
The San Francisco State Dental Post Baccalaureate Reapplication Program

Harvey A. Brody, D.D.S.; Barry S. Rothman, Ph.D.

Abstract: San Francisco State University, in cooperation with the University of California School of Dentistry and the University of Pacific Dugoni School of Dentistry, provides a post-baccalaureate program to assist economically and/or educationally disadvantaged students gain admission to dental school. Individuals selected for the program have expressed interest in serving patients with limited access to care. Most have applied to and been denied admission to dental school, while the remainder will be applying during the next application cycle. Participants enroll in either a 12month or 18 month program, depending on the extent of the need to improve their grade point average. The program, which emphasizes cooperation and mutual respect, features an intense preparatory course for the DAT, learning skills workshops, seminars and personalized assistance with the application process.

Dr Barry S. Rothman is Professor of Biology at San Francisco State University and Director of the SFSU/UCSF/Pacific Dental Reapplicant Program. Dr. Brody is Professor Emeritus at UCSF and Co-Director the Program. Direct correspondence and requests for reprints to: Dr. Barry Rothman, Department of Biology, San Francisco State University, 1600 Holloway, San Francisco, California 94132.

Key words: *post baccalaureate, underrepresented students, minority, and underserved.*

San Francisco State University, working in cooperation with the University of California, San Francisco, School of Dentistry and the University of the Pacific Dugoni School of Dentistry has created the SFSU/UCSF/Pacific Post-Baccalaureate Program to address both disparities in access to care and the lack of minority representation in the dental professions. The goals of the Program are to increase the number of students from disadvantaged backgrounds gaining acceptance into a US dental school within one year after completion of the program; and to select students who desire to work in underserved areas of California.

Our Program is based on the assumption that our society as a whole, and the dental profession in California, are best served by a culturally diverse group of providers. Currently, there is a significant shortage of underrepresented minorities (URM) in the dental profession. Furthermore, it is clear that indigent and minority populations have only limited access to care when compared to individuals with moderate or higher personal income. The shortage of disadvantaged and minority dentists in California contributes to the lack of available oral health care, and limits exposure to successful role models for young people. Nationally, African American, Hispanic, and Native Americans in aggregate represent less than 4.5 % of the 142,000 practicing civilian dentists. Statewide, the shortage of minority and disadvantaged dental personnel is comparable to the US as a whole. Less than 2.5% of the 5,100 dentists in the San Francisco metropolitan area are African American or Hispanic, and less than 1% are from Native American background (1).

Increasing the number of disadvantaged dentists is important in any strategy to improve the oral health care of the people of California. A number of dental schools now have programs to facilitate the entry of students into dental school. However, the majority of these efforts target K-12 students, undergraduates through the provision of summer mentorship programs. These programs, of critical importance in any lasting solution, have the obvious disadvantage of low yield and long lag-times to realize the benefits.

Background

In controlled studies, professionals from underrepresented minorities are more likely than their non-minority counterparts to care for medically underserved populations. In addition, Black and Hispanic health professionals have been shown to practice in areas where the percentage of Black and Hispanic residents were several times as high as in areas where others practiced. Other studies conclude that minority and women health professionals are more likely to serve minority, poor and Medicaid populations (2).

The importance of identifying a culturally diverse group of students at a young age and then motivating them to study science and consider a career in the health professions is a critical strategy. Traditional methods of recruitment have not been successful in enrolling adequate numbers of students from dental/medically underserved communities. In 1985 URM students (African American, Native American, Hispanic) represented 9.85% of the total dental school population. In 2008 the percentage of URM students was 10.5% (3).

Many students lack preparation in one or more areas that admissions committees review when selecting applicants. Students who are unsuccessful in gaining entry either give up their dream of being a dentist or spend additional time in advanced course work. Unfortunately, this extra time is frequently spent without guidance or direction. Our SFSU/UCSF/Pacific Dental Post-Baccalaureate Program is designed to identify these students and assist them in gaining admission to dental school by providing the resources and guidance needed to successfully apply or reapply, attend dental school, and serve their community.

