

EDITORS' NOTE

Primary Care Research Conducted in Networks: Getting Down to Business

James W. Mold, MD, MPH

This seventh annual practice-based research theme issue of the *Journal of the American Board of Family Medicine* highlights primary care research conducted in practice-based research networks (PBRNs). The issue includes discussion of (1) theoretical and methodological research, (2) health care research (studies addressing primary care processes), (3) clinical research (studies addressing the impact of primary care on patients), and (4) health systems research (studies of health system issues impacting primary care including the quality improvement process). We had a noticeable increase in submissions from PBRN collaborations, that is, studies that involved multiple networks. As PBRNs cooperate to recruit larger and more diverse patient samples, greater generalizability and applicability of findings lead to improved primary care processes. (J Am Board Fam Med 2012;25:553–556.)

This annual practice-based research theme issue of the *Journal of the American Board of Family Medicine* highlights primary care research conducted in practice-based research networks (PBRNs). Primary care research has been defined as “research that is directed toward the better understanding and practice of the primary care function” as defined by the Institute of Medicine.¹ Primary care research includes (1) theoretical and methodological research, (2) health care research (studies addressing primary care processes), (3) clinical research (studies addressing the impact of primary care on patients), and (4) health systems research (studies of health system issues impacting primary care including the quality improvement process).² Among the studies included in this issue, 5 fit into category 1,^{3–7} 5 fit into category 2,^{8–12} 5 fit primarily within category 3,^{13–17} and 6 fall within category 4.^{18–23}

Methodological studies (category 1) include information about new network development,⁵ a de-

scription of current networks from the Agency for Healthcare Research and Quality (AHRQ) PBRN Resource Center,⁶ challenges to the future development of PBRNs,⁷ and the suggestion that multi-network studies might benefit from cultivation and use of coordinating centers.⁴ Of the 143 PBRNs registered with the AHRQ Resource Center (a 30% increase in 1 year), more than 80% were local or regional. Surprisingly, nearly one-third are not university-based.

Valuck et al³ used electronic health record data from a large network of practices to better characterize depression episodes among adolescents and adults seen in primary care. Although their purpose was not to develop a decision support tool, a key aspect of the study was the use of the 9-item Patient Health Questionnaire screening tool to identify patients who might be depressed.

Two studies of primary care processes (category 2) involved the development, testing, or both of decision support techniques intended to reduce errors or improve quality of care when evaluating or managing patients with common health concerns. For example, Nemeth et al,⁸ from the Medical University of South Carolina, report the positive impact of implementing a health maintenance template to formalize standing orders for nurses within an electronic health record in a group of practices in PPRNet. Their approach successfully combined best practices identified within their network with

Submitted 6 July 2012; revised 6 July 2012; accepted 6 July 2012.

From the Department of Family and Preventive Medicine, University of Oklahoma Health Sciences Center, Oklahoma City.

Funding: none.

Conflict of interest: Dr. Mold is an Associate Editor for the *Journal of the American Board of Family Medicine*.

Corresponding author: James W. Mold, MD, MPH, Department of Family and Preventive Medicine, University of Oklahoma Health Sciences Center, 900 NE 10th Street, Oklahoma City, OK 73104 (E-mail: james-mold@ouhsc.edu).

concepts derived from previous research about standing orders.^{24–28} This study also highlights the increasing importance of teamwork in primary care.

Strayer et al⁹ at the University of Virginia and the Virginia Practice Support and Research Network (VaPSRN) report the results and implications of a pilot study of a point-of-care decision support tool designed to help clinicians counsel patients about problem drinking. This work builds on the previous successful development and implementation of a tobacco cessation counseling decision aid and on prior research conducted by others²⁹ showing that brief counseling can be effective for reducing problem drinking when delivered in a primary care setting.

Gorman et al¹⁰ report the results of a multi-PBRN study of factors associated with the perceived safety of primary care measured using clinician and practice staff responses to the Medical Office Survey of Patient Safety. The finding that small practices scored significantly higher on self-perceived patient safety than did larger practices supports my impression that small practices are more adept at quality improvement and suggests that policymakers and administrators should be mindful when promoting the advantages of large health systems. Hill et al¹¹ remind us that there is still a significant segment of our society that has limited access to and perhaps prefers not to use informational technology for health care communications.

In the final study in category 2, Salz et al¹² investigated perceived challenges associated with coordination of care between oncologists and primary care clinicians in regard to colorectal cancer survivors. They were able to document a number of specific ways that communication between oncologists and primary care clinicians could be improved. Their work supports the Institute of Medicine's³⁰ recommendation that all cancer survivors and their primary care clinicians should be given survivorship care plans.

Category 3 includes a mixed-methods study conducted by Elder et al¹⁴ at the University of Cincinnati, which documents that nearly 50% of patients with chronic nonmalignant pain are treated with opioids and that these patients are more likely to have a concurrent mental health diagnosis. Although practices attempted to meet chronic pain management guidelines, they fell far

short of doing so, and coordination between physicians and medical assistants in the care of these patients needed improvement.

