Innovative Primary Care Training: The Cambridge Health Alliance Oral Physician Program

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We evaluated the Oral Physician Program, a dental residency sponsored by Harvard Medical School, Harvard School of Dental Medicine, and the Cambridge Health Alliance that offers an innovative model for training dentists to provide limited primary care. The didactic and clinical experiences increased residents' medical knowledge and interviewing skills, and faculty assessments supported their role as oral physicians. Oral physicians could increase patients'—especially patients from underserved groups—access to integrated oral and primary care services. (*Am J Public Health.* 2012;102:e48–e49. doi:10.2105/AJPH.2012.300954)

Static and fragmented curricula are failing to prepare graduates of health professional schools for current population health challenges, including the growing burden of chronic diseases.[1] Primary care must be a pillar of clinical training,[1,2] and dentists, as oral physicians, should be trained to provide limited preventive primary care and disease prevention.[3] During their predoctorate clinical training years, dentists learn about the oral manifestations of more than 100 genetic and systemic disorders,[4] including developmental and eating disorders, cardiovascular disease, diabetes, osteoporosis, and cancers, as well as substance and child abuse.[5] Thus, dentists should be well positioned to identify numerous systemic conditions in addition to oral diseases, often at an early stage, through oral manifestations.

Advanced oral physician training following dental school can provide skill strengthening and the practice necessary to adapt to the changing health needs of today's most vulnerable populations by increasing early disease detection and referral. Dentists practice as oral physicians, for example, when providing or overseeing complete dental care and aspects of primary care,[6] such as taking vital signs, screening for diabetes and other major health problems, and administering vaccines.[7] By providing a range of preventive health care services, dentists can help increase access to care and improve the health of the community as part of the primary care prevention and referral system.[8] The training model of the oral physician decompartmentalizes oral and general health and meets the primary care training objective of "interprofessional and transprofessional education that breaks down professional silos."[1(p1924)]

METHODS

Three general practice dental residents (GPDRs) participated in the Oral Physician Program at the Cambridge Health Alliance Windsor Street Health Center in 2010 to 2011. The training program offers didactic and clinical curricula. We created the GPDR program because unlike advanced education in general dentistry or doctor of dental medicine programs, GPDR programs are hospital affiliated and allow for better integration of medical and oral health services during training. Residents took a medical knowledge test at the start of the program with 35 questions about melanoma, hypertension, cardiovascular disease, atrial fibrillation, angina, diabetes, mental illness, domestic violence, eating disorders, substance abuse, HIV/AIDS, pregnancy, certain types of cancer, tobacco cessation, stroke, and commonly prescribed medications.

We also evaluated residents' patient-interviewing skills at the beginning of the program. The GPDRs interviewed actors trained to impersonate patients to obtain information on their medical, social, and dental histories. The GPDRs then completed a series of hospital rotations, with 3 months each in pediatrics and internal medicine, anesthesia and surgery, and emergency medicine, along with a dedicated oral physician rotation. Faculty conducted assessments of the GPDRs' knowledge and performance after their clinical rotations by completing a 1-page survey. Faculty could provide written comments and rate residents as unsatisfactory, satisfactory, or superior for each rotation-specific competency (Table 1). Other training experiences included traveling with a primary care physician to patients' homes and screening and caring for the homeless. The GPDRs kept daily logs of their perceptions of their rotation experiences.

At the end of the program, we reevaluated the medical knowledge and interview skills measured at the beginning of the Oral Physician Program, with the same instruments.

RESULTS

GPDRs' pretest to posttest scores of medical knowledge increased an average of 34.2% for the 35 medical questions (Table 2). Preliminary qualitative findings comparing interviewing skills before and after the Oral Physician Program demonstrated a major improvement in GPDRs' ability to elicit important and sensitive information. Feedback and comments from the faculty evaluation forms following the clinical rotations were promising.

Residents were rated by faculty as satisfactory or superior for most competencies measured. One emergency medicine physician commented that a GPDR "showed interest and enthusiasm for evaluating general medical and emergency cases. She also helped in the care of oral and dental problems, and educated us." Another physician commented, after a resident's oral physician rotation, "He was extremely helpful in assisting patients to access dental care when they were in need of some." Subjective feedback from the residents, noted in their daily logs, were positive as well. The GPDRs assisted underserved pediatric, adult, geriatric, special needs, homeless, and immigrant patient populations as part of the primary care delivery system through the program.

DISCUSSION

Dental school graduates in a 1-year oral physician residency expanded their knowledge

TABLE 1—Rotation-Specific Competencies Taught in Oral Physician Residency

Rotation	Competencies
Emergency medicine	Understand approach taken in assessment, stabilization, and management of emergency conditions
	Help in care of emergency patients
	Relate to various medical specialists and understand the importance of interspecialty consultation
	Interact with hospital emergency department staff
Oral physician	Monitor vital signs
	Recognize oral manifestations of systemic disease
	Know local and systemic effects of drugs administered for dental treatment
	Understand principles of pre- and postoperative management of patients
	Interact with medical staff
Medicine	Understand fundamentals of physical diagnosis and patient evaluation
	Obtain medical history and perform basic physical evaluation
	Correlate physical findings with laboratory data
	Record findings and write orders appropriately in patient's medical record
	Understand hospital protocol
Anesthesiology	Monitor vital signs
	Understand general anesthesia principles and techniques
	Understand pharmacokinetics and pharmacodynamics of anesthetic origin
	Understand principles of pre- and postanesthetic evaluation of patients
	Interact with anesthesiology staff

Note. Faculty for each rotation assessed competencies as unsatisfactory, satisfactory, or superior for each resident.

TABLE 2—Results of Medical Knowledge Pre- and Posttests Among Residents in Oral Physician Program

Resident	Pretest Score	Posttest Score	Improvement, %
1	16	22	37.5
2	20	28	40.0
3	16	20	25.0

Note. Score was number correct of 35 questions.

about, comfort with, and proficiency in primary care skills. We are evaluating the knowledge and attitudes of patients toward the expanded primary care function in surveys similar to those of Greenberg et al.[9] The evolution of this training program not only will allow dentists to be more thorough in the overall assessment of their patients' medical needs and conditions, but ultimately may increase patient access to integrated oral and primary care services. Reimbursement for primary care services provided by dentists is out of the scope of this article but must be considered in practice. ■

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Contributors

D. B. Giddon is the principal investigator of the Oral Physician Program and was responsible for its conceptualization, design, and evaluation. B. A. Seymour helped interpret results and organize findings and shared first authorship with D. B. Giddon. B. Swann was the co-principal investigator and was responsible for implementing the program. N. K. Anderson was responsible for the videotaped patient interviews and the initiation of the knowledge tests. All the other authors contributed substantially to the project.

Human Participant Protection

Expedited review and approval for the study were provided by the Cambridge Health Alliance institutional review board.

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