Student Selection

San Francisco State University, UCSF and Pacific collaborate in outreach efforts to develop a pool of candidates from all areas of California, and a smaller pool from outside the State. These outreach efforts include programs and activities conducted by the two dental schools throughout the year: dental career conferences, applicant information days, campus visits and inclusion of flyers with letters of denial.

The criteria for acceptance to the program include: completion of an undergraduate degree from an accredited college or university; an overall GPA of 2.5, DAT average of 14 (PAT and Academic); documented evidence of academically and/or economically disadvantaged background, and a demonstrated desire to work in communities with limited accesses to dental health care. An individual is considered disadvantaged if they 1) come from an environment that has inhibited the individual from obtaining the knowledge, skill, and ability to enroll in and graduate from a health professions school, or 2) comes from a family with annual income below a level based on low-income thresholds according to family size, published by the U.S. Bureau of the Census in the Federal Register, and adjusted annually for changes in the Consumer Price Index.

In accordance with California State Proposition 209 race and ethnicity are not a consideration in the selection of applicants. However, both federal and state law permits outreach and recruitment activities that emphasize the targeting of traditionally underrepresented minorities (African Americans, Hispanics, and Native Americans). Each applicant submits a concise statement detailing the following: present academic status, personal or educational hardships overcome, rationale for consideration of disadvantaged status, anticipated benefits from the program, and plans for the location and type of dental practice in the future. Applicants also submit a recent copy of their AADS application, three letters of recommendation, college transcripts, a copy of a denial letter from a dental school, and preferably, a copy of a letter inviting them to an interview from the preceding year. There are no fees associated with the selection and admission process.

The issues of economic and/or educational disadvantage and willingness to serve in dental shortage areas are heavily weighted in the final selection process. Each applicant's personal statement, letters of recommendation, and the interview are used to evaluate these subjective factors.

The program currently has 14 dental school reapplicants and 8 first-time dental school applicants. Of these 22 students, 7 are enrolled in the 12 month program and 15 are enrolled in the 18 month program. In May 2009, a new cohort of 22 students will be selected, with a June 8, 2009 start date.

Program Schedule and Elements

The program requires a full-time commitment from the student. Students are selected for either a 12-month or 18-month program (Appendix A, Figures 1 and 2). The students enrolled in the 18 month track often have a low GPA and require 3 semesters of course work to adequately strengthen their academic background and profile.

- **DAT Review:** The primary program activity for the first two months (summer) is tutoring and practice sessions in preparation for the Dental Admission Test (DAT). The program staff, along with tutors from SF State University works with the formal DAT instructors to provide in depth instruction.
 - **Academic Skills Enhancement:** All students are enrolled in a 2 unit formal course (Sci. 0695 Health Professionals Colloquium) each semester. The learning skills component of the UCSF Post-Baccalaureate Program is designed to include three elements: the initial assessment, study skills workshops and individual consultations with students. Individual assessments are completed during the first two weeks of the program. Each student takes a mock DAT, complete a learning style questionnaire, writes an in-class essay, takes a timed silent reading comprehension test and indicates their learning style preference. The results of the assessment are analyzed by the learning skill specialist and integrated with other academic information. The learning skill specialist and program leadership then met with each student to discuss the assessment results, to identify learning strengths and weaknesses, and to plan specific study skill support for the remainder of the program. The study skill workshops for the fall semester are based on student need, preference and program demands. Typical workshops include time management, memory skills, test-taking skills, and stress reduction. The student schedule meetings with the learning skill specialist and other program staff to address individual concerns.
 - **Academic Course Work:** Students enroll in 12-15 units of upper division science courses at San Francisco State. The academic course work is personalized, taking into consideration coursed previously taken, past academic performance and class availability. In general, we suggest that students repeat courses where they have received a c minus grade. The dental schools want to see the students take at least 3 'hard science' courses in a semester and obtain grades of A and occasional B. (WE COULD LIST TYPICAL COURSES WE RECOMMEND AS YOU HAVE LISTED ON YOUR WEB PAGE.
 - **Clinical Clerkships/Community Involvement:** Each student will participate in a clinical clerkship based at UCSF or UOP from September-June. The rotations are personalized according to the schedules of the dental school mentor and that of the student. On average the student will spend 2 half days per week in the dental school under the direction of their mentor. The experiences, observational in design, will be selected with the advice of the admission offices from the two dental schools.
 - **PowerPoint Presentation:** In late December, all participants in the SFSU/UCSF/Pacific Dental Re applicant Program gave 10 minute power point presentations followed by a 5 minute questions and answer period. The audience includes faculty from the dental schools and admission officers. Program faculty quantitatively evaluate the presentations on the basis of six categories: 1) Delivery, 2) Illustrations, 3) Understanding of Topic, 4) Clarity & Organization, 5) Interest Created, and 6) Fielding of Questions.
-

