



EDUCATING THE PRACTICE-READY DENTIST

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ABSTRACT

The mission of the University of the Pacific, Arthur A. Dugoni School of Dentistry is to graduate competent beginning dentists in a humanistic environment. As the first American dental school to incorporate competency-based education, it takes very seriously the understanding that competency means having the skills, understanding, and supporting values to begin independent practice. Competency is defined by the demands of dental practice, not by what professors know. The university's mission statement is to "provide a superior, student-centered learning experience integrating liberal arts and professional education, and prepare individuals for lasting achievement and responsible leadership in their careers and communities."

Because dental practice is changing, the curriculum at Pacific changes to remain in step. The sidebar enumerates a number of the ways dental practice differs now from even a few years ago (**Sidebar**).

This article will review some of the changes and challenges faced by the University of the Pacific, Arthur A. Dugoni School of Dentistry in preparing graduates for tomorrow's dental practice. Today's graduates need to be prepared for the changing landscape of practice in the future. That is why it is critical to graduate practice-ready dentists.

The changes in the field are complex and comprehensive. Not only are cavity preparations different, so are the materials used to complete restorations. Patients want new procedures, and some are able to pay for extensive cases, while others find basic care slipping further out of reach. Patients have more to say about what goes in their mouths; so do third parties. The treatment options for any oral condition have multiplied, and patients with special needs and polypharmacy are seeking mainstream care. Educational debt is now more than \$120,000 nationally, significantly higher for private as opposed to state-supported schools, and for every \$1 students borrow for school, they borrow \$1.50 to start their practice. Dentists increasingly work for other dentists. They need to be savvy about business from the start.

Being competent to begin practice is a greater challenge today than at any time in the past. In the 1950s and 1960s, three-quarters of a dentist's work time was devoted to restorative dentistry and that fell to just under one-half by the 1970s and 1980s. During this time, other disciplines such as endodontics, periodontics, diagnosis, and preventive treatment more than doubled. Surveys of Pacific graduates during the 1980s to the 1990s support this information, as they indicated that about one-third of the time and income in the dentist's office comes from diagnosis and prevention.¹ At the same time, recent graduates reported that the least remunerative part of practice, the part generating the smallest income to time ratio, was elective procedures.

Clinical Competence

The total curriculum hours at Pacific are 92 percent of the national average, despite the fact that students complete a four-year program in 36 months. The clinical hours are actually slightly more



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than the national average, and students rank fifth or sixth among American dental schools in total (fee-adjusted) productivity. The comprehensive patient care clinical model ensures that students learn patient management as well as technical skills.

Students are expected to show readiness to practice by means of a series of competency evaluations and test cases throughout their clinical career. In addition to these evaluations, the average student will complete 60 complete examinations, 50 periodontal procedures, 140 surfaces of operative, 18 fixed units, 10 pieces of removable, 10 root canal procedures, and 40 surgical procedures.

The students are also exposed to most of the latest developments and changes in the practice of dentistry so

they may function at a high level when placed in the community. They are using laptops with electronic records including digital radiography, photography, and educational programs such as CASEY. There is an esthetic clinic and students also have the opportunity to treat patients in more advanced procedures such as implants and Invisalign.

Practice Management

The curriculum in dental management sciences extends through all years of the curriculum. Modules on the art and science of communication and patient management are introduced in the first year in the "Introduction to Clinic" course. An intensive, seminar-based course on ethics with guest practicing dentists at every session is scheduled during the second year.

Many of today's current topics: discrimination, patient and dentist autonomy, reporting requirements regarding child abuse and gross and negligent treatment, advertising, informed consent, and dual relationships are introduced. In the senior year, courses in dental law and dental practice are presented. In the practice management course, students are required to develop a business plan for opening and operating a solo dental practice. Demographic and economic information are required. A course in critical thinking has been introduced to equip graduates to be able to evaluate research and the science behind the marketing of dental products.

The course on dental practice runs for six months during the senior year and includes several topics and projects directed at helping students succeed in the practice of dentistry whether in private solo practice, military service, or public health. Topics covered in this course include communication, staff management, financial management, and operations. In the most recent survey of seniors, a national questionnaire administered to graduating students across the country, 27 percent felt that they were not prepared for practice management.² Because of this data, Pacific dental students are given this two-quarter course and they are also asked to do several projects like writing an office philosophy and mission statement, creating an updated curriculum vitae, writing a personal budget, writing a business plan, including all of the financial forecasts, such as the pro-forma income statement. Students are learning about balance sheets and beginning to understand what it takes to manage a dental operation. At Pacific, 4 percent feel unprepared in practice management.

