Increasing Dental Student Diversity Through the UNLV Dental Prospects Program


Abstract: Adequately providing for the health care of the growing minority population in the United States requires increased racial and ethnic diversity of the health care workforce. Long-term diversity in the dental profession depends on a more diverse student population in dental schools. The University of Nevada, Las Vegas School of Dental Medicine’s (UNLV SDM) Dental Prospects Club is a predental education program that has increased the number of underrepresented minority and disadvantaged students in the school by concentrating on outreach, recruitment, and retention initiatives. The approaches used by the club members and faculty advisors to increase the number of underrepresented minority students recruited to and enrolled in the UNLV SDM are discussed in this report. Also described are the strategies, methods, internal infrastructure, and organizational support used to increase the number of underrepresented minority students at the school.

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Racial and ethnic minority populations are growing at a faster rate than the majority white population in the United States. For many minority Americans, increasingly limited access to dental care has or is becoming a critical concern. Health care professionals must be prepared to meet the needs that will be created by this impending increase in racial/ethnic minority populations. While Hispanics, African Americans, and Native Americans currently make up approximately 30 percent of the general population and will be an estimated 50 percent by 2050, these groups comprised only 12.7 percent of U.S. dental schools’ enrollment in 2010. These statistics, coupled with the fact that only 9 percent of the 181,000 currently practicing dentists in the United States are Hispanic, African American, or Native American, has provided the impetus for increased efforts to recruit, educate, and graduate a more diverse population of oral health care providers.

It has been well documented that patients prefer dentists who are of the same race/ethnicity and that minority dentists tend to treat more minority patients than do nonminority dentists. Further, African American patients are more likely to receive care from African American dentists than from white dentists. These dentist-patient relationships have also been shown to have improved dental patients’ communication with their dentists and satisfaction with care received. Furthermore, the need for increasing the number of minority dentists is supported by research findings that minority patients are more likely to see dentists on a regular basis who share their language and culture. Additionally, racial and ethnic minority providers are more likely to practice in minority and medically underserved communities.

Conversely, a poor cultural match between minority patients and their providers can result in behaviors and attitudes that lead to mistrust, misunderstanding of provider instructions, poor interactions with the health care system, or simply a lack of knowledge of how to best use health care services. Thus, an important determinant of patient satisfaction and access to care is consistency and stability of the doctor-patient relationship. Finally, in the health care provider preparation process, a diverse classroom offers a richer learning experience and exposure to a variety of viewpoints, perspectives, and ideas. Thus, in higher education, a fundamental goal for excellence has become student diversity.

Two prominent programs recently or currently being conducted in medical and dental schools throughout the country that are addressing the issues of underrepresented minority (URM) enrollments are
the Pipeline, Profession, and Practice: Community-Based Dental Education program and the Summer Medical and Dental Education Program (SMDEP). Both programs have the major objective of increasing the enrollment of URM and low-income students into medical or dental schools. These programs are designed to provide participants with an academic foundation needed to excel in medical and dental schools, expose participants to clinical health care settings, develop participants’ test-taking skills, and familiarize participants with medical and dental school application processes.14 This article describes one dental school’s program that has the same objectives as these national efforts but has taken a somewhat different approach and reports on the program’s impact. The University of Nevada, Las Vegas School of Dental Medicine’s (UNLV SDM) Dental Prospects Club is a predental education program that has increased the number of URM and disadvantaged students in the UNLV SDM by concentrating on outreach, recruitment, and retention initiatives.

Aligning the Dental Prospects Program with UNLV Admissions Practices

The UNLV SDM Dental Prospects Club was initiated by a group of undergraduate minority students from low- or middle-income backgrounds. Many of the students could be classified as nontraditional, economically disadvantaged, or first generation college students and had marginal grade point averages (GPAs), science grades, or Dental Admission Test (DAT) scores. An additional challenge for these students was the fact that many had to work full-time (a minimum of thirty-two hours per week) while attending college. Because of this, traditional assessment methods used by dental school admissions personnel were viewed by these students as a serious challenge, especially since these students were not considered academically competitive by their pre-health professions faculty advisors.

Many of these students faced a further difficulty in that many of their parents were unemployed due to the recent economic downturn. This led to extreme financial difficulties that forced the students to be the family breadwinners in order to support younger siblings. As a result of these hardships, the students joined together and sought out dental faculty members willing to advise, counsel, and provide direction to them in their quest for admission into dental school. These faculty advisors became committed to helping Dental Prospects members in their pursuit of dental school admission.