-
- **Application Support:** The Post Baccalaureate students participate in workshops on preparing a personal statement. The students each make several revisions of their statements, reviewing each draft with the class and the program staff.
 - **Interview Skills Support:** The program staff presents workshops on interviewing. The students participate in mock interviews in front of the class and practice interviews with the staff. Videotaping is then used as a tool to assist each student in self evaluation. Body language and voice projection is emphasized during review of their videotapes. Each student will go through multiple mock interviews, including one with someone not associated with the program.
 - **Selection of Schools:** The program staff provides guidance for each student in selecting dental schools that match their academic profile. This will improve their chance of obtaining an interview and eventual admission.
 - **Advocacy:** The Program Director and co director contact dental schools, including the five California schools, to inform admission officers about the program, introduce the students and answer questions the schools might have about an individual student or the program. Once the students are admitted to a dental school, our staff alert the students as to the availability of student services at their new institutions. Although the primary purpose of this project is to assist our students in gaining admission to dental school, we know that the students throughout their dental school experience will apply the study skills learned in our program.

Administration

San Francisco State University and its Department of Biology is the site for the program. The U.S. News and World Report in its 2003 rankings for campus diversity placed SF State's faculty and students in the top 10 in the nation. They stated that both the faculty and students represent an extraordinary range of backgrounds, interests and points of view.

☒ SF State ranks 16th nationwide in awarding undergraduate degrees to minorities according to Diverse Issues in Higher Education, with 47 percent of its 2005-2006 baccalaureate degrees earned by members of underrepresented minority groups.

☒ Among the nation's top institutions in attracting and supporting Hispanic students, SF State was a Hispanic Outlook in Higher Education "Publisher's Pick" for 2002 and 2003, cited for offering excellent educational opportunities for Hispanic students.

☒ SF State ranks 10th nationwide in undergraduate degrees awarded to Asian Americans.

SF State draws students from around the globe to study on campus. The University enrolls more international students than any other master's degree-granting institution in the United States, according to the Institute of International Education.

Minority students flourish at SF State in part because faculty reflects the diversity of California. Non-white faculty members comprise 43 percent of the University's tenure/tenure-track faculty. In addition, the number of female tenured/tenure-track faculty has increased steadily since 1988, with women now comprising 52 percent of the tenure/tenure-track faculty. The College of Ethnic Studies is the first and only such academic program in the United States offering undergraduate degrees in black studies, Asian American studies and La Raza studies. The college's graduates go to top doctoral programs, including those at Yale, Stanford and the University of California. SF State's pioneering commitment to community and civic engagement is prevalent throughout the curriculum. Nearly 300 courses combine academic study with community involvement, and our location in a center of business, technology and culture provides a laboratory for community-service projects, work-study opportunities and internships.

The University has been named by Princeton Review one of 81 "Colleges with a Conscience," and is classified as one of the Carnegie Foundation's "Community Engagement" institutions.

The dental post baccalaureate program is one of a series of programs offered by SFSU to students in varied stages of their education and pursuit of a career in health. The program has established linkages between the various students groups on campus so that there are shared resources and a significant community of students. These students, who make up a powerful support system, are also used as tutors and mentors. The students range in their stage of matriculation from those just starting college and with only a vague interest in the health professions to others who have completed all the requirements and are ready to apply for admission. Finally, there is an interesting cohort of students returning to college after working in a non-medical field who now want to take the requirements for admission to a health profession. They are mature and successful individuals who are now starting to pursue a career in health.

