Teams in Primary Care

An Annotated Bibliography

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Yalda Jabbarpour, MD

Robert L. Phillips, Jr. Health Policy Fellow
Robert Graham Center
Georgetown University School of Medicine

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Policy Studies in Family Medicine and Primary Care

METHODS

An Ovid MEDLINE search was conducted using the search terms "teams" and "primary care." The search was limited to articles in English and yielded 873 results. These results were narrowed through a review of titles and abstracts for relevance to the topic and audience. Articles were further narrowed based on their level of evidence. A "snowball" method of reviewing the bibliographies and suggestions by expert reviewers at the Robert Graham Center, led to inclusion of other important articles.

ABBREVIATIONS USED IN THIS BIBLIOGRAPHY

BHI   Behavioral Health Integration

CHC   Community Health Centers

HIT   Health Information Technology

KSA   Knowledge, Skills and Attitudes

PCMH   Patient Centered Medical Home

PCMH-N Patient Centered Medical Home Neighborhood

PCP   Primary care physician

PCSC   Patient Centered Specialty Care

QALY   Quality Adjusted Life Years

Linking Primary Care, Public Health, and the Community

The healthcare "team" on a larger scale encompasses the patient's entire community. There are numerous benefits to the patient and community as a whole by linking the patient with community health resources. Public health initiatives have improved patient outcomes in many disease processes such as hypertension and asthma control. The reviews and perspectives below also highlight that most efforts to integrate care delivery in primary care and public health thus far have been locally implemented with very few examples of successful integration on a larger/national scale.

IOM (Institute of Medicine). 2012. Primary Care and Public Health: Exploring Integration to Improve Population Health. Washington, DC: The National Academies Press.

> A report created by the Institute of Medicine in response to a request from the Health Resources and Service Administration (HRSA) and the Centers for Disease Control and Prevention (CDC) examining the integration of primary care and public health. The expert committee was tasked with identifying the best examples of effective public health and primary care integration and the factors that sustain these efforts. They offer a pathway for implementing these local efforts on a national scale.

Bell, J., and M. Standish. 2005. Communities and health policy: A pathway for change. Health Affairs 24(2):339-342.

> This article explores the social determinants of health and suggests that the health of an individual is strongly tied to the health of the community. Using the specific examples of asthma and obesity, the authors explore how community organizations, policy makers, primary care physicians and businesses can work together to improve the health of a community.

Levesque J-F, Breton M, Senn N, Levesque P, Bergeron P, Roy DA, MD. The interaction of public health and primary care: functional roles and organizational models that bridge individual and population perspectives. Public Health Reviews. 2103;35

> This review aims to better understand how public health and primary care interact by identifying their shared functions, and by identifying existing models that could facilitate the interaction between the two domains. The authors conducted a review of published literature using PubMed and CINAHL journal and outline specific ways in which public health and primary care collide to strengthen the health of the community at large.

Shenson, D., Benson W., and Harris A.C. (2008). Expanding the delivery of clinical preventive services through community collaboration: The SPARC model. Preventing Chronic Disease 5(1):A20.

> The authors of this paper examine a model of promoting preventive services in New England pioneered by the community non-profit agency: Sickness Prevention Achieved through Regional Collaboration (SPARC). In this model preventive services such as mammography and immunizations are provided in the community (schools, grocery stores, local events) and are sometimes bundled to provide multiple preventive services at once (i.e. offering mammogram referrals at a flu shot clinic). The authors found that the SPARC model provides a practical framework for improving the community-wide delivery of disease prevention services.

Cook J., Michener J.L., Lyn M., Lobach D., and Johnson F. (2010). Community Collaboration To improve care and reduce health disparities. Health Affairs 29(5):956-958.

> This article examines the Durham Community Health Network, a public-private partnership providing care management for Durham County residents enrolled in Medicaid or the Children's Health Insurance Program (CHIP). In this system, care managers are assigned to work individually with patients (and their families) enrolled in Medicaid or CHIP who have chronic diseases. The authors review key benefits of this community based program and also review some challenges to its success.

Brownstein, J. N., Chowdhury, F. M., Norris, S. L., Horsley, T., Jack, L., Zhang, X., & Satterfield, D. (2007). Effectiveness of Community Health Workers in the Care of People with Hypertension. American Journal of Preventive Medicine, 32(5), 435–447.

