Chapter 5.2

The Pipeline Program at Howard University College of Dentistry


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This chapter presents an overview of the Pipeline, Profession, and Practice: Community-Based Dental Education program as it was conducted at Howard University College of Dentistry from 2002 to 2007. Pipeline programs, sponsored by the Robert Wood Johnson Foundation and The California Endowment, were carried out at select dental schools across the United States during this period, with the objectives of increasing recruitment and retention of underrepresented minority/low-income (URM/LI) students, revising the curriculum to prepare more culturally competent dentists, and expanding community-based clinical experiences; these objectives are directed toward the ultimate goal of increasing access to dental care for underserved populations. The case studies on each school are written by National Evaluation Team investigators and are based on multiple data sources and site visits. Table 5.0.1 in the introduction to the fourteen case studies provides a snapshot of Howard University College of Dentistry in comparison with the other schools in the Pipeline evaluation, using a set of uniform measures to characterize the Pipeline dental schools.\(^1\) The evaluation framework and methods used for data collection and analysis are described in Chapters 3 and 4 of this report.\(^2,3\)

After a brief overview of the history of the college and its environment, this chapter summarizes the major outcomes of the college’s Pipeline program in the areas of URM/LI student recruitment, curricular changes, extramural clinical rotations, practice plans of graduating seniors, and health policy reform. Comments on the program written by representatives of the college follow the description of outcomes.

History and Context: The College and Its Environment

The U.S. Congress chartered Howard University in 1867 for students denied equal access to higher educational opportunities. Its faculty includes the largest number of African American scholars in the world, and it is the nation’s largest producer of African Americans with advanced degrees. The Howard University College of Dentistry (HUCD) was founded in 1881, making it the fifth oldest dental school in the United States. It has approximately 100 faculty members and about 300 predoctoral students and forty postgraduate specialty students in pediatric dentistry, orthodontics, oral surgery, and advanced general dentistry.

HUCD is the only dental school in Washington, DC, and one of only two dental schools in the combined Washington, DC–Baltimore, MD, metropolitan area. HUCD provides about 14,000 adult and 13,500 child patient visits in the District and the DC metro area each year. The District has a high uninsured rate
and has consistently ranked at the bottom for many key health status indicators. It has a high prevalence of treatable and often preventable diseases including dental disease. HUCD is geographically located in Ward 1 of the District’s eight wards. At the start of the Pipeline project, Ward 1 was one of the most populous and poorest wards in the District. Fifty-two percent of Ward 1’s population is African American and 23 percent is Hispanic. As the Pipeline program began, there was only one functional school-based dental clinic in the Ward 1 area, and many Ward 1 residents looked to HUCD for their primary dental and oral health care services.

**URM/LI Recruitment**

HUCD has always depended heavily on historically black colleges and universities for recruitment. It has loyal alumni involved in recruitment, a large proportion of whom reside in Washington, DC. Tuition is relatively low for a private school; however, available scholarship funds are limited. Recently, HUCD has been losing highly qualified African American students to other dental schools. Furthermore, while there is a large Hispanic population in the DC area, there were only two Hispanic students in the class recruited in 2002–03.

At the beginning of the Pipeline program, some administrators and faculty members were concerned about students with relatively low science scores being recruited to HUCD. The college had depended on pre-enrollment programs to bring students up to standard and offered considerable support and mentoring for enrolled students. Despite this support, some students had dropped out, although alumni suggested the retention problems often had more to do with personal than academic issues. Students were generally quite satisfied with their experiences at Howard.

**Changes in the Recruitment Process**

The Summer Medical and Dental Education Program (SMDEP) may be the most significant change in HUCD’s recruitment/retention process over the course of the Pipeline program. Funded by the Robert Wood Johnson Foundation (RWJF) and focusing on basic science enrichment for URM/LI students, this program allows the medical and dental schools to jointly recruit eighty undergraduate premedical and predental students to the Howard University campus for six weeks. In addition to the SMDEP, HUCD has expanded its recruitment base to include more majority schools along with the historically black colleges and universities that have been its traditional recruiting base. More alumni have been recruited (approximately fifty) to serve as mentors to predental majors at Howard and to establish predental clubs. Mentoring activities are supported by the local chapter of the American Dental Association, the Robert T. Freeman Dental Society (the local chapter of the National Dental Association), and the local chapter of the Hispanic Dental Association.

While HUCD has not stressed long pipeline programs in the past, the college has developed a new program involving 125 sixth graders in the Mills Middle School located in the District; this program includes exposure to dentistry as a career. HUCD has also arranged for high school students to meet dental students and visit dental offices. The academic administrator concludes that the Pipeline program has given impetus to formalizing these recruitment programs at HUCD.

Retention continues to be a problem—mostly in the first two years. Fifteen percent of students drop out by the end of the second year due to grades, finances, or personal problems. Students have the most academic problems with anatomy and biochemistry. Efforts to improve retention include having students take science classes before enrollment, matching behavioral objectives of science courses with questions on board exams, employing better admissions criteria, referring applicants with apparent weaknesses to postbaccalaureate programs for academic reinforcement, and close monitoring of students’ progress in class and referring those with early signs of problems for tutoring. In fact, the percentages of HUCD URM seniors reporting in the American Dental Education Association (ADEA) annual senior surveys that they participated in retention programs “sometimes” or “often” increased from 52 percent in 2003 to 61 percent in 2007.