According to Formicola et al., dental schools can increase their URM student applications and enrollments by managing four critical areas: 1) effective outreach and recruitment programs; 2) effective admission practices to achieve greater student diversity; 3) the role of the school environment in promoting greater student diversity; and 4) the role of enrichment programs to strengthen the academic pipeline.11 The strategic development of the Dental Prospects program was aligned with these recommendations. One of the first challenges was to create an admissions process that took into consideration the Dental Prospects students’ needs. Also, given that these students were employed full-time, curriculum guidance required individual counseling strategies. Dental school faculty advisors needed to work collaboratively with the undergraduate pre-health faculty advisors to structure a postbaccalaureate action program that took into consideration the students’ work schedules while making it possible for them to improve their GPAs to a level considered competitive in the admissions process. In some instances, students were counseled to quit their full-time, generally low-paying jobs and accept student loans for one to two years, so that they could better focus on the postbaccalaureate science courses recommended by the counselor to raise their GPAs.

Following an admissions workshop on whole-file review conducted by representatives of the American Dental Education Association, criteria were implemented that followed recommendations described by Drs. Price and Grant-Mills.15 These included the evaluation of a wide range of noncognitive indicators (e.g., leadership, ability to sustain academic achievement with competing priorities, volunteerism, communication, social background, and disadvantaged status) in addition to the GPAs and DAT scores traditionally considered in admissions decisions. As a result, all student applications to the UNLV School of Dental Medicine are now viewed holistically rather than in the traditional process in which primary emphasis was placed on an applicant’s GPA and DAT scores. With the admissions committee’s incorporation of a whole-file review process, student applications are now viewed in a more comprehensive manner that includes recognition of student participation in full-time employment, service activities, and community outreach programs.
and letters of recommendation on personal character, as well as academic achievement. Since Dental Prospects members are not required to report the acceptance or rejection of their applications to dental schools, the total number who applied and were accepted or denied is not fully known. However, in the 2012 UNLV SDM entering class, thirteen of the students enrolled were former Dental Prospects members.

**Dental Prospects Program Description**

Each academic year, the Dental Prospects Club students arrive at their first meeting, pay a nominal membership fee, and commit to continuing their college education. It should be noted that there is no obligation for the students to seek to enter the dental profession. What is considered more important is providing students with the opportunity to ascertain whether or not they can commit to pursuing a lengthy and costly dental degree. Many of the students come from disadvantaged backgrounds, are concerned about how to finance a dental education, and may find it difficult to qualify for educational grants or loans (e.g., they do not have a credit history or have a history of bad credit). The purpose of the program is for students to make an informed choice concerning a possible career in dental medicine. Sometimes the club members who graduate with a bachelor’s degree opt for career choices other than dentistry.

In the UNLV Dental Prospects Club, the college students must meet no formal requirements to participate. The students are not required to disclose their GPAs, bring letters of recommendation, or submit information on any other factor that could be a hurdle to their admission into dental school. However, once the students are admitted into the Dental Prospects program, dental faculty advisors assess the students’ specific deficiencies. These are then addressed, to the extent possible, through monthly meetings organized around general student needs, including such areas as test-taking for the DAT, interviewing skills, and noncognitive variables (e.g., volunteerism, communication, social background, disadvantaged status). Students lacking competitive science grades are provided assistance in their upper-division or post-baccalaureate elective courses to improve their GPAs. The Dental Prospects Club also includes instruction in basic sciences, medical and dental career development, learning skills, clinical experiences, financial planning, and admissions requirements. Additionally, a mentoring program with currently enrolled dental students and inclusion in full-day experiential dental school activities have been established.

Introducing predental students to activities of the dental school follows embedded cognition theory, which argues that cognitive development is a result of the interaction of cognition with bodily movement and environmental factors. Following this theory, Dental Prospects Club members shadow students in the UNLV School of Dental Medicine for an entire day to get a sense of what it feels like to be an enrolled dental student. During the morning session, they attend all first-year dental students’ basic science courses; in the afternoon session, they observe third- and fourth-year dental students in the clinic. In addition, Dental Prospects students participate in weekend preclinical dental courses (on such topics as dental anatomy, removable prosthodontics, and fixed prosthodontics), designed to help these students better grasp subject areas beyond the biological sciences. These courses create a semblance of the environment that enrolled dental students experience.

