The Fundamental Financial Problems of Dental Education and Their Impact on Education, Operations, Scholarship, and Patient Care

Howard L. Bailit, D.M.D., Ph.D.

Dr. Bailit is Professor Emeritus, Department of Community Medicine, University of Connecticut Health Center and a Research Associate, Department of Community Dentistry, Columbia University. He received his D.M.D. degree from Tufts University and his Ph.D. degree (Anthropology) from Harvard University. Prior to his current position, he was Chair of the Department of Health Administration and Policy, School of Public Health, Columbia University; Senior Vice President for Medical Policy and Programs, Aetna Health Plans; and head of Behavioral Sciences and Community Health, University of Connecticut Health Center. Dr. Bailit has published widely on health policy and managed care, serves on numerous national committees and editorial boards, and has received many awards and honors, including Institute of Medicine, 1984, and Presidential Citation, American Dental Association, 2005. Direct correspondence to him at Department of Community Medicine, University of Connecticut Health Center, 260 Farmington Ave., Farmington, CT 06030-6325; 860-679-5487 phone; 860-679-5463 fax; bailit@nso1.uchc.edu.

Dental educators and practitioners generally agree that serious financial problems are challenging dental schools. Evidence includes declining public support, large increases in tuition, mounting student debt, and difficulties recruiting and retaining clinical faculty.

Here, we examine the fundamental financial problems of dental education and set the stage for the next two presentations, which address possible solutions. Our assumptions include the following:

- Dental students require scientific and clinical education at the same academic level as medical students.
- Most dental schools need to be in research universities where full-time clinical faculty make scholarly contributions similar to that of tenure-track faculty in other university disciplines.

The factual and background information presented here is based on recently published articles.1-11

Dental School Finances

The United States currently has fifty-six dental schools. Thirty-six, or 64 percent, receive state support. The remainder are private or private state-related.

The basic financial problem in publicly supported dental schools is that state support for dental education has barely changed in the past fourteen years (from 1991 to 2005). With inflation, this translates into an average 45 percent decline in real spending power. With this reduction, state support for publicly supported dental schools declined from 60 percent to 25 percent of total school revenues. On the other hand, private and private state-related schools derive most of their operating revenues from higher tuition and larger classes. In 2004–05, for example, approximately 48 percent of these schools’ operating revenues came from tuition. Also, most private schools have lower expenses per student because of fewer faculty per student and a smaller investment in research and support staff. Although private schools have not suffered large reductions in state support, they, like public schools, are faced with a significant decline in federal support. In the past ten years, large reductions have occurred in Graduate Medical Education (GME) funding for dental residents, in the recruitment of underrepresented minority students (Health Careers Opportunity Program), and, more recently, in biomedical research.

Another common financial challenge for public and private dental schools is the growing disparity between faculty and practitioner income. The incomes of private practitioners have increased 5 to 7 percent per year for the past fifteen years, while the incomes of full-time clinical faculty have grown only 3 percent annually. For specialists, the average difference in annual income between full-time faculty and community practitioners is now over $200,000. In another ten years, if current trends continue, we estimate a difference of over $400,000. This wide income differential goes a long way in explaining the
difficulty in recruiting dental school graduates into advanced clinical and science training programs to prepare them for full-time academic careers.

The response of most schools to reduced funding has been to increase tuition and fees and to reduce investments in basic infrastructure such as physical plants, libraries, learning resource centers, and the number of non-faculty staff. Interestingly, even as schools reduce their infrastructure investments, the overall growth of dental school revenues and expenditures is increasing at more than twice the rate of inflation. Revenue increases are related to tuition, patient care, research, and gifts. Expenditure increases are related to general university overhead, meaning the monies schools pay to their parent universities, the administration of the school, clinic expenses, and sponsored research. Yet, there is little change in net revenues, because clinic expenses and revenues are growing at about the same rate.

To estimate the magnitude of the financial problems facing publicly supported dental schools, in the Macy study we calculated the total revenues needed to make up for declining state budgets, GME support, inadequate infrastructure investments, and the slow growth of clinical faculty salaries from 1992 to 2004. As a rough estimate, the average state dental school needs an additional $15 million in revenues to remain at the same level financially that it was in 1992. With an average total 2004 budget of $43 million, the $15 million represents a 34 percent increase.

