

# The Dental Pipeline Program Evaluation: Findings, Best Practices, and Future Directions for Community-Based Dental Education

This is the first longitudinal evaluation to systematically assess changes made by U.S. dental schools to improve access to oral health care in underserved populations. The comprehensive results published in this report are those of an external evaluation of the Pipeline, Profession, and Practice: Community-Based Dental Education program sponsored by the Robert Wood Johnson Foundation (RWJF) and The California Endowment (TCE). Fifteen dental schools participated in the program. The longitudinal evaluation was conducted by the National Evaluation Team (NET) based at the University of California, Los Angeles.

The report documents the Pipeline program and its development, methods used in the evaluation, and central findings and implications concerning the major program goals:

- Increasing underrepresented minority (URM) enrollment in dental schools
- Revising the curriculum to improve cultural competence of dental students
- Expanding extramural clinical rotations in the community

The Pipeline program brought about significant and consequential change at some of the participating schools. This is evidenced by:

- Increases in key measures of URM participation
- Schools' changed or greatly expanded approach to the mission of dental education

It is significant to note that the program enabled testing of a range of strategies in support of the three goals. The report also enumerates tested ideas that can be shared with dental schools that were not part of the program.

Among the specific findings of the report are:

## STUDENT RECRUITMENT

- URM enrollees increased during participation in the Pipeline program (between 2003 and 2007) by 27% in all Pipeline schools and by 38% in Pipeline schools that do not traditionally serve large populations of minority students.
- The rate of increase of URM enrollment in Pipeline schools from 2003 to 2007 was almost twice the rate of increase in non-Pipeline schools.
- Financial concerns were major barriers to recruiting URM students, due to high and rising tuition costs and limited resources for URM recruitment programs. In response, schools redoubled their efforts to provide financial aid and increased reliance on alumni, local dental societies, and faculty to recruit URM students.
- Lack of a "critical mass" of current URM students and URM faculty members also posed a barrier to dental schools' URM recruitment efforts.
- Financial challenges are the major barrier to

sustaining URM recruitment in the future. However, sustainability is more likely at dental schools with strong administrative leadership and faculty buy-in for URM recruitment, as well as at schools where the Pipeline program objectives have been woven into the overall curriculum.

## CURRICULUM

- Personal reflection by dental students after clinical externships was widely viewed as valuable, if not essential, to the community-based dental education (CBDE) learning experience. Formal reflective activities and exercises included group seminars to share experiences and individual writing.
- Increased use of creative and interactive learning methods was common among the Pipeline schools. Role-playing, assigned and elective book readings, and creation of new cases or revision of existing ones were used to enhance the curriculum and enrich student learning.
- Presence of at least one faculty member with behavioral or social science expertise to chair the CBDE curriculum committee was viewed as key. These individuals were highly capable and highly motivated to produce, deliver, and update course material, and they made liberal use of interactive learning methods.
- Insufficient faculty to conduct small group seminars, evaluate essays, or conduct other faculty-intensive methods of content delivery were major barriers to executing the CBDE. Continuous pressure from other disciplines for curriculum time was also a commonly cited issue, if not an outright barrier.
- Administrative support, particularly from the Dean, was the most commonly cited enabler of sustaining CBDE curricular revisions. Additionally, retaining and supporting key faculty with the expertise and commitment for the CBDE curriculum and ensuring the transfer of accomplishments or preservation of the knowledge base should the person leave are critical.

## CLINICAL SERVICES

- All 15 dental schools increased the length of time that senior dental students spent in extramural rotations, from a mean of 16 days to a mean of 39 days four years later.
- Four schools achieved the challenging goal of approximately 60 days of extramural rotations; one of these schools commenced the program with no mandatory rotations.
- Schools developed a variety of affiliations to accommodate the senior rotations: federally qualified health centers (FQHCs), community clinics, school-owned clinics, hospitals, and even private practices.

- Over 300 facilities participated in the demonstration program by accepting students for extramural clinical rotations
- TCE expanded the program to include primary care dental residents, and four schools sent residents into the community for an average of 198 days per year.
- At the conclusion of the program, graduating classes of Pipeline schools provided on average 11,000 services per year to an ethnically diverse group of community residents.

## IMPLICATIONS FOR FUTURE CBDE MODELS

- The evaluation yielded no evidence beyond the anecdotal to suggest that the Pipeline program significantly increased students' plans to provide care to underserved patients upon graduation from dental school.
- The major barriers to providing care to underserved patients upon graduation were mainly financial: (1) the educational debt and interest that accrues immediately upon graduation from dental school, and (2) limited or lacking reimbursement for uninsured and publicly insured patients.
- Dental schools can begin to address the access to dental care crisis by recruiting and admitting more URM students and others with characteristics shown to predispose an individual to community service.

## PARTICIPATING DENTAL SCHOOLS

- Boston University of School of Dental Medicine
- Howard University College of Dentistry
- Loma Linda University School of Dentistry
- Meharry Medical College School of Dentistry
- The Maurice H. Kornberg School of Dentistry, Temple University
- The Ohio State University College of Dentistry
- University of California, Los Angeles School of Dentistry
- University of California, San Francisco School of Dentistry
- University of Connecticut School of Dental Medicine
- University of Illinois at Chicago College of Dentistry
- University of North Carolina at Chapel Hill School of Dentistry
- University of Southern California School of Dentistry
- University of the Pacific Arthur A. Dugoni School of Dentistry
- University of Washington School of Dentistry
- West Virginia University School of Dentistry