A Predoctoral Clinical Geriatric Dentistry Rotation at the University of the Pacific School of Dentistry

Elisa M. Chávez, D.D.S.; Eugene E. LaBarre, D.M.D., M.S.

Abstract: Predoctoral dental students from University of the Pacific School of Dentistry provide initial and yearly dental evaluations for participants of On Lok Senior Health Services on site at On Lok centers. Student dentists also complete some dental procedures including denture fabrication, adjustments and repairs, hard and soft relines, scaling/root planing, polishing, and limited restorative treatments. A wide range of age-prevalent oral conditions such as candidiasis and xerostomia are identified and treated or managed. Students may also be called upon to present patient needs weekly to a member of the interdisciplinary team for discussion. Students periodically review instructions and devices for oral health care with the On Lok staff. The program is intended to be mutually beneficial to the participants of On Lok and Pacific student dentists. While the majority of comprehensive and emergency services are provided by On Lok staff dentists and contract specialists, the student dentist program has broadened the scope of the oral health program at On Lok and has been well integrated with the other day services. Meanwhile, Pacific students gain experience identifying and managing the complex social, economic, and health needs of frail elders in San Francisco.

Dr. Chávez is Assistant Professor and Dr. LaBarre is Associate Professor and Chair—both in the Department of Removable Prosthodontics, University of the Pacific School of Dentistry. Direct correspondence and requests for reprints to Dr. Elisa M. Chávez, Department of Removable Prosthodontics, University of the Pacific School of Dentistry, 2155 Webster Street, San Francisco, CA 94115; 415-929-3387 phone; 415-929-6654 fax; echavez@pacific.edu.

Key words: dentistry, geriatrics, curriculum, clinical, outreach

Submitted for publication 11/17/03; accepted 2/2/04

The population of individuals over sixty-five is growing rapidly and expected to comprise 20 percent of the U.S. population by the year 2030 compared to their 12.4 percent in 2000. Currently, as many as 30 percent of elders may be unable to visit dental offices independently due to medical, physical, financial, or social issues. The California Commission on Aging held a series of hearings and meetings and produced a Statement of Findings for the state on Senior Related Oral Health Issues in April 2003. A few of their findings included the following:

- Seniors have a 300 percent higher rate of cavities than children.
- There is a lack of effective self-care or caregiver assistance with oral care.
- About 14 percent of community-dwelling elderly are considered “frail” with chronic conditions that create major limitations in mobility.
- In nursing homes, up to 70 percent of the residents have unmet oral needs.
- There is a lack of dental providers available to treat seniors who have low incomes.
- There is a lack of adequate training of oral health providers to treat this population.

The status of predoctoral education in geriatric dentistry in U.S. dental schools has been tracked since the 1970s. While geriatric dentistry has been broadly incorporated into curricula, 2001 surveys indicated that clinical experiences in geriatric dentistry have not kept up with increased didactic education. There is also increasing interest in providing students in the health professions with opportunities to experience practice in the “real world” through service learning. Competencies put forth by the Commission on Dental Accreditation and the American Dental Education Association include managing diverse patient populations in diverse settings. The evolution of the partnership between the University of the Pacific School of Dentistry and On Lok Senior Health Services is offered here as a model for creating and maintaining a clinical geriatric dentistry experience.
Developing the Collaboration Plan

The initial idea of creating an outreach rotation in geriatrics originated from other removable prosthodontics extramural experiences for senior students at Pacific, along with a desire for students to see a segment of aged patients who weren’t likely to come to the dental school. However, there were multiple limitations: finding time within the curriculum that would not interfere with regularly scheduled classes and clinics, economic restraints on the school and potential extramural clinics, and balancing patient needs with student capabilities. There was a need for Pacific and any partnering institution to utilize their existing resources to serve individual and institutional needs without seeking additional funding streams.

On Lok Senior Health Services was identified as a potential partner. On Lok began in San Francisco’s Chinatown in 1971 as a day health program for seniors. It has since become a national model for providing quality, cost-efficient, comprehensive services including specialty and primary medical services, as well as acute and long-term care including comprehensive health, home health, and social services. Interdisciplinary health care teams coordinate all services with a focus on maintaining participant autonomy, independence, and ability to live in the community as long as possible. The mean age of On Lok participants treated in 2001 and 2002 was eighty-three. The participants have an average of seven medical conditions with the most common being disorders of the nervous system and sense organs, the circulatory system, and cognitive disorders. Depending on the activity, 80-100 percent of the participants require assistance with instrumental activities of daily living. As many as 75 percent or more require assistance with bathing, dressing, toileting, transferring, grooming, and walking, and up to 40 percent require assistance with feeding. Impaired expressive or receptive communication is found in 23-55 percent of participants. This group of patients is clearly not the standard dental school patient population.