The students are generally quite satisfied with the recruitment process. In site visit group interviews, they reported coming to Howard because of its location, its being a “black school,” its reputation, the welcoming interviewing experience they had there, and its predoctoral program.

The impression of administration and faculty is that the Pipeline program has resulted in increased emphasis on recruiting Hispanic students.

Table 5.2.1 shows that the total number of URM applicants to Howard has risen from 318 in 2002–03
(pre-Pipeline program) to 568 in 2006–07. However, the number who enrolled actually declined from sixty-one in 2002–03 to fifty-four in 2006–07.

Other Aspects of Recruitment

Administrators report, “Our strengths lie with our alumni support. Our alumni were willing to serve as mentors to predental or other organizations . . . to help expose young people to dentistry, who may have never thought of a career in dentistry.”

The cost of dental education is a major challenge in recruiting URM students, but more support is now available through the RWJF and W.K. Kellogg Foundation and Howard University Trustees scholarships. Another challenge identified by administrators is lack of “adequate personnel to do the recruitment in a timely, regular manner.”

Over the course of the Pipeline program, HUCD has broadened its admissions criteria to include community service and previous involvement in dentistry. An academic administrator stated, “We’re not just looking at the GPAs [grade point averages] and the DAT [Dental Admission Test]. We’re looking at other areas . . . that they have worked as a dental assistant or they have been shadowing [a dentist] for an extended period of time or they’ve done postbac courses. . . . Also emphasized is involvement in community service.”

Since the Pipeline program began, HUCD has served as a host school for the Summer Medical and Dental Education Program (SMDEP). This program provides an educational experience of exceptional quality that strengthens the overall academic preparation of URM, disadvantaged, and low-income students who express interest in admission to medical or dental school. HUCD has now completed its fourth Dental Pipeline Enrichment Program, with eleven junior or senior college students from across the country who have a serious interest in attending dental school.

Another change under the Pipeline program is that HUCD has recruited undergraduate URM students from other universities with Pipeline programs. A recruitment administrator reports that Pipeline personnel from various schools coordinate with each other. Howard dental students, for example, have been recruited “from Connecticut, California, and some from other Pipeline schools.” Didactic faculty members felt, however, that the Pipeline program actually increased the challenge for HUCD to recruit African American students: “We have increased the number of minority students, but that number included Asian Americans, a large number of Africans, and a large number of students from the West Indies. But the number of African American males has decreased over that period of time. We take more minorities, but [Howard’s] mission statement specifically says that we are oriented toward African Americans [and] that’s not what is happening. . . . If you look at all sixteen schools, [the Pipeline program] has probably increased the [nationwide] number of minorities going to dental school, but . . . we [at HUCD] lose some of the top African American students to the other schools.” This academic administrator believes the main reason for losing top African American students is the financial aid and scholarships offered at the majority schools.

Sustainability of Recruitment Efforts

HUCD is a minority institution with a mission and a tradition of recruiting URM students. It will continue to do so after the Pipeline program ends. However, challenges regarding financing the recruitment program, problems in obtaining scholarships, and competition from other schools in recruiting

### Table 5.2.1. URM applicants and enrollees: Howard University College of Dentistry

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<td></td>
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</tr>
<tr>
<td>African American</td>
<td>247</td>
<td>247</td>
<td>397</td>
<td>427</td>
<td>425</td>
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<tr>
<td>Hispanic</td>
<td>68</td>
<td>79</td>
<td>117</td>
<td>109</td>
<td>143</td>
</tr>
<tr>
<td>American Indian</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Total URM</td>
<td>318</td>
<td>331</td>
<td>519</td>
<td>543</td>
<td>568</td>
</tr>
<tr>
<td>Enrollees</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>59</td>
<td>55</td>
<td>52</td>
<td>39</td>
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<tr>
<td>Hispanic</td>
<td>2</td>
<td>9</td>
<td>8</td>
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<tr>
<td>American Indian</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total URM</td>
<td>61</td>
<td>64</td>
<td>61</td>
<td>44</td>
<td>54</td>
</tr>
</tbody>
</table>

Sources: Data from college’s implementation reports for 2003 through 2007.
top URM applicants will influence the quality and composition of each entering class. The academic administrator stressed new efforts to obtain grants to fund recruitment activities and plans to establish a formal postbaccalaureate program. A senior administrator also emphasized HUCD’s ongoing efforts to strengthen ties with nonminority colleges as a pipeline for recruiting URM students.

