

Building a scientific bridge between the academic environment and practitioners: Practice-based research networks

It is widely accepted among researchers, practitioners, and policy makers that patients act as an important source of information that can be of significant benefit when formulating a treatment plan. While a number of studies and clinical trials that study specific patients under controlled conditions have produced data that suggest more modern approaches to patient care are beneficial, it is the pieces of research that are performed with more random groups of patients within a primary care setting that are often more reflective of the true benefits associated with a given approach.

The majority of cases that are studied in efficacy studies are done so in academic settings or in subspecialty clinics. As such, a large number of policy makers, academics, and physicians are less accustomed to the alternative sources of information that can be used to translate data into practical knowledge. Practice-based research networks (PBRNs) aim to bridge this gap by encouraging academic researchers to work closely with primary care practitioners to translate research data into practical applications and methodologies that are capable of resolving health care issues. PBRNs typically consist of anywhere between 15 and several hundred primary care practices that work together to enhance the level and quality of care provided to patients. The underlying objective of PBRNs is to better understand the practicalities of caring for patients in a primary setting, and the member groups work closely with clinicians to improve the quality and reliability of care. According to Westfall *et al.*, PBRNs are: “New clinical laboratories for primary care research and dissemination.”^[1]

Practice-based research networks often work closely with academic or professional organizations to investigate the issues that are of relevance to modern-day clinical settings. The members of the PBRN combine their experience and expertise to develop research questions that aim to investigate the issues that are deemed to be of importance to clinical practice. Through the application of rigorous research, the practitioners aim to answer the research questions

and, therefore, produce solid data that is applicable in everyday practice.

Although medical PBRNs can be traced back as far as the 1970s, documented descriptions of the use of PBRNs in the United States cannot be found prior to 2002. Furthermore, the PBRNs that have been described were largely concerned with nondental areas, such as family medicine, internal medicine, and pediatrics. Having recognized the important role that physician-based PBRNs have played in the health environment, in 2005, the U.S. National Institute of Dental and Craniofacial Research (NIDCR) funded three oral health PBRNs, one of which was the Dental PBRN (DPBRN).^[2] By the time the funding of this group was completed in 2012, the regional PBRNs had conducted numerous studies involving a large number of practitioners and patients. Their work encompassed a large number of different topics and demonstrated rigor, adherence to protocol, and a positive impact on clinical practice. This particular research network was testament to the fact that dental practitioners can make a positive contribution to research processes and outcomes. In direct response to the success of the regional PBRNs, the NIDCR provided an additional 7 years of funding for the PBRN initiative; however, during the second phase a single, unified national network was created as opposed to regional PBRNs. The new network was entitled “The National DPBRN,” and their work formally commenced in April 2012.^[3]

The main objective of DPBRNs is to design and implement studies on issues that have been identified as being of importance to practitioners and their clients. Through implementing practice-based research, the group aims to develop evidence that can improve routine dental care, and facilitate the process by which research findings are implemented in routine clinical practice.^[3] PBRNs engage practitioners during every step of the research process, conduct comprehensive data collection and analysis, participate in local, regional, and national presentations, and prepare detailed manuscripts for publication. A heavy focus is placed on ensuring practitioners and academic scientists closely collaborate and share decision-making.^[2] Although this may not always be easy, it results in a healthy balance between the inclusion of substantial data and a consideration of what is practically applicable in clinical practice. To be effective, the process needs to be reciprocal and iterative and relies on both parties contributing and deriving benefit. As each participant becomes familiar with one other’s research goals, restrictions, interaction styles, and preferences, collaborations become increasingly successful and effective.^[4]

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Although PBRNs are becoming increasingly common in North America and in some parts of Europe, a gap remains between practical implementation and the academic environment. I hope that more and more countries will recognize the value of a collaborative approach to research and invest the appropriate time and resources in cooperating with universities, research foundations and practitioners to fill the practice-based pool with more knowledge.

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