Articles by Baumgardner¹⁶ and Messina et al¹⁷ review soil-related infections and cognitive-behavioral clues to Klinefelter syndrome in adolescents, respectively. Force et al¹³ documented that, because of the increasing incidence of diabetes, hypertension, and hyperlipidemia in women of child-bearing age, a substantial number of these women are taking medications with potential fetal toxicity, and documentation of informed consent in these cases was infrequent. Sellers et al¹⁵ report that the frequency of “difficult encounters with psychiatric patients” occur at about the same frequency in psychiatry practices and primary care practices.

Five studies involved quality improvement interventions (category 4). Shaw et al¹⁸ used qualitative methods to investigate the importance of a practice champion to the change process, concluding that 2 different kinds of champions often are required. The other 4 studies illustrate the difficulties involved in measuring and then trying to improve primary care processes. Casciato et al²² once again documented the need to field test proposed guidelines before releasing them for general use. They report that clinically relevant modifications to recommended pediatric quality measures resulted in substantially different adherence rates, reflecting a much higher actual level of quality.

Erskine et al²¹ attempted to create “a culture of fitness” within primary care practices, hoping that this would increase the frequency and effectiveness of efforts to help patients engage in healthier behaviors. The idea for this approach came from practice, and, even though the intervention succeeded only in increasing clinicians' short-term intentions to eat better, it should not discourage further research involving this approach. There are many possible reasons why the intervention failed, including the fairly low intensity of support provided to intervention practices.

Fernald et al¹⁹ analyzed data from the second wave of Robert Wood Johnson Foundation/AHRQ-funded Prescription for Health projects to measure the degree of success achieved by 54 practices in 7 different PBRNs in helping patients reduce unhealthy behaviors. The results were mixed, with most unhealthy behaviors improved, but each in only a minority of networks. Levels of physical activity were reduced in one network. Perhaps most

interesting is the study reported by Hilbink et al,²⁰ which found that, although a robust, multicomponent quality improvement strategy was associated with a reduced rate of problem drinking, patients in control practices reduced their rate to an even greater extent. The authors propose that regression to the mean and several methodological challenges probably explain these unanticipated results.

The final study in category 4 is Pathman and Konrad's²³ update on the stimulative effect of the American Recovery and Reinvestment Act on the National Health Service Corps (NHSC) in terms of size, composition, and location of the NHSC's workforce. During the Recovery Act period, the NHSC workforce increased by 156%, with the greatest growth among mental health professionals and the least increase in primary care clinicians. Nurse practitioner was the discipline with the greatest proportional growth. The proportion of the NHSC workforce serving in rural areas changed only modestly, yet the workforce is now more evenly distributed across states.

The articles in this issue illustrate a broad range of topics and approaches to improving primary care research and practice. Clearly we need more primary care research in all categories. In this seventh annual *Journal of the American Board of Family Medicine* PBRN theme issue, we observe an increase in the articles from PBRN collaboratives.^{4,10,12,18,19,21} It is great to see that PBRNs are increasing in number, cooperating to harness their power to recruit larger samples and provide greater generalizability of findings, and getting down to business.