To sustain recruitment efforts, an academic administrator described a reorganization so the Pipeline program would have the attention of the college’s Office of Academic Affairs, the Office of Admissions, and the faculty by placing the Pipeline manager in a strategic position to interact with each of these three major entities. A senior administrator suggested efforts to nurture predental clubs in the historically black colleges, which is Howard’s major recruiting network, and strengthen ties with the National Dental Association and the Hispanic Dental Association. Another key step to support recruitment is continuing the new SMDEP, which is a joint American Dental Education Association (ADEA)/Association of American Medical Colleges (AAMC) program. A senior administrator reported conversations last year with students who came to this program specifically for medicine but changed to dentistry.

Curricular Changes

At baseline, the Public Health I, II, and III courses at HUCD were all chaired by a single faculty member. This person appeared to be uniquely qualified to chair these courses among faculty members to whom the interviewers were exposed. One other faculty member performed some of the didactic teaching for these courses, and the two together were the only ones who truly bridged the didactic, clinical transfer of cultural competence principles. Initial plans for curriculum revision included expanding and repositioning public health course offerings, with subsequent change aimed at earlier placement in the curriculum.

Faculty members and students tended to perceive themselves as inherently competent in culture issues. They acknowledged a need for bolstering in some areas, however, particularly with respect to Hispanic culture. Students regarded the faculty as widely variable with respect to their modeling of culturally competent behavior. A recent change of deans has given major stakeholders with cultural competence and didactic responsibility renewed optimism that revisions would occur. The senior administrator has been very supportive of curriculum changes and indicated that failing to achieve them was not an option.

The likelihood of curriculum change was enhanced by compatibility with the mission of Howard University, a large URM student body and faculty roster, administrative support, and identified revenue resources. However, sustainability of the entire Pipeline project will depend on identifying new sources of revenue.

Curriculum Changes Over the Course of the Pipeline Program

Effective August 2003, the HUCD was reorganized, combining multiple departments into three major departments: Diagnostic, Preventive, and Restorative. Oral and maxillofacial surgery remained as a separate department. Community dentistry, formerly its own department, is now part of Restorative. Two instructors coordinate the community dentistry courses: one chairs behavioral dentistry, and the other chairs the remaining three courses in this department.

Table 5.2.2 shows the community dentistry courses, which now have public health dentistry divided into three components: behavioral dentistry, ethics, and economics and practice management. This table also shows the progression of community dentistry courses through the Pipeline years and the hours devoted to each class.

Significant Community-Based Courses and Programs

Table 5.2.3 summarizes the three community-based dentistry courses highlighted by HUCD as demonstrating curriculum change and/or innovative content, teaching, and evaluation methods.

The Mentorship Program is one important aspect of the emerging community-based dental education (CBDE) effort. Sophomores and juniors spend six hours one day a week for six weeks with private practitioners. Juniors are more involved in direct provision of service; their experience counts toward their required extramural rotation days.

Another major curriculum change was executed to move the preclinical laboratory courses forward so fourth-year students are “100% clinically ready” and third-year students can take on increasing responsibility for patient care. This move of lab courses to the first two years prepares students for rotations
more quickly. While not always enthusiastic, most faculty members have been accepting of the change. The administration is attempting to improve student retention by extending the four-year program to five years for students who need extra time to successfully complete the curriculum.

Numerous faculty members point to the opening of the Jeter Clinic as a major contributor to student development of cultural competence and sensitivity. This on-campus evening clinic is run by faculty volunteers with students rotating through and providing a range of services to a diverse population (apparently viewed as having a more diverse population than that of the regular school clinic). Because of the school’s mission and the diversity of its faculty and student body, a common view is held among the clinical faculty that developing cultural competence is built into the everyday activities of the school and that more formal didactic efforts and integration of cultural competence into courses outside of community dentistry might not be necessary. While the faculty is generally supportive of the Pipeline effort, some do not seem to see it as particularly relevant to their own activities.

Table 5.2.4 shows the proportion of graduating seniors in the ADEA senior surveys from 2003 and 2007 who view the time devoted to cultural competence and social and behavioral determinants of

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<thead>
<tr>
<th>Course Title</th>
<th>Hours</th>
<th>Year</th>
<th>Course Title</th>
<th>Hours</th>
<th>Year</th>
</tr>
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<tbody>
<tr>
<td>Public Health Dentistry I, II, III</td>
<td>44</td>
<td>D3</td>
<td>Public Health Dentistry I, II, III</td>
<td>44</td>
<td>D3</td>
</tr>
<tr>
<td>Behavioral Dentistry</td>
<td>14</td>
<td>D3</td>
<td>Behavioral Dentistry</td>
<td>14</td>
<td>D2</td>
</tr>
<tr>
<td>Ethics</td>
<td>28</td>
<td>D3</td>
<td>Economics and Practice Management</td>
<td>56</td>
<td>D4</td>
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<tr>
<td>(two-semester course)</td>
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Sources: Baseline Courses data from college’s implementation report for 2003. Final Courses data from college’s curriculum checklist submitted to NET in 2007.