> This systematic review examines the effectiveness of community health workers in supporting the care of people with hypertension. Fourteen studies were identified, including eight randomized controlled trials (RCTs). Significant improvements in controlling blood pressure were reported in seven of the eight RCTs. Several studies reported significant improvements in participants' self-management behaviors, including appointment keeping and adherence to antihypertensive medications. Four studies reported positive changes in healthcare utilization and in systems outcomes. Two of the RCTs showed significant improvements in other patient outcomes, such as changes in heart mass and risk of CVD. The authors conclude that community health workers may have an important impact on the self-management of hypertension.

Integrated Primary Care and Mental Health

Many studies that we reviewed demonstrated significant improvements in patient mental health outcomes when primary care and mental health care were integrated. Each study presented a slightly different model of integration, highlighting the fact that no ideal team can be defined, but most of the team structures explored consisted of a PCP and case manager or mental health professional.

Green, L. A., & Cifuentes, M. (2015). Advancing Care Together by Integrating Primary Care and Behavioral Health. The Journal of the American Board of Family Medicine, 28(Supplement 1), S1–S6.

This editorial is a summary of the comprehensive supplement of the Journal of the American Board of Family Medicine in 2015 which explores lessons learned in integrating primary care and behavioral health. The majority of the evidence presented in the supplement is taken from two studies which assessed practices that integrated primary care and behavioral health: Advancing Care Together and Integrated Workforce Study. The articles in the supplement make the case for integration but also demonstrate barriers to effectively integrating primary care and behavioral health including behavioral health workforce issues, data and HIT issues, care process and structural issues and cost and payment issues. They conclude that although practices can be successfully innovated on their own, they are generally more successful when using learning collaboratives and outside practice support assistance.

Tice JA, Ollendorf DA, Reed SJ, Shore KK, Weissberg J, Pearson SD. Integrating behavioral health into primary care. Institute for clinical and economic review. Available from: http://ctaf.org/sites/default/ files/u148/CTAF_BHI_Draft_Report_031115R.pdf.

This assessment reviews the available body of evidence on the cost-effectiveness of integrated behavioral health, exploring two models in particular: The Collaborative Care Model and the Behavioral Health Consultant in California and New England. The authors looked at cost effectiveness of these models as well as improvement in patient outcomes. They found that BHI falls within generally-acceptable thresholds for cost-effectiveness ($15,000 - $80,000 per QALY gained vs. usual care).

Thota, A. B., Sipe, T. A., Byard, G. J., Zometa, C. S., Hahn, R. A., McKnight-Eily, L. R., et al. (2012). Collaborative care to improve the management of depressive disorders: a community guide systematic review and meta-analysis. American Journal of Preventive Medicine, 42(5), 525–538.

This systematic review and meta-analysis found that current evidence demonstrates the effectiveness of collaborative care models in the treatment of depressive disorders. These interventions are applicable in most primary care settings and for most populations to improve a range of depression outcomes. Each of the articles reviewed had slight variations to the collaborative model, but most consisted of a primary care physician, a mental health professional and/or a care manager. Few variables that substantially changed the effectiveness of this type of intervention were found, suggesting that although collaborative care models are composed of several moving parts working simultaneously, it remains difficult to identify and estimate the individual contributions of specific components to overall effectiveness.

Gilbody, S., Bower, P., Fletcher, J., Richards, D., & Sutton, A. J. (2006). Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. Archives of Internal Medicine, 166(21), 2314–2321.

This meta-analysis attempted to quantify the effectiveness of collaborative care compared with standard care in patients with depression. The study included randomized controlled trials with patients with depression being managed in primary care settings using a collaborative care approach, broadly defined as a multifaceted intervention involving combinations of 3 distinct professionals working collaboratively within the primary care setting: a case manager, a primary care practitioner, and a mental health specialist. The authors showed that collaborative care is more effective than standard care in improving depression outcomes in the short and longer terms. This was the first meta-analysis to examine the long term (>1 year) effects of collaborative care.