The Dental Post-Bacc program utilizes a steering committee with representation from the University of California San Francisco, The Dugoni School of Dentistry at University of Pacific, and San Francisco State University. This policy making group meets quarterly and provides input and direction for all aspects of the program. This includes student selection, the identification and assignment of mentors, and program evaluation. The Director and co-director of the post baccalaureate program are based at SFSU and have responsibility for day-to-day management and overall program direction.

The Dental Schools provide space for the clerkships, and SFSU provides office space, administrative support, faculty time, and supplies for the program. The California Endowment provides \$90,000 towards the annual budget of \$170,000. The program is in the second year of a three-year grant and has applied for funds from several foundations.

Program staff

The individual in charge of health career advising directs the program, devoting 50% time to the dental reapplication program and the remainder of his time to other health related career activities at SFSU. The co-director (50%), a DDS and professor emeritus from UCSF, is responsible for day to day supervision of the students and implementation of the program. A 100% program assistant, works directly with the director and an co- director in the development and implementation of the program. Consultants are used as learning skills specialists, tutors, counselors, and educational specialists. The learning skill specialist (.3FTE) provides consultation to the program and offers both workshops and individual counseling.

Program Goals and Accomplishments

1. The program has developed the following primary objectives and outcomes:
 2. The students will improve their DAT scores in all categories and achieve minimum scores of 16.
 3. The students will develop a personal statement that accurately reflects their personal and educational experiences and desire to care for the under served.
 4. The students will apply to dental schools whose student body profile is consistent with that of the applicants.
 5. The students will be invited to submit secondary applications
-

-
6. The students will be invited for interviews.
 7. Eighty five percent (85%) of the students will be selected to attend one or more dental schools.
 8. Eighty per cent (80%) of those attending dental school will practice in under served areas.
 9. The students will enroll in 10-15 units of upper division science courses in the fall and spring semester and obtain a 3.5 GPA
 10. The students will participate in clinical clerkships to expand their knowledge of dentistry.
 11. The students will participate in community base volunteer efforts during the Post Baccalaureate year.
 12. The students will participate in a dental nomenclature, anatomy, and morphology waxing class.

All of the primary objectives outlined above are being met.

Evaluation

A key program goal is: “The students will improve their DAT scores in all categories and achieve minimum scores of 16.” The average improvement in each of the DAT categories for the students having completed the program is shown below.

DAT Performance: Pre and Post DAT Prep Course.
(n=90)

	Academic Average	PAT	Quant Reasoning	Reading Comp	Biology	General Chem.	Organic Chem.	General Science
Pre prep course	15	15	13	16	16	15	15	15
Post prep course	19	18	17	18	19	19	19	18

The over all evaluation plan will include post baccalaureate graduates in our evaluation strategy. The following sub-populations have been identified: students currently in dental school; students who recently completed dental school; residents/graduate students; practicing dentists; students who did not go on to dental school or did not finish dental school.

Students will be contacted by telephone and/or email and informed of the program plans to collect data. The next stage of data collection will occur in the form of a written survey. A web site will be set up specifically for tracking the students and the graduates can complete the survey on line. The nature of the survey questions completed by each participant will be based on what stage the individual is in; students who are in dental school at the time of the survey will complete questions that differ from questions completed by practicing dentists. Individual student files are maintained and include personal background data, grades, and performance on standardized evaluation tools (administered by a learning skills expert), and pre- and post test dental aptitude test (DAT) scores. The student's performance in dental school, their ultimate practice location, and the profile of their patients will be of critical importance.

The University of California School of Dentistry initiated the program as a pilot project in 1998/99. San Francisco State University assumed responsibility for the program in 2007 and established the consortium including UCSF and UOP. Of the 91 students (THIS NUMBER MAY BE WRONG) graduating from the Post Baccalaureate program, 96 % have gained admission to dental school. Ninety four percent of those admitted to dental school have graduated with their class. Sixty individuals have graduated from dental school and been in practice for 2 or more years. The practice pattern of these 60 graduates is as follows: 75% spend more than half of their time caring for under served populations; 25% are working in clinics that serve the indigent and qualify for loan repayment programs; 8 graduates are teaching in dental schools.