Table 5.2.3. Highlighted CBDE courses in 2006–07: Howard University College of Dentistry

Behavioral Dentistry: This course is divided into two sections: the first is designed to expose students to four-handed dentistry, while the second serves as a core didactic course in a changing and evolving behavioral dentistry curriculum. The course’s overall purpose is to provide dental students with an introduction to sociobehavioral aspects of dental practice. Topics include strengthening communication between the dentist and patient and performing culturally competent dentistry. Additionally, a community fieldwork component requires students to participate in a community event and observe/interact with a particular segment of the population. Cultural competence is integrated through the rest of the course through role playing, taking advantage of the various cultures of the students in the class.

Ethics: This course introduces students to ethical and bioethical issues confronting health care providers within the practice setting. The course introduces students to how ethical theory works to help them critically analyze and construct well-reasoned responses to ethical dilemmas. Students refine their critical thinking skills (both verbal and written) as they read, write, discuss, and resolve the case material presented in class. With an emphasis on collaborative dialogue, the course familiarizes students with ethical and legal considerations, patient-provider relationships, professionalism, and the concepts of moral reasoning. The class draws on the diversity of students’ culture in discussing ethical issues.

Public Health Dentistry I, II, and III: Originally structured as three separate courses, Public Health Dentistry was consolidated into one course divided into three parts: I (the health care delivery system), II (special populations and geriatrics), and III (factors directly affecting private and community practice). The course is required and is offered in the second semester of the junior year. The course now emphasizes more cultural competence than at the beginning of the Pipeline program. The course introduces students to a wide variety of issues, ranging from public health to dental practice considerations to ways to communicate with the federal government, as well as the scientific/nutritional aspects of dental care. A heavy emphasis is also placed on dentist-patient communication, diversity issues, and patient management and treatment. A new section was added on peer learning with Hispanic students teaching non-Spanish-speaking classmates, utilizing a consultant who advises on peer learning and methods for outreach to minority populations. In combination with this didactic and experiential course, students are required to participate in twenty community service events.

Sources: Data from college’s CBDE syllabi submitted to NET, 2003 through 2007.

Note: At the final site visit, faculty members selected CBDE courses that reflect substantial change in content and/or teaching/evaluation methods.
health as “appropriate” has increased (although there was a slight drop-off between 2006 and 2007). Still, in discussing cultural competence and appreciation of diversity, students emphasized that their experiences in clinic settings were more influential than their didactic class experiences.

Other Aspects of Curricular Change

The fourth-year students provided a mixed perspective on faculty modeling of culturally competent behavior. One noted, “The professors are very big on chair-side manners, getting to know your patients. . . . They’re very respectful. So I try to mimic that myself and take time to learn the patient and have rapport with that patient.” However, another said, “We do have a course here, Community Dentistry . . . that has been the only pathway to dealing with patients that are diverse. . . . Professors that I’ve worked with in the clinic are very big on chair-side, but I can’t say that they’ve done anything different, in terms of handling a diverse population.” A senior administrator felt that because the HUCD faculty itself is extremely diverse, they are comfortable with modeling this behavior. A clinical faculty member teaching at the main school commented, “Because the culture here of students is so diverse, I think it is easier for them to relate to people of other cultures, because we have students from all over the world. . . . [That] translates very well over into the clinic.”

A senior administrator added, “Since the Pipeline program has been in existence, we have been inundated with [requests from] various groups in the metropolitan Washington, DC, area” to provide care in their communities. A fourth-year student thought more could be done, saying, “We’re getting better, but again, we still need to work at it and find ways to get better at it. We talk a lot about technical things, about paperwork, materials. . . . We can add a lecture or two about being able to deal with those diverse patient populations.”

Some clinical faculty members teaching at the main school lamented the continuing challenges: “We still have a long ways to go. . . . Cultural competence should be included in all the courses, rather than just one or two specific courses. . . . A problem for us, in general, is that we don’t actually know what goes on in the [public health] courses. . . . They don’t have a mechanism to calibrate faculty members on everything that is going on in the school at this time.” An academic administrator described the satellite clinics as a learning center to expose the students earlier to clinical applications and involve them in community activities, but integrating behavioral dentistry, community dentistry, and public health courses is still a challenge.

The academic administrator noted that courses had been moved up in the curriculum to allow the students more time to get ready for their off-site experiences. Members of the Curriculum Committee reported that the Pipeline program has forced them to examine the opportunities and challenges of reorganizing and adjusting the curriculum, exposing students to behavioral dentistry and community dentistry, and increasing involvement in community

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<tbody>
<tr>
<td>Time devoted to cultural competence was</td>
<td>(n=52)</td>
<td>(n=53)</td>
<td>(n=61)</td>
<td>(n=57)</td>
<td>(n=67)</td>
</tr>
<tr>
<td>Inadequate</td>
<td>40%</td>
<td>34%</td>
<td>36%</td>
<td>18%</td>
<td>27%</td>
</tr>
<tr>
<td>Appropriate</td>
<td>56%</td>
<td>62%</td>
<td>61%</td>
<td>77%</td>
<td>67%</td>
</tr>
<tr>
<td>Excessive</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
<td>5%</td>
<td>6%</td>
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| Time devoted to social and behavioral determinants of health was           | (n=52)  | (n=50)  | (n=61)  | (n=57)  | (n=67)  |
| Inadequate                                                                | 37%     | 34%     | 25%     | 21%     | 24%     |
| Appropriate                                                                | 62%     | 64%     | 70%     | 77%     | 73%     |
| Excessive                                                                  | 2%      | 2%      | 5%      | 2%      | 3%      |

Sources: Data from ADEA surveys of dental school seniors. Howard’s response rates (and total number of surveys returned) for the following years are as follows: 2003=77% (n=53); 2004=88% (n=56); 2005=89% (n=62); 2006=68% (n=59); 2007=100% (n=68).