Katon, W. J., Lin, E. H. B., Von Korff, M., Ciechanowski, P., Ludman, E. J., Young, B., McCulloch, D. (2010). Collaborative Care for Patients with Depression and Chronic Illnesses. New England Journal of Medicine, 363(27), 2611–2620.

In this randomized control trial, patients were randomly assigned to the usual-care group or to the intervention group, in which a medically supervised nurse, working with each patient's primary care physician, provided guideline-based, collaborative care management, with the goal of controlling risk factors associated with multiple diseases. Endpoints included improvement in LDL, A1C and SCL-20 depression scores. As compared with usual care, an intervention involving nurses who provided guideline-based, patient-centered management of depression and chronic disease significantly improved control of medical disease and depression.

Innovations in Primary Care Teams

Transition from the individual practitioner to a team based approach decreases physician burnout and has led improved patient satisfaction. Some authors suggest that smaller teams foster better communication and coordination, while others suggest that decentralizing power by including more members in a team is beneficial. This series of articles reinforces the fact that there is no known ideal team composition and suggests that perhaps a greater focus should be on team culture and not team makeup.

Mitchell, P., Wynia, M., Golden, R., McNellis, B., Okun, S., Webb, C. E., Von Kohorn, I. (2012). Core principles & values of effective team-based health care. Washington, DC: Institute of Medicine.

This report from the Institute of Medicine summarizes the core principals of team based care and provides examples of each principal using existing teams from around the country. It summarizes the organizational support needed to achieve and maintain high functioning health care teams.

Bodenheimer, T., & Willard-Grace, R. (2016). Teamlets in Primary Care: Enhancing the Patient and Clinician Experience. The Journal of the American Board of Family Medicine, 29(1), 135–138.

The authors suggest that patients of small or solo practices may have better continuity of care and seem more satisfied with their care as compared to patients in large practices. At the same time, the number of small or solo practices in primary care is shrinking, while larger practices grow. They suggest that a "teamlet" model composed of one physician working with the same MA every day may be a feasible way for larger practices to achieve the same continuity of care for their patients as small and solo practices. Their work has shown that this improves patient satisfaction and reduces provider burn-out.

Grumbach, K., & Bodenheimer, T. (2004). Can health care teams improve primary care practice? Jama, 291(10), 1246–1251.

This article examines two bright spots in team based care: a private primary care practice in Bangor, ME and Kaiser Permanente's Georgia region primary care sites. Although different in their team structure, both groups include physician and non-physician professionals working together, and possess certain characteristics that the authors conclude are crucial to the success of health care teams: clear goals with measurable outcomes, clinical and administrative systems, division of labor, training of all team members, and effective communication.

Willard-Grace R, Hessler D, Rogers E, Dube K, Bodenheimer T, Grumbach K. Team structure and culture are associated with lower burnout in primary care. J Am Board Fam Med 2014 Mar-Apr;7(2):229-38.

The authors conducted surveys of primary care physicians and their staff members in the city of San Francisco and found that a positive team culture led to less physician and staff exhaustion. They also showed that tight team structure (i.e. teamlets vs. teams) helped promote team culture.

Sinsky CA, Willard-Grace R, Schutzbank AM, Sinsky TA, Margolius D, Bodenheimer T. In search of joy in practice: a report of 23 high-functioning primary care practices. Ann Fam Med. 2013 May-Jun; 11(3):272-8.

> The authors visited 23 high-functioning primary care practices throughout the country and compiled a narrative summary of techniques they employed to help facilitate "joy in practice." Although there was no standard set of techniques used, a few common themes emerged. Highly functioning primary care practices have stable, well-trained teams which work together every day and meet regularly, they have standardized work flows with higher levels of clinical support personnel, and teamwork is facilitated by proximity of workstations and frequent opportunities for face-to-face verbal communication (as opposed to messages through EHR).

O'Malley AS, Gourevitch R, Draper K, Bond A, Tirodkar MA. (2015) Overcoming challenges to teamwork in patient-centered medical homes: a qualitative study. J Gen Intern Med), 30(2): 183-92.

