COMMENTARY

Improving the Health of Patients and Communities: Evolving Practice-based Research (PBR) and Collaborations

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This issue illustrates how research from practice-based research networks has evolved to span a spectrum from improving patient-level care and practice quality to improving health within local and global communities. Articles address patient-level improvements (a biomarker for cardiovascular disease progression, late-onset anorexia nervosa, complementary health approaches used by patients, and patient preferences related to antibiotics for acute respiratory infections); practice-level improvements (selection of types of fecal immunochemical tests, practice facilitation, practice registry implementation, community-based outreach, and bidirectional texting); and community-level improvements (primary care–public health partnership, influenza surveillance, and establishing family medicine training abroad). (J Am Board Fam Med 2017;30:562–566.)

More than 20 years ago, the Institute of Medicine (IOM), now the National Academy of Medicine, defined primary care as "The provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community."[1] The IOM defined "personal health care" to include "physical, mental, emotional, and social concerns that involve the functioning of an individual." Thus, primary care is largely charged with addressing patients health needs, which are broadly defined to include those related to family and community.

Practice-based research networks (PBRNs) are dedicated to generating the knowledge, tools, systems, and advocacy to enable primary care to improve health. Williams and Rhyne[3] updated the original AHRQ definition of PBRNs[2]; they defined PBRNs as "A group of ambulatory practices devoted principally to the primary care of patients, and affiliated in their mission to improve the health of their patients and communities *by investigating questions related to community-based practice and to the quality of primary care, and by supporting clinicians with clinical education, methods to change practice, and opportunities to influence health policy*" (emphasis added).[3]

Implicit in Williams and Rhyne's[3] focus on PBRNs as "health improvement networks" is collaboration among multiple entities—for example, patients, primary care practices, communities, and other organizations—committed to improving the health of patients and their communities through research. This *JABFM* issue illustrates how PBRN research has evolved to inform improvements not only at the patient and practice levels but also at the community level, often through sustained collaborations with community-based organizations.

Patient-Level Improvement

The first three articles offer more traditional PBRN research, with the potential to guide care for individual patients. National epidemiologic surveys show that anorexia nervosa manifests itself during young adulthood.[4] Zayed et al[5] report an exception: a malnourished 66-year-old woman with anorexia nervosa. This case report alerts clinicians in community-based practice to avoid age-related bias when diagnosing a condition with a potentially fatal trajectory.

PBRNs represent optimal laboratories for generating findings that often are generalized to

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other primary care practices.[6] Cardarelli et al[7] report on the NorTex PBRN Study that addresses risk factors for coronary artery calcium (CAC) and to determine whether CAC progression independently predicts cardiovascular disease–related events. Although measurement of CAC progression is not ready to be adopted into routine practice, this biomarker could be used in the future to guide informed clinician–patient decision making regarding the intensity of risk factor management.

One in 3 adults in the United States uses complementary health approaches (CHAs), and nonvitamin, nonmineral dietary supplements represent the most commonly used approach.[8] Yet, most primary care clinicians do not ask about CHAs,[9] and most patients do not volunteer this information if not asked.[10] Handley et al[11] used a validated instrument to assess CHAs among low-income participants enrolled in a diabetes self-management program. The authors also assessed how much CHAs cost patients, and then they examined the relationship between CHAs and glycemic and lipid levels. The findings may provoke primary care clinicians to ask about CHA use by patient, to elicit their patients' beliefs about CHAs and their reasons for taking them, and to discuss what is known about CHAs. Doing so may help create a shared mind-set between the clinician and patient that can guide their shared decision making.[12]

Acute respiratory infections are the most common reason patients seek ambulatory care in the United States.[13] Despite widespread knowledge that antibiotics provide no benefit, primary care clinicians often prescribe them, largely because of their own beliefs about patients' expectations for antibiotics.[14,15] Schwartz et al[16] surveyed 743 patients seeking care at 6 family medicine clinics. Patients were asked about their beliefs regarding antibiotics for acute respiratory infections and their willingness to undergo a point-of-care blood test to determine their suitability for antibiotic treatment. The results are likely to surprise many primary care clinicians and potentially inform community practice.

Practice-Level Improvement

PBRN research has broadened to include a focus on improving practice quality through improved systems and processes. The next set of articles falls into this category.

The US Preventive Services Task Force includes stool tests among recommended tests used to screen for colorectal cancer.[17] However, little research is available to guide practices in choosing between different types of fecal immunochemical tests (FITs). In addition to differences in costs and test accuracy—that is, sensitivity and specificity FITs differ in collection method, number of samples needed, and ease of labeling and processing of samples.[18] These issues affect patient adherence and submission of adequately collected and processed samples. Pham et al[19] assess patients' experiences with and preferences for 6 different FITs. Their findings, particularly if they are ultimately shown to affect the return rates of usable samples, could inform a practice's decision about which FITs to use.