Note: Percentages may not total 100% because of rounding.
service. A clinical teaching faculty member concluded, “Hopefully, this [Pipeline program] will reinforce the need to have the didactic portions of the public health, social dentistry, and behavior/cultural diversity [courses] integrated with the rest of the curriculum.”

Sustainability of Curricular Changes

The academic and senior administrators believe sustainability depends on adding a community-based education course within the clinical dentistry department. A senior administrator referred to “embedding” the Pipeline program and its principal investigator “within the clinical dentistry shell.” Another senior administrator referred to the assistance of the Howard University School of Social Work in developing the curriculum in cultural competence as important to its sustainability. The Curriculum Committee emphasized the importance of National Board scores to sustain the behavioral dentistry/public health component of the curriculum: “We’re basically influenced by our outcomes assessments; Board scores and state boards are markers for success.”

Extramural Clinical Rotations

As part of its goals for the Pipeline program, the HUCD proposed adding targeted services for underserved populations in Ward 1 of the District of Columbia and partnerships with community sites. Dental students were to be evaluated through formal written examinations and clinical proficiency at the community-based centers. The overall goal was for senior dental students to spend sixty days per year on rotation.

Howard’s charter and mission statement support sustainability of a community clinical rotation program. However, at the baseline site visit, HUCD did not have active, approved memoranda of understanding (MOUs) with clinics or dentists with faculty appointments in community settings other than Gage-Eckington Elementary School. Another challenge was the absence of a financial infrastructure to bill patients in community settings. In prior budget cuts, service at the one elementary school had been eliminated for senior students but had been reinstated for the juniors. Thus, at baseline, the senior students had little exposure to the community. Under the Pipeline program, HUCD proposed to recapture and build on a former rotation program to elementary schools and to initiate a program with the Whitman-Walker HIV clinic.

The senior administrators were convinced that Howard’s mission and image with the community required a strong community presence. They believed the community rotations were integral to improving access to care and instilling the values of community service in their students. They were also careful to seek support from local and national professional dental organizations and the District of Columbia Health Department. However, few of the HUCD departments expressed enthusiasm for a community rotation program.

In the 2003 ADEA survey of graduating seniors, Howard’s seniors, compared to seniors in most other Pipeline schools, reported fewer weeks spent during their final year in extramural rotations; were more likely to consider the time spent in extramural rotations to be inadequate; were more likely to report extramural experiences improved their ability to care for racially, ethnically, and culturally diverse groups little or none; and were less likely to report their extramural clinical rotations were positive experiences in their dental education.

Changes in the Clinical Services Program

Table 5.2.5 shows that the number of extramural sites through which students were rotating increased under the Pipeline program from five in 2003 to seventeen in 2007. Contributing to the increase in rotations was the use of private practitioners. Arranging MOUs with extramural sites removed a major stumbling block to extramural rotations. The MOUs were negotiated by the HUCD Pipeline program’s principal investigator and the university’s attorneys, who used the DC Practice Act to enable students to provide services to patients in dentists’ offices under the supervision of the dentists. Three-week summer sessions outside of DC have also been added, with sites from Nevada to Illinois to Jamaica.

A major new rotation experience for students was created through the Evening Clinic (renamed the Jeter Clinic), located in facilities that are on campus but separate from the campus clinic administration. The clinic is run by volunteer faculty dentists who receive referrals from private practitioners. Rev-
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Table 5.2.5. Data on community rotation sites and senior students’ perceptions regarding rotations, by percentage of total respondents at Howard University College of Dentistry

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<tbody>
<tr>
<td>Number of days spent during final year in extramural clinics</td>
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<td>0.5</td>
<td>16.6</td>
<td>17.25</td>
<td>20</td>
</tr>
<tr>
<td>Number of extramural sites</td>
<td>5</td>
<td>7</td>
<td>12</td>
<td>14</td>
<td>17</td>
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<tr>
<td>Q35. Time spent in extramural rotations was (by percent of total)</td>
<td>(n=52)</td>
<td>(n=52)</td>
<td>(n=61)</td>
<td>(n=57)</td>
<td>(n=68)</td>
</tr>
<tr>
<td>Inadequate</td>
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<td>63%</td>
<td>15%</td>
<td>4%</td>
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<tr>
<td>Appropriate</td>
<td>33%</td>
<td>35%</td>
<td>69%</td>
<td>86%</td>
<td>71%</td>
</tr>
<tr>
<td>Excessive</td>
<td>12%</td>
<td>2%</td>
<td>16%</td>
<td>11%</td>
<td>14%</td>
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<td>Q43. Extramural clinical rotations were positive experiences in dental education (by percent of total)</td>
<td>(n=49)</td>
<td>(n=47)</td>
<td>(n=60)</td>
<td>(n=57)</td>
<td>(n=68)</td>
</tr>
<tr>
<td>Adequate</td>
<td>37%</td>
<td>74%</td>
<td>62%</td>
<td>53%</td>
<td>55%</td>
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Q38. How would you rate the quality of care that patients received in extramural clinical rotations? (by percent of total)