> Through interviews with practices across the country that have achieved NCQA PCMH status, the authors of this paper give practical solutions to common problems encountered in teamwork in the outpatient clinical setting. The common successful practices of PCMH's mentioned were: 1) delegating non-physician tasks away from the physician through workflows created and reviewed by staff members. 2) Providing data to physicians and staff members regarding achievements gained by workflow changes in order to obtain "buy in." 3) Huddling daily with the physician/MA/RN teamlet to help delegate roles for the day and for pre-visit planning. 4) Including nurse care managers as part of the team. 5) Supporting a formal team training exercise.

Milstein A, Gilbertson E. American medical home runs. (2009 Sep-Oct) Health Aff (Millwood). 28(5): 1317-26.

> Through interviews with practice leaders of 4 primary care offices who were identified as being models in terms of spending and quality of care for their patients, the authors were able to pinpoint certain characteristics that helped these practices achieve exemplar status. An overarching theme was these practices provided exceptional individualized care and they were able to do this by standardizing care processes so that non-physician team members could safely and efficiently perform patient care related tasks. Also by careful selection of medical specialists they were able to narrow their specialist pool (the medical neighborhood), thereby standardizing care for specialty conditions which in turn helped them cut costs and provide more coordinated care.

Mundt MP, Gilchrist VJ, Fleming MF, Zakletskaia LI, Tuan WJ, Beasley JW. Effects of primary care team social networks on quality of care and costs for patients with cardiovascular disease. Ann Fam Med. 2015 Mar; 13(2): 139-48.13(2): 139-48.

> This study evaluated which primary care team social network structures were associated with higher quality of care for patients with cardiovascular disease. Through interviews with team members from 31 teams in 6 centers across the country and modeling of social networks based on these interviews, the authors concluded that teams with higher density (i.e. more face to face contact) and less centralization (more members per team) had fewer hospital days and lower medical care costs.

Bielaszka-DuVernay, C. (2011). Vermont's blueprint for medical homes, community health teams, and better health at lower cost. Health Affairs 30(3):383-386.

This paper explores the Vermont Blueprint for Health, a statewide public-private initiative to transform care delivery, improve health outcomes, and enable everyone in the state to receive seamless, well-coordinated care. Among other practices, the initiative utilizes community health teams to connect patients with behavioral health, chronic care managers and social services. Early results from the pilot program show improvements in clinical measures such as improved control of hypertension, as well as decreases in hospital admissions and emergency department visits.

Wagner, E. H. (2000). The role of patient care teams in chronic disease management. British Medical Journal 320(7234):569-572.

By drawing on examples of bright spots in primary care teams, the author of this article suggests that successful teams often include nurses and pharmacists who ensure the critical elements of care that doctors many not have the time or training to do well such as population management, protocol based regulation of medication, self-management support, and intensive follow up. The participation of medical specialists in consultative and educational roles outside conventional referrals may also contribute to better outcomes.

Smith, M., Bates, D. W., & Bodenheimer, T. S. (2013). Pharmacists Belong In Accountable Care Organizations And Integrated Care Teams. Health Affairs, 32(11), 1963–1970.

This article highlights the importance of integrating pharmacists into the health care team. Results from bright spots across the country show improvement in control of chronic conditions such as diabetes, and associated cost savings when pharmacists are part of the primary care team. The authors suggest methods for successful integration of pharmacists into teams and even offer suggestions of how to reimburse pharmacists based on different payment models.

Integrating the Patient into the Team

Not many studies were found that directly examined the effects of integrating the patient into the team or how to best accomplish this integration, indicating that more objective data is needed.

Davis, K., Schoenbaum, S. C., & Audet, A.-M. (2005). A 2020 vision of patient-centered primary care. Journal of General Internal Medicine, 20(10), 953–957.

> *This article proposes a vision for patient centered primary care. It begins by outlining the features of practices that are successfully able to integrate the patient into the team. The authors then provide examples from other nations where involving patients directly in their care has been successful and ends with a brief proposal of how we can successfully accomplish this in the United States.*

Wen, J., & Schulman, K. A. (2014). Can Team-Based Care Improve Patient Satisfaction? A Systematic Review of Randomized Controlled Trials. PLoS ONE, 9(7), e100603.

> This paper reports a systematic review of the relationship between team-based care and patient satisfaction. There was some evidence to shows that team based care is better than usual care in improving patient satisfaction, but further large scale high quality randomized control trials are needed as many of the included trials were suboptimal.