Impact on Dental School Operations

In contrast, considerable process level information is available on the effects of constrained budgets on dental school operations. For example, between 1992 and 2002, the number of full-time clinical faculty per student declined by 12 percent, the number of basic science faculty per student declined by 35 percent, and the number of unfilled full-time clinical positions increased modestly. These are average changes across all schools, and they mask the impact on schools with the largest reductions in state support. Specifically, the three state schools with the largest declines in state budgets from 1994 to 2004 reduced their full-time clinical faculty by about 35 percent and their number of full-time clinical faculty with both Ph.D. and dental degrees—the backbone of any research program—by 64 percent.

In addition to reductions in the number of faculty, there is substantial evidence that new full-time clinical faculty are coming from private practice or the military and have not had the advanced clinical and scientific education necessary to excel in an academic environment. Furthermore, many young clinical faculty are staying a few years in academia and then leaving for private practice.

In sum, the primary impact of budget reductions appears to be a smaller number of FTE clinical and basic science faculty per student, inadequate infrastructure investments, and a full-time clinical faculty that may be less prepared scientifically to succeed in research universities.

Impact on Scholarship

For dentistry to remain a learned, self-regulating profession, the majority of dental schools must be in flagship research universities. Unfortunately,
five of the seven dental schools that closed in the past twenty-five years were in top research universities. Primary factors associated with their closures were financial instability and a lack of significant contributions to the scholarly mission of the parent university. Northwestern University School of Dentistry is the most recent example of a school that closed primarily for these reasons.

Even more troublesome is that most new dental schools and those planning to open in the next five or so years are not based in research universities and are unlikely to invest in the development of significant research programs. If these trends continue, by 2015 only 75 percent of dental schools will be based in research universities. This is compared to 85 percent in 1985.

Another dimension of the scholarship metric is the percentage of full-time clinical faculty in research universities who have a research grant from the National Institutes of Health (NIH). This is important because tenure-track, full-time clinical faculty in research universities are expected to do grant-funded research. Admittedly, this measure of scholarship has many flaws, but we found that in only 60 percent of the thirty-six state-supported dental schools did 10 percent or more of the clinical faculty have a funded NIH research grant.

Thus, it appears that fewer dental schools are in research universities, and many dental schools in research universities do not have significant research programs.

Impact on Patient Care

The impact of declining resources on patient care in dental schools is difficult to assess because of a lack of data. Clearly, this important issue needs to be addressed by researchers. There are two key issues: 1) the quality and amount of care provided to patients, and 2) the capacity of dental school patient care programs to focus on low-income, medically compromised, and other underserved patients. Dental schools have traditionally been an important component of the dental safety net for this group of patients.

Impact of New Unmet Challenges

Any discussion of dental school financial challenges also has to include the need to address long-standing gaps in the education of students and residents. For example, few dental schools offer a formal basic medical sciences course in genetics, even though we are in the middle of a genomic revolution that is already beginning to have a profound impact on patient care. Likewise, major advances have been made in assessing the risk of patients for caries, periodontal diseases, and other oral conditions, but schools are still trying to integrate these risk assessment methods into patient care programs. Finally, although significant advances in educational methods are now available for making learning new materials more interesting and promoting critical thinking, most dental schools continue with the traditional lecture format and focus on the acquisition of facts.

Most would agree that these are serious issues and schools need to change the content and methods of their educational programs. Although there are multiple barriers to making the necessary changes, the lack of adequate financial resources is certainly one of them.

Conclusion

The primary reasons for the financial challenges in dental schools are a decline in public support at the state and federal levels, increasing disparities in practitioner versus faculty incomes, and the growth of administrative budgets. Schools are struggling to survive financially by increasing tuition and fees and by reducing their infrastructure investments. Clearly, this strategy is not sustainable in the long run.

Although the evidence is limited, trends indicate a reduction in resources usually associated with high-quality education programs. Likewise, the capacity of dental schools to meet the scholarship mission of their parent universities is becoming more constrained. Of equal concern, more schools are being established outside the traditional research university framework.

In the opinion of the Macy study team, the current system for educating dental students and residents is no longer sustainable with available resources. We need to find new educational strategies that will 1) provide the monies needed to invest in education and research programs that will prepare the next generation of practitioners to serve the population and 2) keep the majority of dental schools in research universities.

Even with these challenges, we are optimistic about the future of dental education and the profession. In the following presentations, several strategies are presented for reducing financial problems and, at the same time, reforming and strengthening dental education.12,13 We are convinced that the leaders of
the dental education and practice communities will come together, develop a consensus, and make the difficult choices needed to solve these problems and advance dental education and the oral health of all Americans.

REFERENCES