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How patients were treated as people

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Sources:
1 Data from college’s interim feedback report in 2005.
3 Data from ADEA surveys of dental school seniors. Howard’s response rates (and total number of surveys returned) for the following years are as follows: 2003=77% (n=53); 2004=88% (n=56); 2005=89% (n=62); 2006=68% (n=59); 2007=100% (n=68).

Note: Percentages may not total 100% because of rounding.

...enues from the Jeter Clinic can be used to support the extramural rotations. Faculty volunteers at the Jeter Clinic do not receive additional income but are given compensatory time off. However, some faculty members expressed hope that additional compensation might be provided to volunteer faculty dentists in the future. Administrators suggest that sustainability of the clinic might also be enhanced by other dentists volunteering who are not HUCD faculty.

Calibration of the community dentists remains an issue, with full-time faculty hoping to calibrate the community dentists using the “Howard Way.” At the same time, the community dentists are using different techniques that may be efficient and good quality and thus valuable for the students to learn. HUCD has a protocol for establishing external rotations, but when some sites were established, they did not meet that protocol and had to be terminated.

The students remain, on the whole, enthusiastic about the external rotations because the opportunities to learn everyday practice more independently and to see more and more diverse patients are very appealing to them. Their major concerns were that at some sites (particularly local ones) they were not given enough to do or were too restricted in what they were allowed to do and they felt that some practices of community dentists were questionable. Students qualified these concerns...
by noting that these were new relationships in the process of being established, so they might improve over time. Senior students responding to the ADEA survey reported that their time spent in extramural rotations increased significantly between 2003 and 2007. The proportion who indicated the time spent in external rotations was inadequate declined from 56 percent to 15 percent, while the proportion describing the time as appropriate increased from 33 percent to 71 percent (Table 5.2.5).

Core Community Rotations

Table 5.2.5 shows the average number of days that senior students spend in extramural clinics increased from none in 2003 to twenty in 2007. However, there have been challenges in giving all students a consistent amount of time in the rotations. An academic administrator noted, “Despite our efforts to have the community-based rotations integrated into the clinic schedule for the students . . . the current structure doesn’t really accommodate that number of days for students to be off-site. . . . Some students are not rotated at all, simply because the administrators see it as something that is going to interfere with what they have to do [on campus] or because a mechanism that will accommodate all senior students in the off-site rotation schedule while meeting on-site rotation requirements has not been developed.” The extramural clinic director reported that student rotation schedules vary: some students spend two or three days a week for several weeks, while others spend only one to two days.

Other Aspects of Community Rotations

A community clinic director saw that one of the advantages in the rotations is exposing students to many different options prior to graduation, which helps guide them to their ultimate career path in dentistry. Students see the operations and business side of other facilities and private practices, including daily operations, and they are exposed to a more diverse patient population than they would see in the academic setting. An HUCD clinical faculty member suggested the evening clinic also gives students the opportunity to interface with patients in a different way than they do in the general clinic. In the evening clinic, students see patients, develop treatment plans, and execute treatments. The clinical faculty in general felt the biggest problem was the unpredictability of the faculty supervisory staff and non-faculty dentists at the evening clinic. They felt this problem was correctable by hiring enough administrative support, allowing faculty members more flexibility in work schedules, and improving compensation.

HUCD has faced a number of organizational challenges in implementing these student rotations, such as reaching satisfactory affiliation agreements with the sites, restructuring the college’s clinic schedule to accommodate students’ off-site rotations, and gaining faculty and administrative buy-in to facilitate curricular revisions. Other issues concern the students, such as compliance with all aspects of rotations, reporting to off-site rotations, and submission of data collection and evaluation forms. One senior administrator indicated the challenge was too many rotations. Another senior administrator identified lack of calibration as a problem with using alumni, which resulted in cutting back on the use of alumni practitioners.

Clinical faculty members at the main school clinic identified the scheduling of senior external rotations as the most challenging issue. “We do most of our outside [senior] rotations when the seniors are scheduled for school clinics,” said one. “It would probably be more beneficial if we could schedule seniors for extramural rotations when juniors are scheduled in the school clinics so that seniors don’t miss time from the school clinics. . . . The uneven scheduling is chaotic, with some students rotating for a full semester, while others started rotations in a later semester, and everyone trying to complete rotations at the end of the year.”

Sustainability of the Community-Based Program

The senior administration at HUCD is convinced that the extramural rotation program is sustainable because it conforms to the mission of the university. HUCD does not have access to revenues generated by patient care, but the extramural clinic program is a line item in the university president’s budget and the president is committed to it. Further, a senior administrator notes, “We have half a million dollars allocated to continue to support the extramural program after Pipeline.”