Advancing Teamwork Between the Medical Home & Neighborhood

These articles demonstrate that an important component of team based care is effectively integrating specialists into the care of the physician. In order to make the medical neighborhood a meaningful part of the medical team physicians need to design practices that structurally and culturally foster direct communication between primary care physicians and specialists.

Fisher, E. S. (2008). Building a Medical Neighborhood for the Medical Home. New England Journal of Medicine, 359(12), 1202–1205.

In this brief perspective, Fisher first introduces the idea of the Medical Neighborhood. He proposes that the care of a patient is maximized when effective communication occurs between all physicians involved in their care, yet specialists have less financial incentive to participate in coordination of care. He offers a model where specialists are also rewarded financially for coordination of care.

Olayiwola JN, Bodenheimer T, Dubé K, Willard-Grace R, Grumbach K. Facilitating Care Integration in Community Health Centers: A Conceptual Framework and Literature Review on Best Practices for integration into the Medical Neighborhood. Blue Shield of California Foundation Report. March 2014.

The authors in this report use the principles of comprehensiveness and coordination to develop a framework of strategies and tools designed to connect the primary care team with the medical neighborhood. They outline the financial costs and burdens of each strategy so that CHC's can prioritize implementation. Although the strategies are aimed at CHC's in California, they are designed to be used by CHC's nationwide.

Taylor EF, Lake T, Nysenbaum J, Peterson G, Meyers D. Coordinating care in the medical neighborhood: critical components and available mechanisms. White Paper (Prepared by Mathematica Policy Research under ContractNo. HHSA290200900019I TO2). AHRQ Publication No. 11-0064. Rockville, MD: Agency for Healthcare Research and Quality. June 2011.

A report created by the AHRQ which explores the medical neighborhood and proposes strategies for better coordination of the currently fragmented system. By reviewing the current literature on medical neighborhoods, the authors define the players and propose a list of key components to highly functioning medical neighborhoods. They then offer tools to achieve highly functioning medical neighborhoods and examine the strengths and limitations of each.

American College of Physicians. The Patient-Centered Medical Home Neighbor: The Interface of the Patient-Centered Medical Home with Specialty/Subspecialty Practices.

Philadelphia: American College of Physicians; 2010: Policy Paper.

A position paper by the American College of Physician which outlines the concept of the Patient Centered Medical Home Neighbor. This paper highlights the important role of specialty and subspecialty practices within the PCMH model, provides a definition of the PCMH Neighbor (PCMH-N) concept, provides a framework to categorize interactions between PCMH and PCMH-N practices, offers a set of principles for the development of care coordination agreements between PCMH and PCMH-N and introduces the concept of a PCMH-N recognition process.

Greenberg, J. O., Barnett, M. L., Spinks, M. A., Dudley, J. C., & Frolkis, J. P. (2014). The "Medical Neighborhood": Integrating Primary and Specialty Care for Ambulatory Patients. JAMA Internal Medicine, 174(3), 454.

A concise review of the definition of medical neighborhoods, why they are needed, the challenges we face in creating medical neighborhoods and what the ideal medical neighborhood would look like. The authors also create a table of proposed metrics to evaluate the medical neighborhood once it has been created.

Huang, X., & Rosenthal, M. B. (2014). Transforming Specialty Practice — The Patient-Centered Medical Neighborhood. New England Journal of Medicine, 370(15), 1376–1379.

In the perspective, the authors argue that a patient-centered medical neighborhood as it currently exists relegates specialty practices to the periphery with no true integration into the primary care team. A concept they suggest would be more effective than the patient centered medical neighborhood is the patient centered specialty practice which takes ideas from the PCMH model and applies it to specialty practices with the goals of improving communication between physicians and coordination of care. They review the components of the patient centered specialty practice and briefly review what early predictions of efficacy in terms of cost and utilization have shown.

Kim, B., Lucatorto, M., Hawthorne, K., Hersh, J., Myers, R., Elwy, A. R., & Graham, G. D. (2015). Care coordination between specialty care and primary care: a focus group study of provider perspectives on strong practices and improvement opportunities. Journal of Multidisciplinary Healthcare, 47.