Given its reputation for providing excellent health and supportive services including dentistry for the aged in San Francisco, Pacific submitted an email of interest to the On Lok medical director. In response, a meeting was set to define the school’s needs for the students and On Lok’s program needs and determine if both could be served with the available resources from each institution. In further discussions with the medical director, On Lok staff dentists and advisors, and Pacific’s associate dean of clinical services, it became clear that this opportunity could be a true clinical geriatric experience for the students. Important objectives could be achieved through the proposed collaborations: 1) the addition of the rotation at On Lok would facilitate the provision of dental services for the frail participants served by On Lok; 2) students would review the comprehensive health needs and dental treatment planning issues for this frail population; and 3) students would be exposed to a model of interdisciplinary care in the unique setting created by On Lok.

It was also decided that senior students would be best suited to participate in this rotation because they would have already received much of their didactic instruction in geriatrics and management of medically compromised patients and would have some basic clinical competency. Students could provide dental care within their capabilities, but the availability of On Lok staff dentists, physicians, and contract specialists (such as private oral and maxillofacial surgeons also contracting with On Lok) would ensure the provision of comprehensive treatment for the patients and there would be no issues of unmet emergency needs.

Prior to submitting the final proposal to On Lok’s and Pacific’s administration, the educational goals of the program were identified (see Table 1). On Lok also had an objective for the student program to provide comprehensive dental exams for all new participants and yearly re-evaluations for all currently enrolled participants. Pacific agreed that once those needs were met, students could also provide limited dental services within the scope of their abilities. In this way patients would not be exposed to long appointments with inexperienced providers, and students would have the opportunity to encounter a broader range of management issues during their rotation. Students would also receive background information about On Lok and its model of care to reinforce the idea that geriatrics requires a team approach and to highlight some of the barriers to health care for this population. When possible, students would attend interdisciplinary team meetings to present dental findings and recommendations and gain exposure to the number of issues participants and their providers must take into consideration when...
Table 1. Goals of the clinical outreach rotation in geriatric dentistry

- To identify patients with complex needs
- To identify the special considerations pertinent to providing safe, efficient, and effective care for those individuals with complex needs
- To gain experience in clinical decision-making for patients with complex needs based upon didactic coursework
- To learn management techniques for providing dental care to patients with special needs
- To learn when to refer and consult
- To gain more experience, efficiency, skills, and confidence in treating and/or referring individuals with medical and dental complexities
- To gain exposure to an interdisciplinary model of healthcare
- To learn effective methods of consultation and referral with colleagues in dentistry and medicine and other members of an interdisciplinary team (social work, nursing, physical therapy, occupational therapy, etc.)
- To learn to participate in patient care with colleagues in dentistry and other members of a multidisciplinary team (medicine, social work, nursing, physical therapy, occupational therapy, etc.)
- To provide the opportunity to provide dental care in diverse clinical settings

Providing comprehensive health care and addressing the social needs of these aged patients. By participating in this team approach to patient care, students would experience the importance of acting as an advocate for dental services and oral health while maintaining awareness of the total well-being of the patient. The ultimate goal is that Pacific dental students become more experienced, confident, and interested in treating frail elderly patients with complex medical and dental needs.

Prior to beginning any clinical care, permission from the California State Dental Board was obtained to designate two of On Lok’s five centers as extramural educational sites for Pacific. A memorandum of understanding was drafted to delineate the responsibilities of each institution.

How the Program Works

The program began in February 2001 with four students attending three consecutive, weekly, six-hour rotations such that approximately twenty students from the class of 2001 participated in the new rotation. As an incentive for active involvement in this new program, students received “one completed patient” prosthodontics credit for completing the rotation despite the fact that the rotation now had a more comprehensive focus. We began with one day per week at the Gee Center (named for Dr. William Gee, a public health dentist). In January 2002 another rotation day was added at the 30th Street Center. With the addition of this second site, approximately 60 percent of the class could participate in the rotation. Because On Lok already had provisions within its budget for dental services, its administrators agreed to reimburse Pacific at the hourly rate for a staff dentist. They also provide for all materials and laboratory costs and assign a geriatric aide to the dental clinic on rotation days to assist with patient flow, clinic upkeep, patient transfers, and translation. Pacific agreed to release four students and a faculty member from the School of Dentistry and to provide their liability coverage. On Lok allowed Pacific to use each clinic one day per week for forty weeks a year with the understanding that students would not be available during testing or vacation periods.