The administration is concerned about productivity in the school clinics when the fourth-year students are out on rotation. However, HUCD has been able to compensate by increasing the work
of the third-year students in the clinics. Since it is increasingly difficult to get faculty members to volunteer for the evening clinic, the administration has decided to hire new faculty for the evening clinic. Administrators have also discussed the possibility of changing the entire clinic schedule so that some faculty members scheduled for the evening clinic would not start work at the college until two in the afternoon.

Practice Plans of Graduating Seniors

A number of responses during the final site visit suggest the general university mission, the university’s environment, and the College of Dentistry curriculum, as well as the kind of students selected to attend the college, promote learning about opportunities to serve the underserved. The academic administrator noted that, from the first day students come to campus, the mission of the college and information about where its graduates practice are emphasized. Throughout each year, the importance of serving or working in underserved areas is “woven into the fabric of the curriculum.” Many students have loans that mandate they practice in Dental Health Professional Shortage Areas (DHPSAs), so these students, from the very beginning, have plans to serve the underserved. It is not at all unusual to find HUCD graduates going back into the communities and doing pro bono work for patients.

A fourth-year student enthusiastically commented on HUCD’s community service: “I think Howard is real good at that. We definitely go out into the community a lot. We have our health fairs. . . . We have the Give Kids a Smile Day. So we interact with the community a whole lot, learning how to treat them better.” A clinical faculty member teaching at the main school endorsed the importance of the environment but thought the school should do more: “It would be great if we had a placement office here that handled all of it, but we don’t.”

Students thought the main barriers to practicing in underserved settings were financial: “It just doesn’t seem feasible that you can make anywhere near the amount of money doing a lot of . . . public health and . . . treatment for people who are Medicaid-eligible. . . . The students may have the heart to do it, but then they realize they can’t afford to do it.” Students also suggested that serving the underserved narrows one’s practice to very basic dentistry (dentures, crowns, extractions, and fillings) that Medicaid is going to pay for. Some faculty members agreed with the students about financial barriers. “Yes, the major barrier is finances because students graduate from dental school owing a lot of money,” said one. “So it is impractical to tell a student to go work in a low-income community where you aren’t going to make as much money, when you still have these great big loans.” Other faculty members disagreed, feeling the students were misinformed. They provided examples of students who have worked in settings providing care to the underserved and receiving a postgraduate degree while they were getting paid. Faculty and some students suggested the main facilitator is loan forgiveness for practicing in underserved settings for the first couple of years.

The proportion of HUCD graduates who expect to serve 25 percent or more minority patients (43 percent in 2007) or intend to work in a community clinic or in government service (10 percent in 2007) generally exceeds those proportions in most other dental schools (Figure 5.2.1). Still, further increasing the number from HUCD and other schools serving disadvantaged populations is necessary to reduce the great disparities in access to oral health care.

School administrators had suggestions concerning the curriculum and student selection that could increase the number of dental school graduates serving disadvantaged populations. One said, “Keep them exposed to underserved communities; make care to disadvantaged populations an integral part of the curriculum; the more students that you bring in from disadvantaged backgrounds, the more students will go back to the community; and select students who have commitments to the community.” The fourth-year students emphasized funding. One pointed out, “When students come out of dental school, most are poor. . . . They need to get on their feet. They’re not really going to be able to do it while serving underserved people without better funding for that care.”

A clinical faculty member suggested developing a national office to centralize information about different programs around the country, so the faculty will be able to make information available to students on a regular basis. “I think the misconception students must have is if I work with a poor person, I can’t make a decent living,” this faculty member said. “That is totally incorrect, but they don’t have the information to counter those thoughts.”
Health Policy Reform

Concerning HUCD policy involvement, a senior administrator said, “There has been fantastic involvement. A city councilman has provided $100,000 to support our partnership with ‘So Others May Eat.’ Youngsters in the program are able to visit the Capitol. We are also involved in securing support for HCOP [Health Careers Opportunity Program] and postbac programs. We teach our students to take the lead as advocates.”

Collaboration among dental schools became an important policy objective of the Pipeline program. Howard is participating in collaborative policy reform through a Regional Recruitment Program with five other eastern U.S. Pipeline schools and Columbia University. Howard hosted the college science advisors conference for the Regional Recruitment Program in 2007. An academic administrator noted, “I’ve had some talks with the admissions director at the University of Maryland. Being in close proximity to Howard, Maryland is very interested in working with us on some recruitment efforts.”

Concerning what more dental schools could do collaboratively, an academic administrator replied, “Continue to publicize the success of Pipeline: the recruitment/retention efforts, both California Endowment schools as well as the East Coast collaborative.

What I think has been a major success of the Pipeline is the collaborative efforts of the Pipeline schools themselves.”

Major Conclusions

Some final thoughts about Howard University College of Dentistry’s Pipeline program in the three main areas of effort are as follows.