References

1. Mold JW, Green LA. Primary care research: revisiting its definition and rationale. *J Fam Pract* 2000; 49:206–8.
2. Donaldson M, Yordy K, Vanselow N. Primary care: America's health in a new era. Washington, D.C.: Institute of Medicine, National Academies Press; 1996.
3. Valuck RJ, Anderson HO, Libby AM, et al. Enhancing electronic health record measurement of depression severity and suicide ideation: a Distributed Ambulatory Research in Therapeutics Network (DARTNet) study. *J Am Board Fam Med* 2012;25: 582–93.
4. Mold JW, Darby Lipman P, Durako SJ. Coordinating centers and multi-practice-based research network (PBRN) research. *J Am Board Fam Med* 2012; 25:577–81.
5. DeVoe JE, Likumahwa S, Eiff MP, et al. Lessons learned and challenges ahead: report from the OCHIN Safety Net West Practice-based Research Network (PBRN). *J Am Board Fam Med* 2012;25: 560–4.
6. Peterson KA, Lipman PD, Lange CJ, Cohen RA, Durako S. Supporting better science in primary care: a description of practice-based research networks (PBRNs) in 2011. *J Am Board Fam Med* 2012;25:565–71.
7. Calmbach WL, Ryan JG, Baldwin L-M, Knox L. Practice-based research networks (PBRNs): meeting the challenges of the future. *J Am Board Fam Med* 2012;25:572–6.
8. Nemeth LS, Ornstein SM, Jenkins RG, Wessell AM, Nietert PJ. Implementing and evaluating electronic standing orders in primary care practice: a PPRNet study. *J Am Board Fam Med* 2012;25:594–604.
9. Strayer SM, Pelletier SL, Rollins LK, et al. Evaluation of a screening and counseling tool for alcohol misuse: a Virginia Practice Support and Research Network (VaPSRN) trial. *J Am Board Fam Med* 2012;25:605–13.
10. Gorman PN, O'Malley JP, Fagnan LJ. The relationship of self-report of quality to practice size and health information technology. *J Am Board Fam Med* 2012;25:614–24.
11. Hill JH, Burge S, Haring A, Young RA; for the Residency Research Network of Texas (RRNeT) Investigators. Communication technology access, use, and preferences among primary care patients: from the Residency Research Network of Texas (RRNeT). *J Am Board Fam Med* 2012;25:625–34.
12. Salz T, Oeffinger KC, Lewis PR, Williams RL, Rhyne RL, Yeazel MW. Primary care providers' needs and preferences for information about colorectal cancer survivorship care. *J Am Board Fam Med* 2012;25:635–51.
13. Force RW, Keppel GA, Guirguis-Blake J, et al. Contraceptive methods and informed consent among women receiving medications with potential for adverse fetal effects: a Washington, Wyoming, Alaska, Montana, Idaho (WWAMI) region study. *J Am Board Fam Med* 2012;25:661–8.
14. Elder NC, Simmons T, Regan S, Gerrity E. Care for patients with chronic nonmalignant pain with and without chronic opioid prescriptions: a report from the Cincinnati Area Research Group (CARinG) network. *J Am Board Fam Med* 2012;25:652–60.
15. Sellers RV, Salazar R, Martinez C Jr, et al. Difficult encounters with psychiatric patients: a South Texas Psychiatry Practice-based Research Network (PBRN) study. *J Am Board Fam Med* 2012; 25:669–75.
16. Baumgardner DJ. Soil-related bacterial and fungal infections. *J Am Board Fam Med* 2012;25:734–44.
17. Messina MF, Sgrò DL, Aversa T, Pecoraro M, Valenzise M, De Luca F. A characteristic cognitive and behavioral pattern as a clue to suspect Klinefelter

- syndrome in prepubertal age. *J Am Board Fam Med* 2012;25:745–9.
18. Shaw EK, Howard J, West DR, et al. The role of the champion in primary care change efforts: from the State Networks of Colorado Ambulatory Practices and Partners (SNOCAP). *J Am Board Fam Med* 2012;25:676–85.
19. Fernald DH, Dickinson LM, Froshaug DB, et al. Improving multiple health risk behaviors in primary care: lessons from the Prescription for Health Common Measures, Better Outcomes (COMBO) study. *J Am Board Fam Med* 2012;25:701–11.
20. Hilbink M, Voerman G, van Beurden I, Penninx B, Laurant M. A randomized controlled trial of a tailored primary care program to reverse excessive alcohol consumption. *J Am Board Fam Med* 2012;25:712–22.
21. Erskine J, Lanigan A, Emsermann CB, Manning BK, Staton EW, Pace WD. Use of the Americans in Motion-Healthy Intervention (AIM-HI) to create a culture of fitness in family practice. *J Am Board Fam Med* 2012;25:694–700.
22. Casciato A, Angier H, Milano C, Gideonse N, Gold R, DeVoe J. Are pediatric quality care measures too stringent? *J Am Board Fam Med* 2012;25:686–93.
23. Pathman DE, Konrad TR. Growth and changes in the National Health Service Corps (NHSC) workforce with the American Recovery and Reinvestment Act. *J Am Board Fam Med* 2012;25:723–33.
24. McKibben LJ, Stange PV, Sneller VP, Strikas PA, Rodewald LE; Advisory Committee on Immunization Practices. Use of standing orders programs to increase adult vaccination rates. *MMWR Recomm Rep* 2000;49(RR-1):15–6.
25. Hunt DL, Haynes RB, Hanna SE, Smith K. Effects of computer-based clinical decision support systems on physician performance and patient outcomes: a systematic review. *JAMA* 1998;280:1339–46.
26. Shea S, DuMouchel W, Bahamonde L. A meta-analysis of 16 randomized controlled trials to evaluate computer-based clinical reminder systems for preventive care in the ambulatory setting. *JAMIA* 1996;3:399–409.
27. Yarnall K, Rimer B, Hynes D, et al. Computerized prompts for cancer screening in a community health center. *J Am Board Fam Pract* 1998;11:96–104.
28. Stone EG, Morton SC, Hulscher ME, et al. Interventions that increase use of adult immunization and cancer screening services: a meta-analysis. *Ann Intern Med* 2002;136:641–51.
29. Whitlock EP, Polen MR, Green CA, Orleans T, Klein J, U.S. Preventive Services Task Force. Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use: a summary of the evidence for the United States Preventive Services Task Force. *Ann Intern Med* 2004;140:557–68.
30. Institute of Medicine. from cancer patient to cancer survivor: lost in translation. Washington, D.C.: National Academies Press; 2005.