The emergence of the patient-centered medical home (PCMH) and other innovations related to primary care delivery and payment (eg, Medicare Access and CHIP Reauthorization Act of 2015 [MACRA]), are challenging primary care to transform. Yet, the process of practice transformation is often arduous, slow, and costly.[20,21] Practice facilitation (PF) represents one primary vehicle for assisting practices in this process.[22] Notably, PF does so by building collaborative relationships with practices, improving communication, facilitating change, and sharing resources through PBRNs.[23] A critical question is how best to provide PF. Should PF focus generally on improving teamwork? Or should it focus on improving high-value quality metrics? Michaels et al[24] report findings from a pragmatic clustered randomized trial that addressed this issue. Findings are likely to spark discussion regarding the design of PF.

Registries are foundational elements for the Chronic Care Model and the PCMH.[25,26] However, little is known about factors that facilitate successful registry implementation and effective use in primary care practices. Holtrop et al[27] used an innovative method, called "qualitative comparative analysis," that includes some quantitative elements to address this question among practices seeking recognition as a PCMH. Findings showed that combinations of factors, rather than any single element, were critical to implementation success. Ensuring these critical elements are present during the process of registry implementation may enhance practices' chances for success.

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Registries provide a means for identifying gaps in evidence-based care.[28] However, optimal methods for providing outreach to patients to are not known. Nagykaldi et al[29] aimed to evaluate a centralized approach to outreach in a rural community in Oklahoma. The project involved a unique collaboration among primary care practices, the county health department, the county hospital, and a health information exchange organization. A wellness coordinator used the community wellness registry (linked to electronic medical records via the health information exchange) to identify gaps in care and phoned patients to let them know about these gaps using protocols endorsed by their primary care clinicians. Importantly, the authors report on the return on investment from this innovative program. If further research confirms these initial findings, this program could become a model for improving quality of care within rural communities through primary care partnerships with public health and local hospitals.

Baldwin et al[30] leveraged a collaboration among an academic study team, a rural primary care clinic, and a local nonprofit informatics company to use bidirectional phone texting for outreach within a rural community. Bidirectional text messaging provides a low-cost means for promoting adherence among large portions of the population.[31] About 95% of Americans currently own some type of cell phone.[32] Nearly all cell phones have texting capability, although not all owners use it. Baldwin et al examined the feasibility of bidirectional texting among rural adults who needed lipid testing. The findings from their mixed-methods analysis inform clinicians interested in adopting this outreach modality.

Community-Level Improvement

The final set of articles address the newest generation of PBRN research that moves beyond a focus on improving practice quality and the health of patients within the practice to focus on improving the health of communities outside the practice, typically through sustained collaborations.

What sparks primary care clinicians to participate in research? Family physician Cynthia Wolff[33] recounts the circumstances and collaborations that changed how she viewed primary care research to include a focus on community health. Her reflections underscore the power of personal relationships and collaborations, and provide clues for PBRNs seeking to engage busy primary care clinicians in research.

Collaboration was the theme of the IOM report "Primary Care and Public Health: Exploring Integration to Improve Population Health."[34] In addition to the previously discussed article by Nagykaldi et al,[29] 2 other articles are relevant to this collaboration.

Pratt et al[35] report on what stakeholders believe is needed to achieve such integration. Their team of investigators from primary care and public health PBRNs from 4 states conducted 40 phone interviews with key informants from these respective disciplines. Qualitative analysis revealed 2 central themes that are likely relevant to those working in primary care and public health who seek integration within their own communities.

The IOM report highlighted the importance of shared goals and shared data and analytics. Temte et al[36] report on how primary care practices can take on a role traditionally performed by public health: real-time surveillance of influenza in the community. The researchers engaged a PBRN, the Wisconsin Research and Education Network, to recruit sufficient practices so that each region of the state was represented by 2 practices. Clinicians and staff received brief training in identifying eligible patients, collecting nasal specimens, and interpreting the rapid influenza detection tests. The test analyzers wirelessly transmitted anonymous results to a global wireless surveillance system. These findings are likely to be of interest to public health departments interested in early identification of influenza in communities.

Primary care collaborations to improve community health extend beyond one's local community to the global community. Evensen et al[37] report on lessons learned from a multiyear collaboration between North American departments of Family Medicine and faculty at Addis Ababa University, Ethiopia, to establish the first Family Medicine residency program in Ethiopia. As a result of existing collaborations, the Ethiopian Federal Ministry of Health, Addis Ababa University, and other Ethiopian stakeholders recognized how establishing the discipline of Family Medicine in their country could facilitate the achievement of national health goals. The enumerated lessons reflect the principles for collaboration[38] and are likely

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relevant to others working on similar cross-national collaborations.

Collectively, these articles exemplify the evolution of PBRNs from an exclusive focus on primary care practice to health improvement networks.

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