In this engagement of the program’s students with dental students’ preclinical and clinical activities, the UNLV Dental Prospects program takes a different approach from those pipeline programs that focus on academic didactic courses, which may not allow undergraduate students to perceive themselves as practicing clinicians. The UNLV program’s embedded cognition approach means that students are immersed in the dental student environment both in the physical space of the dental school and in courses in which current dental students are enrolled. The didactic courses (one hour each) are taught in the dental school auditorium, and the hands-on courses (approximately two hours each) are taught in the dental school clinic every month. Further, unlike some pipeline programs, the Dental Prospects program operates throughout the entire academic year.

Another special feature of the Dental Prospects program is the inclusion of two accredited dental assisting courses taught by College of Southern Nevada faculty members. The predental students take these courses during their yearlong program, and the courses are taught through lecture, assigned readings, laboratory, and clinical practice. In the fall semester, Dental Prospects members enroll in a dental materials class, in which they are introduced to the composition, characteristics, physical properties, and use of materials commonly used in dental practices. Included in this course are laboratory
practices in manipulating dental materials. In the second course, taught in the spring semester, Dental Prospects students begin to develop the dexterity needed to assist in four- and six-handed dentistry along with developing proper posture and form. Positive communication, sterilization, disinfection, and neatness are stressed, along with knowledge of instruments, dental operative procedures, manipulation of cements, bases, and impression materials.

Along with classes and preclinical programs, Dental Prospects students also are given the opportunity to participate in as many outreach clinical experiences as possible. These UNLV SDM-sponsored activities are located in various community settings and take place throughout the year. The Dental Prospects students have the opportunity to work alongside faculty and dental student volunteers who are charting oral health screenings, applying fluoride varnish, providing oral health education and instruction, etc. This part of the program engages students in real-life service experiences in underserved communities similar to those in which they may practice after graduation. The cumulative engagement of Dental Prospects students in these many and varied activities encourages them to develop the mental processes necessary to become successful dental students. In this embedded cognition process, the students’ mental and physical experiences help them visualize themselves as practicing dentists as well as future dental students. This process is reinforced by providing each Dental Prospects member his or her own set of embroidered (UNLV Dental Prospects) scrubs to wear in all clinical and community outreach activities. Previous to their involvement in the program, taking on such a role as a health professional may not have seemed possible to many of these students.

Often, the Dental Prospects predental students enter the program with low self-esteem and low self-confidence. Immersion in the yearlong experience builds confidence in many of them and creates change in their personal belief systems. This turnaround is reflected in the following statement by a former Dental Prospects student who is currently completing her first year of dental school: “There were so many students that have been told ‘you cannot ever get into dental school’ or ‘you are the most desperate person I have ever met’ and other negative comments. Ironically, all these students have been accepted.”

The inclusion of a mentoring program for the Dental Prospects students is vital to the overall strategic success of the program. These students have been oftentimes labeled as underachievers.

Evidence has shown peer-to-peer counseling to be very effective and important for socioeconomically disadvantaged students who are frequently suspicious and/or distrustful of institutions, faculty, and administrators. In our program, past Dental Prospects students now enrolled in the UNLV SDM are given the opportunity to share their experiences with current Dental Prospects students. This sharing helps to break down barriers and raises the self-esteem and self-confidence of the Dental Prospects students when they see that their mentors came from similar backgrounds to their own and are now successfully accomplishing their goals. The opportunity to sit and participate, shoulder-to-shoulder, with dental student role models in the classroom and the clinic creates positive reinforcement and motivation for the Dental Prospects students to pursue their dreams of becoming dentists. In the words of one Dental Prospects student who became a UNLV SDM student in fall 2012, “The club was extremely helpful in providing me the experience and information I needed. Also, it gave me confidence and confirmed my desire to be a dentist.”