In this article the authors review a series of nationally conducted focus groups of specialty and primary care providers within the VA aimed at assessing the current barriers to effective care coordination within the PCMH-N. Their qualitative analysis identifies communication as being an important enabler of coordination, and uncovers relationship building between specialty care and primary care to be the most notable facilitator of effective communication between the two sides. Results from this study suggest concrete next steps that medical facilities can take to improve care coordination in the PCMH-N.

Training for Teams / How to Build Adaptive Teams

These articles suggest that team training leads to better patient outcomes and explore a series of training methods adopted mostly from disciplines outside of medicine. There does not seem to be a consensus regarding the best way to train teams in healthcare, but all the studies seem to agree that training should be done with the team together, and should be implemented early in the process of creating teams.

Gittell, J. H., Beswick, J., Goldmann, D., & Wallack, S. S. (2015). Teamwork methods for accountable care: Relational coordination and TeamSTEPPS®. Health Care Management Review, 40(2), 116–125.

The authors in this article evaluate various teamwork measures and interventions that are currently in use and propose a framework to test their validity and applicability to health care teams. They conclude that the TeamSTEPPS intervention (developed by AHRQ) combined with relational coordination as a measurement tool is the ideal combination for training of health care teams.

Salas, E., D. Diaz Granados, C. Klein, C. S. Burke, K. C. Stagl, G. F. Goodwin, and S. M. Halpin. "Does Team Training Improve Team Performance? A Meta-Analysis." Human Factors: The Journal of the Human Factors and Ergonomics Society 50, no. 6 (December 1, 2008): 903–33. doi:10.1518/001872008X375009.

This meta-analysis examine the relationships between team training interventions and team functioning. Their findings suggest that team training interventions are a viable approach organizations can take in order to enhance team outcomes. Moreover, results suggest that training content, team membership stability, and team size moderate the effectiveness of team training interventions.

Buljac-Samardzic, M., Dekker-van Doorn,C , Van Wijngaarden J., Van Wijk, K. "Interventions to Improve Team Effectiveness: A Systematic Review." Health Policy 94, no. 3 (March 2010): 183–95.

The objective of this article was to review the literature on interventions to improve team effectiveness and identify their 'evidence based'-level. Most articles presented research with a low level of evidence but, positive results in combination with a moderate or high level of evidence were found for some specific interventions: simulation training, crew resource management training, team-based training and projects on continuous quality improvement.

Bedwell, W.L., Ramsay P.S., and Salas E. (2012)"Helping Fluid Teams Work: A Research Agenda for Effective Team Adaptation in Healthcare." Translational Behavioral Medicine (4): 504–9.

The purpose of this article is to review the available research surrounding medical team training, which they conclude is limited. By generalizing previous scientific findings regarding skills required for effective teamwork in other disciplines, they proposed specific training mechanisms that lead to more effective teams in healthcare. Many of these techniques rely on how to effectively share information and creating teams that are able to rotate roles based on expertise.

Weaver, S. J., Dy S.M. , and Rosen M.A. (2014)"Team-Training in Healthcare: A Narrative Synthesis of the Literature." BMJ Quality & Safety 23(5): 359–72.

This article reviews the current literature on team training and examines whether team training interventions affect patient outcomes. They found that overall, moderate-to-high-quality evidence suggests team-training can positively impact healthcare team processes and patient outcomes. Additionally, toolkits are available to support intervention development and implementation.

Baker, D.P., Salas E., King H., Battles J., and Barach P. (2005) "The Role of Teamwork in the Professional Education of Physicians: Current Status and Assessment Recommendations." The Joint Commission Journal on Quality and Patient Safety 31: (4)185–202.

This article addresses how teamwork could be assessed during physician medical education, board certification, licensure, and continuing practice. The authors review the knowledge, skills and attitudes (KSA's) necessary for effective teamwork. They argue that professional bodies should be responsible for the development of specific team knowledge and skill competencies and for promoting specific team attitude competencies. They review the tools that are available to assess medical student, resident, and physician competence in these critical team KSAs. The authors offer a series recommendations for how to enforce and train physicians in KSA's necessary for effective teamwork. Finally, they review the challenges surrounding the measurement of teamwork KSA's.