

Preparing practicing dentists to engage in practice-based research

Timothy A. DeRouen, PhD; Philippe Hujoel, LTH, MSD, PhD; Brian Leroux, PhD; Lloyd Mancl, PhD; Jeffrey Sherman, PhD; Thomas Hilton, DMD, MS; Joel Berg, DDS, MS; Jack Ferracane, PhD; for the Northwest Practice-based REsearch Collaborative in Evidence-based DENTistry (PRECEDENT)

In the past, much, if not most, clinical research in dentistry and medicine was conducted in academic health centers. One of the criticisms made of such clinical research has been that it is conducted in an artificial “ivory tower” environment that is very different from the environment of a full-time clinical practice. It often is lamented that the transfer of knowledge from clinical research findings into changes in clinical practice is extremely slow or nonexistent. This may be because of the perception that the results found in an academic environment would not translate into a full-time practice environment—or it may be because they really have not translated (see, for example, conflicting findings on longevity of restorations from academic-based clinical trials and practice-based cross-sectional studies¹). The Agency for Healthcare Research and Quality (part of the U.S. Department of Health and Human Services) indicated that the time from introduction of a new concept in health care to its use in practice may be as much as two decades.² To address that issue, the

ABSTRACT

Background. The authors describe an educational program designed to prepare practicing dentists to engage in practice-based research in their practices—a trend receiving more emphasis and funding from the National Institute of Dental and Craniofacial Research (NIDCR).

Methods. The Northwest Practice-based REsearch Collaborative in Evidence-based DENTistry (PRECEDENT), an NIDCR-funded network of which the authors are members, developed a one-day educational program to educate practitioners in principles of good clinical research. The program has four components built around the following questions: “What is the question?”; “What are the options?”; “How do you evaluate the evidence?”; and “How do you conduct a study?”

Results. The intensive one-day program initially offered in early 2006, which concluded with applications of research principles to research topics of interest to practitioners, was well-received. Despite their admission that the research methodology by itself was not of great interest, the dentists recognized the importance of the background material in equipping them to conduct quality studies in their practices.

Conclusions. Dentists interested in participating in practice-based research view training in research methodology as helpful to becoming better practitioner-investigators. The PRECEDENT training program seemed to reinforce their interest.

Practice Implications. As dentistry evolves to become more evidence-based, more and more of the evidence will come from practice-based research. This training program prepares practicing dentists to become engaged in this trend.

Key Words. Practice-based research; clinical research; training; research methodology.

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Dr. DeRouen is a professor, Department of Dental Public Health Sciences and Department of Biostatistics, and the executive associate dean for research and academic affairs, Box 357480, University of Washington, Seattle, Wash. 98195-7480, e-mail “derouen@u.washington.edu”. Address reprint requests to Dr. DeRouen.

Dr. Hujoel is a professor, Department of Dental Public Health Sciences and Department of Epidemiology, University of Washington, Seattle.

Dr. Leroux is an associate professor, Department of Dental Public Health Sciences and Department of Biostatistics, University of Washington, Seattle.

Dr. Mancl is a research associate professor, Department of Dental Public Health Sciences, University of Washington, Seattle.

Dr. Sherman is a clinical assistant professor, Department of Oral Medicine and Department of Rehabilitative Medicine, University of Washington, Seattle.

Dr. Hilton is an alumni centennial professor of operative dentistry, Department of Restorative Dentistry, Oregon Health and Science University, Portland.

Dr. Berg is a professor and the Lloyd and Kay Chapman Chair for Oral Health, Department of Pediatric Dentistry, University of Washington, Seattle.

Dr. Ferracane is a professor and the chair, Department of Restorative Dentistry, Oregon Health and Science University, Portland.

National Institutes of Health (NIH) developed Roadmap Initiatives in part to speed up the technology transfer process by encouraging clinical research to be conducted in the practices of physicians and dentists so that the results can be seen as directly applicable—and, thereby, have a greater and quicker effect on clinical practice. (The NIH established the Roadmap in 2002 to guide medical research in the 21st century.)

In April 2005, in response to the Roadmap Initiatives, the National Institute of Dental and Craniofacial Research (NIDCR) funded three practice-based research networks to encourage the conduct of clinical research in dental practices. The three are widely distributed across the United States: the Northwest Practice-based REsearch Collaborative in Evidence-based DENTistry (PRECEDENT), administered through schools of dentistry at the University of Washington (UW), Seattle, and Oregon Health and Science University (OHSU), Portland³; the Practitioners Engaged in Applied Research and Learning (PEARL) Network, administered by the New York University College of Dentistry⁴; and the Dental Practice-Based Research Network (DPBRN), administered by the University of Alabama at Birmingham.⁵ This article will focus on the network to which we belong, the Northwest PRECEDENT.

THE NORTHWEST PRECEDENT NETWORK

The practitioner-investigators in the Northwest PRECEDENT network are practicing dentists in Idaho, Montana, Oregon, Utah and Washington. We recruited the practitioner-investigators as a result of an aggressive year-long campaign that involved mass mailings, as well as presentations at state and local dental society meetings.

The demographics of our members vary but generally mirror the demographics of dentists in each state. Of the 163 “active” PRECEDENT members (those who have completed or are in the process of completing training), 83 percent are men and 17 percent are women; 13 percent are of minority background (including Asian-American); 28 percent are younger than 40 years, 22 percent are in their 40s, and 50 percent are 50 years and older. The slight skew toward participants 50 years and older likely is related to the reasons given for participating. The most frequent reason cited was the desire to “give back” to a profession in which they had enjoyed success; those 50 years and older likely are more secure (financially and

otherwise) than younger dentists, therefore allowing them to participate as a service to the profession. Members’ median length of time in practice is 20 years.

The proportion of active members who practice in rural settings (31 percent) is considerably higher than the 7.2 percent estimated for the overall population of dentists in the five-state region (M.H. Anderson, DDS, MS, Dental Director, Washington Dental Service, oral communication, May 2004), and it likely reflects a higher level of interest among those in rural areas in connecting with colleagues. It is not expected that those who choose to participate in practice-based networks represent a truly random sample of practicing dentists, since they likely are more motivated by and interested in principles of evidence-based dentistry, but it is reassuring that they do not constitute a group that is demographically different from the rest of the population of dentists.

In initiating the Northwest PRECEDENT network, we developed a training program to prepare practicing dentists to conduct research in their practices, for which we offer continuing dental education credit. The purpose of this article is to describe the content of that training program, discuss its rationale and summarize the practitioners’ responses to the program.

THE TRAINING PROGRAM

Dentists as research subjects. Before any discussion of training can take place, there needs to be some differentiation between the kinds of research done in collaboration with practicing dentists. Some research may involve merely asking practicing dentists to complete a questionnaire, answering questions about the way they practice without requesting specific information about their patients. For this kind of survey, the dentists technically are research subjects in a

ABBREVIATION KEY. **HIPAA:** Health Insurance Portability and Accountability Act of 1996.

NIDCR: National Institute of Dental and Craniofacial Research. **NIH:** National Institutes of Health.

OHSU: Oregon Health and Science University.

PICO: Patient’s or population’s (P) characteristics of interest, intervention (I), control or comparison (C) group, outcome (O). **PRECEDENT:** Practice-based REsearch Collaborative in Evidence-based DENTistry.

RCT: Randomized controlled trial. **UW:** University of Washington.

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