URM/LI Recruitment. Short- and longer-term recruitment programs have intensified over the course of the Pipeline program, with a resultant increase in URM applicants but an actual decrease in enrollment. HUCD as a minority institution with a mission to educate African Americans faces another dilemma: if the college continues to expand its attention to other minorities such as Hispanics, its enrollment of African Americans might actually suffer unless there is an overall increase in class size.

Curricular Revisions. A major curricular revision has been to move lab courses forward into the first two years, so junior and senior students are increasingly ready for patient responsibility and extramural experiences. The community-based dental education didactic courses utilize multiple and creative approaches to teaching cultural competence, but integrating cultural competence into the rest of the curriculum continues to be a challenge.
Extramural Clinical Rotations. The number of extramural sites and the days students spend in those sites increased substantially during the Pipeline program, though not approaching the sixty-day goal for seniors. A major new rotational experience for the students is through the Jeter Clinic, an evening clinic that has facilities on campus but is run separately from the school. Major challenges for the rotational program include a shortage of administrative personnel, calibration of community sites, dependence on volunteer faculty supervision, and scheduling problems. The HUCD administration believes sustainability will be enhanced by integrating the Pipeline program into the clinical dentistry program, thus making it part of the mainstream of dental education at the college.

REFERENCES

Comments from Howard University College of Dentistry
Pipeline Principal Investigator, Donna Grant-Mills, D.D.S.

The evaluation case study of the dental Pipeline program at Howard University (HU) as presented by the National Evaluation Team (NET) reviewed qualitative and quantitative data pertaining to recruitment, curricular revisions, clinical services, and practice plans of senior dental students, as well as sustainability of the Pipeline program and involvement in health policy initiatives. The following comments reflect the perspectives of key personnel at HU on these categories evaluated by the NET and its conclusions, as well as an assessment of best practices and lessons learned from designing and executing a Pipeline program and suggestions for the field to advance community-based dental education (CBDE).

URM/LI Student Recruitment

In addition to participating in the RWJF Summer Medical and Dental Education Program, the Pipeline program enabled HU to achieve the goal of launching a two-week Summer Enrichment Program for predental majors, focusing on the intricacies of dental education and the admissions process. This program continued throughout the implementation years. By the end of the Pipeline program, a total of sixty scholars had completed the enrichment program. Feedback reports and tracking of scholars indicate that thirteen are enrolled in dental school and forty-seven are in the pipeline preparing for dental school in various programs, including postbaccalaureate, public health, and science enrichment.

Curricular Revisions

The Curriculum Committee and course coordinators of community dentistry have been instrumental in making the necessary changes to move courses further forward in the curriculum to better prepare students for their off-site clinical experiences and expand on topics in the area of cultural competence.

Clinical Services

Some of the major challenges encountered during the period of the project centered on the need to make structural adjustments to incorporate the RWJF community-based dental education program into the existing administration of the dental school and the supporting facilities of the university in general.

Practice Plans of Senior Dental Students

It is agreed at HU that today’s graduating dentists are burdened with high levels of debt. Cultural diversity training is essential in all institutions of higher education, but it is critical in health affairs training. As a historically black dental school, our students have become more cognizant of the importance
of service-learning and cultural diversity training. They have benefited tremendously because of the changes in the curriculum initiated by the Pipeline program. Nevertheless, even if some of our students return to their communities to practice, they will have challenges maintaining the business aspect of their practices if they attempt to allocate 30 percent of their patient pool to underserved patients. It is now urgent for ADEA and the American Dental Association, along with private foundations like RWJF and the W.K. Kellogg Foundation, to continue to join together to promote and campaign for resources to offer incentives for URM dentists to serve the underserved and to provide resources for URM dentists to receive advanced education loan repayments directly linked to serving the underserved.

Lessons Learned and Suggestions to Advance CBDE

As a historically black university, Howard has long been a gateway for African Americans and other minorities seeking professional educational opportunities. Its location in an underserved community in the Washington, DC, metropolitan area provides an ideal environment for the Pipeline project to be of invaluable service in preparing dental students to practice in diverse settings and for the delivery of comprehensive oral health care to the public.

A major outcome of the national Pipeline initiative has been an increase in the number of URMs applying to and entering dental school. This is due in part to the collaborative efforts made by Pipeline and non-Pipeline schools, Kellogg, ADEA, and other professional organizations to implement innovative recruitment strategies that place particular emphasis on preparing candidates for the admissions process and encouraging a more nurturing, supportive, and embracing dental school environment that promotes diversity.

Some of the most important lessons we learned at Howard centered on infrastructure and institutional buy-in. While the project staff, with the support of the administration, utilized the existing organizational framework within the college to operate the program, it was soon realized that, to be successful, much work had to be done to strengthen the management and financial infrastructure as well as to communicate the value of service-learning outside the walls of the dental school. The project staff learned that reaching out to dental schools with experience in these areas provided us with new ways of solving problems and reaching goals. As a result, the project has had a significant impact on the Howard community by creating a new model for delivering care to the public and producing graduates with a greater capacity and willingness to work in underserved areas.