This training in practice management prepares graduates for the economic realities of dentistry. In a recent article in the *Journal of the California Dental Association*, it was reported that

Ways Dental Practice Differs Now From Even a Few Years Ago

- Reduced public funding for all health care, including dentistry
- Increased cost of health care
- Public demand for esthetic care
- Increased numbers of the U.S. population with limited or no access to health care
- The explosion of clinical and translated science and the need to integrate into the delivery of dental care
- Diversity of the U.S. population, lack of diversity within the health care professions
- Need for the integration and expansion of resources for clinical and translational research
- The need for better evidence regarding the benefits, risks, and costs of alternative oral health procedures
- Alternative dental delivery systems
- Integration of foreign-trained professionals into the U.S. health care delivery system
- The training, use and integration of auxiliaries, particularly dental auxiliaries, into the delivery system
- Increased cost of dental education and the decrease of qualified faculty
- The supply and distribution of the dental work force
- The increasing annual net income of dentists

there is no relationship between educational debt of Pacific graduates and unusual practice profiles that might be related to overtreatment.³

Leadership

Part of the mission statement at Pacific speaks to the importance of leadership. All professions involve some degree of autonomy and personal responsibility. Dentistry is one of the few that is built on a model of individual leadership in one's practice and collective leadership through organized dentistry.

Students are enrolled in several clinical programs that judge their technical competency and also are graded on patient management and productivity along with clinical judgment. These grades are given through an evaluation of overall management of patient care, continuity, proper follow up, communication, productivity, etc. Each student class is divided into four groups with a group practice administrator who oversees all of their clinical activities and a team of generalists who work with the specialist faculty in overseeing the treatment of patients in their group. In this way, students have a closer relationship with their attending faculty mentors.

Leadership is a topic that is learned outside of the formal curriculum. Students will enter the program with a variety of skills, but they are all exposed to the fact that they will be expected to fill a leadership role at some point in their career. The support of student government is strong with the associate dean for Administration as the main adviser. The students are actively involved in various activities throughout their program in school and they are also strong leaders outside in a local and national setting. Some recent examples have included:

- American Student Dental Association speaker of the house,
- American Student Dental

Association administrative extern,

- American Student Dental Association national delegate of the year,

- American Student Dental Association editor-in-chief,

- Seventeen students participating in American Student Dental Association Lobby Day,

- Student member of California Dental Association 1201K holding company,

- Students presenting at national meetings, such the Hinman, and

- Students winning top three positions in California Dental Association and national research competitions.

ties such as screenings, presentations and educational sessions for children, families and senior citizens in the San Francisco Bay Area.

SCOPE's objectives as stated in their mission are to:

- Organize and implement student-initiated projects designed to improve the students' knowledge and experience in serving the diverse community members and their oral health needs,

- Promote involvement of students, residents, dental school faculty, dental school alumni, and community dentists in oral health community service projects,

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Learning Community Involvement

Professionals serve. The most noteworthy of these activities for teaching service at Pacific is the community outreach group called SCOPE. The student-run community outreach program at Pacific was started in 1993 with the help of a small group of students, staff, and faculty who were interested in giving back to the community and making that a part of their professional development. There were a few health fairs for children with the focus being on educating the public in proper oral care. The Student Community Outreach for Public Education program is a student-run organization at the University of Pacific, Arthur A. Dugoni School of Dentistry in San Francisco. The mission is to involve students and faculty in oral health projects directed toward community needs. Today, students take an active role in selecting and organizing activi-

- Establish a peer-mentoring system at the dental school for students to lead, prepare and to continue outreach projects year after year,

- Provide disease prevention, oral health education, screening, and preventive services to underserved members of the San Francisco Bay Area community, and

- Emphasize the life-long role of dental professionals in the promotion of oral health at both the individual and community level.

SCOPE also helps foster a sense of community health awareness and civic pride in Pacific dental students, a characteristic that will follow them through graduation into private practice. Students are also enrolled in a course during their third year that includes more than 20 extramural rotations to expose them to a more diverse group of patients and communities. These rotations also expose students to different techniques and shorter

appointments. Students complete these rotations and perform a reflective exercise and participate in pre- and postrotation seminars to help process and internalize the learning experiences.

Pacific students, according to the ADEA's survey of seniors, value their extramural experiences and believe they affect practice intentions. They are one-third to two-thirds as likely, compared to dental students nationally, to rate their extramural rotations as poor in quality or to find problems with the quality of care provided there. They are 10 percent more likely to strongly agree that access is a major problem for patients and feel prepared and willing to treat diverse patient populations.

Ready for an Ever-Expanding Profession

The challenges facing dentistry are expanding at an ever-increasing rate. In

today's world, learning cannot stop at the competency level which is achieved at graduation. If anything, learning has been found to be a continuous process. Progression to the proficient and expert levels will have to take place in a largely self-directed learning environment after graduating from dental school. We must, in the future, develop a system after dental school based upon curriculum, competencies, and measured outcomes, which can become the basis for continued competency and quality assurance. Learning paths and programs after graduation will become just as important as curriculum in dental school for this lifelong process we call "continuous professional development."

The challenge for dental education is to evaluate and foresee these trends and then translate this into curriculum to prepare the graduate to operate and be

successful in this changing environment. The professional of the future must be prepared to identify, analyze, and internalize changes in the profession. **CDA**

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