Anticipated Changes

The current budget crisis in the State of California is having a profound effect on our program. Budget cuts have resulted in a reduction in the courses offered by the University. This is making it increasingly difficult for our students to complete the program activities in a timely manner. In addition, the costs of tuition and related expenses have a significant and negative impact on our student's ability to participate in the post baccalaureate program. This project is in the second year of initial funding from the California Endowment. Although Endowment funding does not meet all program costs, it goes a long way to supporting our efforts. The Endowment has undertaken a strategic planning process that is focusing on community and regional programs. We are in discussions with the Endowment as to how the Post baccalaureate program fits with the new vision of the endowment.

In addition, the SFSU led post baccalaureate program has recently initiated a conversation with the leadership at UCSF to pursue additional support to offset the budget cuts imposed by the State of California. Finally, the Post Baccalaureate program is submitting grants to local foundations with a mission to increase minorities in the workforce and increase access to care for the under served. The program has secured funding to support additional professors and open new sections of the classes the dental schools have recommended for our students. This includes courses such as anatomy, biochemistry, physiology, and microbiology.

The program will be adding additional clinical laboratory courses for the students to take during the spring semester. This year the dental morphology course will be expanded from 8 weeks to a full semester. Recent graduates of our program, now first and second year dental students, have reported that this type of course would be of great help to them as they enter the school labs during their first year of dental school.

Conclusions

The SFSU/UCSF/Pacific Dental Re applicant Program provides academic support and caring guidance for economically and/or educationally disadvantaged participants who have not been successful in gaining entry to a US dental school.

The program has been successful in meeting its primary goal of assisting economically and/ or educationally disadvantaged students to be invited for interviews, submit secondary applications, and in a significant percentage of cases, gain admission to dental school. Central to any success we enjoy is the clearly defined values and sense of a community we have established. The SFSU/UCSF/UOP Post Baccalaureate Program prides itself on the core values of cooperation, mutual support, and respect.

The program has developed an administrative model that utilizes students enrolled in the various health related programs offered by San Francisco State University to assist in program implementation. This is

cost effective, contributes to the desired sense of community, and provides the students a unique leadership experience. The program design as described has been effective in achieving program objectives related to test taking skills, academic performance, and preparation of a strong application to dental school.

References:

1. Valachovic RW, Weaver RG, Sinkford JC, Haden NK. Trends in dentistry and dental education. J Dent Educ 2001;65:539-61.
2. Komaromy M, Grumbach K, Drake M, Vranizan K, Lurie N, Keane D, Bindman AB. The role of black and Hispanic physicians in providing health care for underserved populations. N Engl J Med.1996 May 16;334(20):1305-10.
3. American Association of Dental Schools. Opportunities for Minority Students in the United States Dental Schools. Washington, DC: American Association of Dental Schools, 2002.

Appendix A

SFSU/UCSF/UOP Post Baccalaureate Programs Timeline

Figure 1 : 12 month program

SUMMER	FALL	SPRING	SUMMER
<p>(8 weeks) <i>DAT Prep</i> <i>Skills assessment</i></p>	<p><i>Course work</i> <i>Preceptors</i> <i>Colloquium</i> <i>Personal statement</i> <i>Interview practice</i></p>	<p><i>Course work</i> <i>Preceptors</i> <i>Colloquium</i> <i>Dental- Morphology</i></p>	
<p><i>Apply to dental school</i> •</p>	<p><i>Power point presentation</i> •</p>	<p><i>Acceptance</i> •</p>	<p><i>Start dental school</i> •</p>

Figure 2:18 month program

SUMMER	FALL	SPRING	SUMMER	FALL	SPRING	SUMMER
(4 weeks) Orientation Academic prep	<i>Course work Preceptors Colloquium</i> <i>Power point Presentation •</i>	<i>Course work Preceptors Colloquium Personal statement Interview practice</i>	(8 weeks) <i>DAT Prep Skills assessment</i> <i>Apply to dental school •</i>	<i>Courses Colloquium</i> <i>Acceptance •</i>	<i>Courses Morphology</i>	<i>Start Dental School •</i>