



## Executive Summary

### Pipeline, Profession & Practice: Community-Based Dental Education

Pipeline, Profession & Practice: Community-Based Dental Education (*known as the Dental Pipeline Program*) helped dental schools increase access to dental care for underserved populations from 2001 to 2010. Twenty-three dental schools participated in one of two rounds of the program: 19 funded by the Robert Wood Johnson Foundation (RWJF) in Round 1 and 2, and four funded by the California Endowment<sup>1</sup> in Round 1 and 2.

Round 1 focused on community-based clinical education programs, revising dental school curricula to support these programs, and increasing recruitment and retention of underrepresented minority and low-income students. Round 2 focused on replicating the best practices from Round 1 related to recruiting underrepresented minority and low-income students and providing care to underserved patients through service-learning experiences in community settings. RWJF authorized the Dental Pipeline Program for up to \$23 million (\$19 million for Round 1 and \$4 million for Round 2).

[Read the full report.](#)  
[Learn more about the program here.](#)

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<sup>1</sup> During Round 1, RWJF funded 11 dental schools (including one in California) and The California Endowment funded four additional California dental schools. In Round 2, RWJF funded eight other dental schools and the California Endowment continued to fund the same four California dental schools.

## CONTEXT

*Oral Health in America: A Report of the Surgeon General* (2000) found “profound and consequential oral health disparities within the U.S. population.” Minorities (Blacks, Hispanics, and American Indians) and the medically disabled had the least access to dental care and the poorest oral health. The dental care safety net was very limited. Public coverage was minimal for adults and many eligible children were not enrolled in available programs. Medicaid payments were so low that many dentists did not accept Medicaid. As a result, in the early 2000s, tens of millions of people lacked access to dental care.

It was thought that dental schools could help increase access to dental care for these individuals through their educational and patient care programs.

The *Dental Pipeline Program* brought together two long-standing RWJF interests: increasing diversity in the health professions in order to improve access to health care for underserved populations, and improving oral health in America. RWJF’s strategies have included efforts to expand the number of health care professionals from underrepresented minorities, including providing scholarships and developing a “pipeline” of qualified students who can apply successfully to medical, dental, and other graduate health professions schools.

RWJF also has addressed poor oral health as a community health issue (including through the *Dental Pipeline Program*), a policy and financing issue, and a workforce issue.

## THE PROGRAM

The *Dental Pipeline Program* helped 23 dental schools increase access to dental care for underserved populations from July 2001 to July 2010 through two rounds of funding.

### Round 1

Fifteen dental schools participated in Round 1 from July 2001 to July 2007. RWJF funded 11 of these schools,<sup>2</sup> including one dental school in California. The California Endowment funded the four other dental schools in California.

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<sup>2</sup> RWJF made five-year grants ranging from \$631,861 to \$1.5 million, with most grants between \$1.3 million and \$1.5 million.

Round 1 focused on three strategies:

- Increasing the time senior students and residents spend in community-based clinical education programs
- Revising dental school curricula to support community-based education programs
- Taking action to increase recruitment and retention of underrepresented minority students

## Round 2

The success of Round 1—as shown by its evaluation conducted by researchers at University of California, Los Angeles<sup>3</sup>—resulted in a renewal of the program and a second round of grants. Round 2 ran from August 2007 to July 2010 and focused on replicating the best practices from Round 1. Thirteen dental schools participated. RWJF funded eight of these schools,<sup>4</sup> none of which participated in Round 1. The California Endowment funded the continued participation of the four dental schools in California.

The RWJF grants funded the dental schools to either:

- Establish comprehensive programs to recruit more underrepresented minority or low-income students, OR
- Provide senior students with service-learning experiences in patient-centered community settings providing care to underserved patients.

Four dental schools focused on each area.

The program also contracted with the American Dental Education Association and the National Dental Association to help institutionalize *Dental Pipeline Program* initiatives. The American Dental Education Association:

- Trained admissions experts to conduct workshops on “whole file review”<sup>5</sup> of applicants for admission to dental school
- Developed an action plan to enforce diversity-related accreditation standards

The National Dental Association collaborated with the Hispanic Dental Association and the Society of American Indian Dentists to create and test a mentoring program with three Round 2 schools.

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<sup>3</sup> The evaluation team was led by Ronald M. Andersen, PhD. It was funded through three grants, ID#s 43528, 45592, and 58942.

<sup>4</sup> RWJF’s 27-month grants ranged from \$120,792 to \$200,000.

<sup>5</sup> Whole file review considers both quantitative measures, such as Dental Admission Test scores and grade point averages, and qualitative factors such as motivation, life experiences, etc.