On Lok support staff schedule appointments and arrange transportation when necessary for the participants to attend their scheduled appointments. All participant records and x-rays are maintained by On Lok including all dental records. Prior to participant appointments, students and faculty are able to review medical and dental records in depth and discuss the implications for the provision of dental services. On Lok created its own healthcare software (ICCIS©) that is not only critical for interdisciplinary care but has been an invaluable teaching tool for the dental rotation. Students and faculty are able to review records from all disciplines in preparation for their patients, and their dental findings are readily available to all other providers. In this manner students can complete their consultations by referring other providers to their notes and usually receive a rapid response from such other team members as physicians, nurses, and social workers. There are frequent opportunities for interactions with other pro-
viders who request consultations from our service during the course of the rotations. Medical orders and prescriptions are also managed efficiently with the ICCIS system. Ready access to other team members, various resources, and information across disciplines provides students with immediate feedback and unique opportunities for discussion and learning compared to a dental school clinic setting.

Students receive general instructions and goals of the rotation and are expected to prepare ahead of time. Once at On Lok they receive an orientation to the rotation, the history and goals of On Lok, and details on the logistics of providing patient care in the new environment. A tour of the day center gives students a brief and often sobering glimpse of the patients they will treat. Prior to seeing any patient, faculty and students carefully review the health history and discuss important patient care issues. During this time the geriatric aide is seating the patient. Approximately 80 percent of the participants at the Gee Center are Asian or Pacific Islanders and 43 percent at the 30th Street Center are Hispanic, most of whom do not speak English, so a translator is made available. Students routinely provide comprehensive examinations, x-rays, and treatment planning. Occasionally, they also provide cleanings, scaling and root planing, limited operative and restorative procedures, tissue conditioner placement, fabrication of removable prostheses and prosthetic adjustments, or follow-up for oral pathology they have treated or are observing.

Students work in pairs during the rotation, taking turns as clinician and assistant. Each team sees four to six participants per day. In 2002, students had 787 patient visits and recommended the full range of treatment from yearly visits for completely edentulous patients, to multiple extractions with and without plans for replacement, to fillings, removable prostheses, and palliative care.

Students evaluate all participants, but care must be taken to ensure that their abilities meet the needs of their patients if students are expected to complete any procedures. There is a small percentage of patients who are on “comfort care” status, are moribund, and for whom only palliative treatment is provided. Students may still complete examinations for these patients but they do not provide any dental care other than evaluations or non-invasive palliative care. Patients with severe diseases and conditions that pose a constant threat to them may still benefit from and be able to tolerate some conservative treatment and preventive services provided by students but may require referral for more complex treatments to staff dentists or even contract specialists. Students are able to provide a wider range of treatments for patients with mild to moderate or well-controlled severe diseases and disorders; however, patient selection will also take into consideration patient ability and willingness to tolerate treatment provided by a student. Since a significant portion of this population suffers dementia of varying etiologies and to varying degrees, patient ability to cooperate during specific procedures is also taken into consideration when treatment planning and before allowing students to proceed with treatment. This selection process is discussed with students so that they have a framework to draw upon as they evaluate patients for treatment or referral in the future.

Upon completion of examinations, students discuss their treatment plan with attending faculty along with a rationale, summarizing patient abilities and physical and/or cognitive limitations and strategies for addressing those issues to successfully and safely deliver treatment. The treatment plan, although sometimes tentative, is recorded in the ICCIS system. Medical and consent issues are addressed prior to any further scheduling for dental services for the participant. Consultation with the physician, nurse practitioner, and/or social worker must take place in some cases prior to proceeding with the treatment plan. Family members may also attend appointments to participate in the treatment planning. The student may have an opportunity to present his or her patient findings to other members of the team (nurse practitioner or physician) so that dental issues can be included in the next interdisciplinary meeting. During these presentations, discussions, and electronic exchanges, students may have their plan questioned based upon other knowledge the team members have about that particular participant or students may have the opportunity to provide further information about an oral health issue to support their recommendation.

Students are asked to fill out an evaluation of their experience upon completion of the rotation (Figure 1). In general, students enjoyed the experience because it is different from their clinical experience at school. Most were not interested in geriatrics at the beginning of their rotation, but there was a slight deepening of interest by the end of the rotation. While students did not express great confidence in treatment planning for this population by the end of their rotation, they did seem to feel they had learned some
important skills and concepts during the rotation. However, general complaints usually arose from the limited number of, or lack of emphasis on, specific procedures. Especially late into the senior year, students appeared to be “procedure focused” and expressed frustration at the volume of treatment planning cases during the rotation.

