



Practice-Based Research: A Vital Part of the Transformation of Family Medicine

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"If we want more evidence-based practice, we need more practice-based evidence."

- Dr. Lawrence W. Greene¹

Physicians are curious creatures, and the emphasis on lifelong learning seems to be as much of a hallmark of the profession as the ubiquitous stethoscope. Every physician is familiar with ongoing education and subsequent testing (i.e., CME's), and most physicians are familiar with the importance of "evidence-based medicine," or EBM. Fewer physicians, however, are familiar with the pressing need for practicing physicians to participate in the generation of this evidence.

The concept of basing medical decisions on evidence rather than experience is relatively new. The Scottish epidemiologist Archie Cochrane encouraged acceptance of the concept of EBM in the 1970's, and the term "evidence-based medicine" first appeared in the medical literature in 1992.² However, the idea of primary care physicians collecting, measuring, and analyzing data collected in the real-world setting of their own office has been around a little longer.

Over the last 125 years, several physicians have independently made important contributions to the discipline of primary care (PC), not only through their data, analysis and results - but what this process represented. That is, everyday primary care physicians have, at their fingertips, a veritable treasure trove of information about patient care. Controlled experiments in high-powered laboratories and research institutions are necessary, but the potential for true generalizability lies with the primary care physician still in practice and still seeing patients. And from this enormous potential - and need - sprang the creation of practice-based research networks (PBRNs).

Practice based research took hold in the UK, Europe and Australia in the 1970's, providing convincing evidence that primary care physicians could generate clinically significant data in community settings. Several studies led directly to the formation of large research networks, and slowly the trend gathered strength in the United States. The Rockefeller Foundation funded a study in 1981 where physicians

from 38 practices used pocket-sized cards to collect data on headaches, pelvic inflammatory disease, and miscarriages. The resulting three studies not only generated data that led to new approaches to common problems – they confirmed that important research could be accomplished in busy primary care settings. This distinction is critical, for before this time, academic institutions viewed PC settings as relatively dull places, the mere receptacles of research performed elsewhere. Now, these settings are seen as active and critical participants in the research process.

The Future of Family Medicine³ recognized the importance of practice-based research. Consider the statement, "Participation in the generation of new knowledge will be integral to the activities of all family physicians and will be incorporated into family medicine training. Practice-based research will be integrated into the values, structures, and processes of family medicine practices." The FFM lists an enhanced science base as one of the top ten recommendations for the discipline to embrace in order to help primary care physicians better meet the health care needs of patients in a changing world.

Practice-based research is a two-way street. More and more physicians are engaging in quality improvement projects in their own practice in order to enhance patient care. Participating in a practice-based research network takes the quality improvement process one step further, so that the generation of knowledge by a single physician can be combined with that of others in a structured format which allows for the generalization that can potentially enhance and raise the standard of care in PC practices everywhere. Participating in a PRRN allows each physician to look beyond the next patient and guideline and take a very proactive role in contributing to the overall discipline of family medicine and primary care.

Beyond the big picture view, participation in a research network can be personally and professionally satisfying. Participation gives physicians the opportunities to network with other forward-thinking, like-minded individuals. It allows them to share their experience and learn from others. In some cases, participation affords an inquisitive physician the chance to ask the question he or she always wanted to ask... and learn HOW to answer that question in a scientifically rigorous manner. Finally, the power of being on a good team – meeting great people, having a good time - can never be underestimated.

Practice-based research is also a two-way street, in that physicians can expect to receive significant help and support from their research network. Network faculty and staff design the studies, do the training, and assist the practices to make data collection as easy as possible. The network analyzes the data and writes and disseminates the results. Typically, physicians can have some input in the scholarly process if they wish. Although every scenario and study is different, it is safe to say the PBRNs do not "dump" projects in the laps of busy physicians and then demand results. Most are designed with a true partnership in mind, as the end goal is the same for everyone: improving patient care by expanding the knowledge base of family medicine and primary care.

There are dozens of PBRNs across the country. Some are hosted by state academy chapters, others by hospital or health networks, and others by academic institutions. One of the largest is the National Research Network (NRN), hosted by the American Academy of Family Physicians. NRN represents 48 U.S. states and 4 Canadian provinces. Participation in NRN is free of charge (some studies are able to compensate physicians for their time), and the amount of involvement is left completely up to the physician. Projects vary from quick surveys to more involved randomized control trials that are often related to incorporating changes into the practice. Like most research networks, NRN is committed to making sure network studies are worth the physician's time. Most physicians who participate in NRN report that the studies do not interfere with patient care. They say they enjoy the collegiality of the annual meetings and the sheer satisfaction of making a contribution to the "family" of family medicine.

Consider the words of one NRN participant: "We shouldn't practice medicine the way we've always done it... Those of us on the front line should take advantage of any opportunity we have to examine how we care for our patients." (Joan MacEachen, MD, MPH). In this way, participation in a research network allows family medicine physicians to play a vital role in both the development and integration of evidence-based medicine. This in turn may play a vital role in the transformation of family medicine as the specialty of the 21st century.

For detailed information on the AAFP National Research Network, visit <http://www.aafp.org/online/en/home/clinical/research/natnet.html>.

For further information on PBRNs in general, visit the Agency for Healthcare Research and Quality at <http://www.ahrq.gov/research/pbrn/pbrnfact.html>.

1. Dr. Lawrence Greene was co-developer in the Precede/Proceed model of health program planning. Learn more at <http://lgreen.net/index.html>

2. Guyatt G, Cairns J, Churchill D, et al. ['Evidence-Based Medicine Working Group'] "Evidence-based medicine. A new approach to teaching the practice of medicine." JAMA 1992;268:2420-5. PMID

3. Future of Family Medicine Project Leadership Committee. The Future of Family Medicine: a collaborative project of the family medicine community. Ann Fam Med 2004; 2 (Suppl 1): S3-S32