## KEY RESULTS

### Round 1

The evaluation of the program found the following results:

- All 15 participating dental schools increased the length of time that senior students (and dental residents in California schools) spent in community-based dental rotations from an average of 10 days at the beginning of the program (2002–03) to an average of 52 days in 2006–07. Four schools achieved the program goal of 60 senior student days in community rotations.
- All participating dental schools made changes to their curricula to prepare students for their community-based dental rotations. Changes included adding courses or integrating new content into existing courses, especially on cultural sensitivity, community dentistry, patient management, and communication.
- Applications from, and enrollment of, underrepresented minority students at participating dental schools increased between 2002–03 and 2006–07, excluding Howard University, College of Dentistry, and Meharry Medical College, School of Dentistry, the two historically Black dentals schools:
  - Applications increased by 77 percent, from 1,831 to 3,249.
  - Enrollments increased 54.4 percent, from 90 to 139. As a proportion of the entering class, underrepresented minority students increased from 7.7 percent in 2002–03 to 11.7 percent in 2006–07.
- By contrast, enrollment of underrepresented minority students in all of the non-*Dental Pipeline* schools (excluding the dental schools at Howard University, Meharry Medical College, and the School of Dental Medicine at the University of Puerto Rico) increased by 16 percent (from 281 to 326 students).
- Almost all senior students participated in community rotations.

### Round 2

#### **Overall School Results**

- Key elements of the recruitment programs for underrepresented minority and low-income students were:
  - Summer enrichment and/or post-baccalaureate programs
  - Collaborations within the school’s academic health center and with colleges and universities in the school’s geographic region
  - Strong relationship-building with advisers who work with students interested in the health professions (pre-health advisers) at feeder colleges and universities

- Formal student mentoring programs in collaboration with minority dental organizations
- Admissions committee use of whole file review of applicants
- The four schools focused on community-based dental education implemented comprehensive strategies and operational plans to significantly increase the average number of days that senior dental students spend providing care to underserved patients in community settings. Key elements were:
  - Pre- and post-rotation student seminars that incorporated students’ written reflections on their community experience
  - Effective management reporting systems
  - Course credit awarded for clinical procedures provided at community sites
  - Rotations of two weeks or more at each site

### ***Strengthening Admissions and Establishing Accreditation Standards***

The American Dental Education Association:

- Held a two-day train-the-trainer workshop to assist admissions committees seeking greater student diversity. Admissions officers from 10 dental schools attended and then conducted pilot summer admissions committee workshops at five schools.
  - Deans/directors of admissions interviewed after attending the workshops planned to implement the strategies presented.
- Convened a committee to review accreditation standards related to student diversity. Subsequently, the association’s board recommended to the Commission on Dental Accreditation that a new standard for diversity be included in pre-doctoral standards.
- The Commission on Dental Accreditation approved four new or stronger pre-doctoral standards that together require:
  - Diversity in admission of students, and hiring of staff and faculty
  - Cultural competence in treating diverse patients
  - Clinical experiences in community-based settings

The program’s directors, Allan J. Formicola, DDS, MS, and Howard L. Bailit, DMD, PhD, consider this “an incredible outcome” and noted the importance of the two new standards on diversity and service learning.<sup>6</sup>

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<sup>6</sup> Formicola is dean emeritus at Columbia University College of Dental Medicine and professor emeritus of dentistry in the dental college and the Center for Family and Community Medicine. Until 2005, Bailit was

## ***Creating and Testing a Mentoring Program***

The National Dental Association, the Hispanic Dental Association, and the Society of American Indian Dentists established a Dental Mentorship Council that developed the mentoring program and pilot tested it in three sites. The council also developed a mentoring manual.

## ***Studying the Impact of Community-Based Education on Dental School Finances***

Under a separate RWJF grant,<sup>7</sup> program Co-Director Howard L. Bailit, DMD, PhD, and colleagues examined the financial impact of community-based dental education on dental school finances by comparing senior clinic revenues and expenses in four schools with extensive (50 or more days per year) and four schools with limited (10 or fewer days per year) community-based education programs, and conducting a financial survey of these schools.

In a special 2011 supplement of the *Journal of Dental Education* entitled “Assessing the Impact of Community-Based Education on Dental School Finances,” Bailit et al. concluded:

- “The bottom line is that it is a big gain financially for dental schools to go into the community. Now, not only are existing schools moving into the community as fast as they can, but almost all new schools have a totally different, community-based strategy for educating senior students and residents.”

## **AFTERWARDS**

The *Dental Pipeline Program* ended and the national program office closed on July 30, 2010. Several post-program RWJF grants helped to continue the program’s work:

- A nine-month grant to the American Dental Education Association (which ended in March 2011) expanded the reach of the admissions committee workshops.<sup>8</sup>
- A one-year grant to the National Dental Association (which ended December 2011) continued support for the Dental Mentorship Council.<sup>9</sup>
- An 18-month grant to the University of the Pacific, Arthur A. Dugoni School of Dentistry (ending June 2013) established the Dental Pipeline National Learning

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professor and director of the Health Policy Center at the University of Connecticut Health Center. He has since become an emeritus professor.

<sup>7</sup> Grant ID# 65299 to Hospital for Special Care (New Britain, Conn.) for \$300,000 between December 2008 and October 2011.

<sup>8</sup> ID# 67773 for \$55,668

<sup>9</sup> ID# 68329 for \$50,075

Institute,<sup>10</sup> which is working with the American Dental Education Association to disseminate best practices from the *Dental Pipeline Program* through:

- Development of a curriculum
- Enrollment of 10 dental school/community partnerships in a series of seminars, webinars, case study discussions; and review of financial, operational, and organizational data for future planning

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<sup>10</sup> ID# 69546 for \$650,000