**Future Goals**

All senior students at Pacific are required to participate in at least one outreach clinic established by the Department of Removable Prosthodontics. Other clinics include the Palo Alto Veterans’ Administration and La Clinica De La Raza Community Clinic in Oakland. While these clinics have a focus on removable prosthodontics rather than geriatrics, they also provide nontraditional clinical experiences and serve an aged or medically compromised patient population. These clinics also have regular staff dentists to ensure that patients with needs outside student abilities receive continuous comprehensive services and that all patients have regular access to emergency services as needed.

Recently, the school has received permission from the California State Board of Dental Examiners to include as extramural sites some of the nursing homes for whose patients On Lok provides services. The intent of this project is to increase the oral health care provider’s ability to evaluate even the frailest patients without having the patient go through what may be a difficult transportation process or foregoing an evaluation altogether. Evaluation of these participants will occur within the regular block time with, for example, an afternoon set aside to evaluate all the patients in one facility to determine who needs to be transported to the regular clinic for dental services and which can have limited bedside services.

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**Figure 1. Student evaluations**

<table>
<thead>
<tr>
<th>1=strongly disagree</th>
<th>2=disagree</th>
<th>3=neutral</th>
<th>4=agree</th>
<th>5=strongly agree</th>
</tr>
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<tbody>
<tr>
<td>2.88 I was very interested in geriatric dentistry prior to this rotation.</td>
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<tr>
<td>3.62 I deepened my interest in providing services to frail and medically compromised during this rotation.</td>
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<tr>
<td>4.16 I gained an appreciation for interdisciplinary care.</td>
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<tr>
<td>3.96 The goals of the rotation were clear.</td>
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<tr>
<td>4.15 I gained a good understanding of the concepts/principles involved in caring for medically compromised and elderly patients.</td>
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<tr>
<td>4.10 I developed skills important in treatment planning and providing services to frail and medically compromised elderly patients.</td>
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<tr>
<td>3.68 I feel confident in my ability to appropriately treatment plan for frail and medically compromised elderly following this rotation.</td>
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<td>3.75 I had an adequate background for this rotation/clinic.</td>
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<tr>
<td>4.12* I would have liked the opportunity to provide clinical services beyond treatment planning and evaluation during this rotation.</td>
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Some comments:

- I wish I would have prepared myself better for the rotation.
- The opportunity to do additional procedures will/would improve this rotation.
- Wish there was more restoration work/denture service to do.
- This rotation made it very clear the importance of good teamwork between the dental and medical field. I gained respect for how much knowledge & experience it takes to tx [treat] older/medically compromised patients.
- This rotation will help me with the hospital dentistry that I plan on doing. Great rotation!
- I learned a lot and appreciate caring for the frail and elderly more now. I am also more interested in their dental care overall now.
- It was a good learning experience to work at the senior center and work with professional caregivers. Thank you.

*Average (02/01 to 06/03) N=124, except where N=117 because some students provided treatment, i.e., operative and denture fabrication as opposed to exams and treatments such as adjustments, tissue conditioner, cleanings, scaling/root planing or management of oral pathology (as determined by comments in response to this statement).
Summary and Conclusion

Creating and maintaining this rotation have been a dynamic process driven by student needs, the needs of On Lok participants, institutional needs and limitations, and the necessity of finding ways to live with or remove the challenges presented by such a partnership. We had the good fortune to partner with an established system that was willing and able to accommodate and foster a learning environment for the students, and Pacific was in a position to make the necessary changes to the clinical curriculum to create the initial rotation and support additional growth in our partnership with On Lok. Additional educational programs between Pacific students and faculty and On Lok staff, participants, and caregivers are also on the horizon to advance the partnership. These efforts will include a focus on the prevention of new and recurrent oral diseases in On Lok participants. Further evolution of the clinical experience will include finding a better balance between treatment planning and provision of services during the rotations that satisfies students’ desire to provide more procedure-oriented services along with our educational goal of increasing student experience in providing treatment to patients with complex needs, while continuing to satisfy the needs of On Lok participants.

It is too soon to know if our efforts will increase the number of providers interested and willing to treat aged patients with complex needs. However, educators interested in beginning a clinical geriatric dentistry experience may consider forming similar community partnerships to implement a program that is cost-effective, creates a unique educational experience for students, and provides a service to a population that may be underserved or have multiple barriers to good oral health.

Acknowledgments

For their work with this program and this article about the program, we thank Richard Fredekind, D.D.S., M.B.A., Associate Dean of Clinical Services, University of the Pacific School of Dentistry; Catherine Eng, M.D., F.A.C.P., Medical Director, On Lok Senior Health Services; Kathy Rice-Trumble, R.N., Information Systems Development/Training Coordinator, On Lok Senior Health Services; and Kathlee Lau, R.N., Quality Assurance Manager, On Lok Senior Health Services.

REFERENCES