Program Outcomes and Challenges

Pre-health faculty advisors typically consider a student’s marginal academic achievement to be a major barrier for admission to dental school, but low self-esteem, low self-confidence, the inability to envision oneself as a practicing dentist or even a dental student, and the need to work to support one’s family are challenges that often affect a prospective dental student’s grades. Programs to help URM students become competitive applicants to dental school thus must address a range of obstacles. The Dental Prospects program at UNLV SDM thus not only helps predental students to improve their GPAs to meet dental schools’ admissions standards but helps them to believe they can be academically competitive in order to ultimately become a dentist. Once they accept that possibility, they become more motivated to increase their hours of study, improve their test-taking skills, take additional postbaccalaureate courses, and pursue courses and instruction that will lead to improved performance overall.

Through the embedded cognition process of working side-by-side with faculty members and dental students, many of these students’ self-esteem grew stronger, enabling them to envision themselves as
successful students and future successful practicing dentists. With creative scheduling by predental faculty advisors, students learned how to manage their schedules and successfully complete the predental Dental Prospects program. As a result, many Dental Prospects students have succeeded in being admitted to UNLV SDM. This, in turn, is helping the UNLV SDM achieve its goal of increasing the diversity of its student body (Table 1).

Conclusion

The Dental Prospects program at the UNLV School of Dental Medicine is a year-round predental program embedded within an accredited dental school. The more involved and active the Dental Prospects students became, the more the program has grown. Since 2005, four Dental Prospects students have graduated from the UNLV SDM, two of whom are currently practicing in underserved communities of Southern Nevada. Currently, twenty-one Dental Prospects program graduates are enrolled in the UNLV SDM. As a result, the UNLV SDM has become more highly regarded by faculty, dental students, and staff as a positive environment for minority and disadvantaged students.

Our experience with this program leads us to make the following recommendations. First, more programs that provide early and frequent exposure to dentistry and dental programs need to be established. These can provide essential opportunities for URM undergraduate students with initially marginal qualifications as they consider pursuing a career in dentistry. Second, since there is a significant gap in these students’ knowledge about career opportunities in dentistry and how to prepare for them, programs need to be developed that can help students better understand the necessary preparation requirements and admissions processes. Third, since student-to-student mentoring has been shown to be a very effective tool for counseling minority and socioeconomically disadvantaged students, similar programs should be considered by other institutions as a way of reaching these students as potential dental school candidates. Finally, to help students better understand the dental school environment and to see themselves as future practicing dentists, embedded cognition programs

Table 1. Race/ethnicity of U.S. and Nevada population, U.S. dental and UNLV undergraduate and dental enrollees, and Dental Prospects members, by percentage of total

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>African American/ Black</th>
<th>Hispanic/ Latino</th>
<th>Native American/ Alaska Native</th>
<th>Asian</th>
<th>Two or More Races</th>
<th>Other/ Unknown</th>
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<td>U.S. population, 2010</td>
<td>63.7%</td>
<td>12.6%</td>
<td>16.3%</td>
<td>0.9%</td>
<td>5.0%</td>
<td>2.9%</td>
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<td>Nevada population, 2010</td>
<td>66.2%</td>
<td>8.1%</td>
<td>26.5%</td>
<td>1.2%</td>
<td>7.8%</td>
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<td>12.0%</td>
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<td>(N=2,700,551)</td>
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<td>U.S. dental school enrollees, 2010</td>
<td>58.1%</td>
<td>5.3%</td>
<td>7.2%</td>
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<td>UNLV undergraduate enrollment, 2011</td>
<td>42.8%</td>
<td>7.9%</td>
<td>19.0%</td>
<td>0.6%</td>
<td>18.7%</td>
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<td>(N=22,138)</td>
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<td>UNLV SDM students, 2011</td>
<td>61.2%</td>
<td>1.5%</td>
<td>7.1%</td>
<td>0.9%</td>
<td>20.0%</td>
<td>1.3%</td>
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<td>(N=325)</td>
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<td>Dental Prospects members, 2011</td>
<td>26.5%</td>
<td>5.7%</td>
<td>13.2%</td>
<td>0</td>
<td>28.3%</td>
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<td>(N=53)</td>
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Note: Percentages may not total 100% because of rounding and the addition of two or more categories. Asian category includes Native Hawaiian and Pacific Islander.

Sources:
5. University of Nevada, Las Vegas, School of Dental Medicine, Admissions Department.
6. University of Nevada, Las Vegas, School of Dental Medicine, Dental Prospects Club.
that include predental students in didactic, clinical, and community outreach experiences need to be established for minority and underserved student populations.

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REFERENCES