs to emphasize comprehensive patient care in which students learn to consider the entire patient from a sociomedical perspective. In 2000, the US surgeon general's report, "Oral Health in America," jolted the public and profession into realizing that we had left a lot of people behind in gaining the benefits of prevention and intervention of oral disease. Accordingly, for the past decade, when schools were reconsidering their mission, community service and service learning became legitimate missions and a responsibility for all schools. State legislators recognized that school clinics are part of the safety net system in the United States and outreach to underserved populations is important. It isn't surprising, then, that new schools would see an important niche for their mission. This does not mean that because some schools will focus more heavily on the public service

mission, they will be lesser schools relegated to a second tier. All schools can achieve a scholarly environment and educate learned professionals with the capacity to serve on faculties, in private practice, and in the public health system.

This is not to say that there are not many problems for the education community to grapple with in order to keep the system strong. Problem areas include high tuition in all schools; a significant decrease in state support to the public schools; a better appreciation for the need to understand workforce issues—including a better understanding of population-to-dentist needs; the potential for newer forms of allied health dental workers to enhance practitioners' ability to treat the growing number of children and older adults in need of oral health services; and outreach to those who are disabled and poor.

Within the academy, it is important to emphasize interprofessional educational collaborations with medicine, nursing, and the other healthcare professions that can yield a more coordinated and higher-quality health system. There is a need to recommit to providing a postgraduate year for every graduate, given the complexities of today's practice environment. A ranking system will have no effect on these important issues. By constantly striving for excellence within each school and through participation in the schools' organization (ADEA) and the Commission on Dental Accreditation (CODA), standards can be kept high. Discussion and debate of these major issues are continually needed to sharpen our thoughts and keep the profession strong. Schools will change. However, the basic values intrinsic to the profession over the past 100 years should not.

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