

The 10 Building Blocks of High-Performing Care

Thomas Bodenheimer, MD[†], Amireh Ghorob, MPH, Rachel Willard–Grace, MPH and Kevin Grumbach, MD

 Author Affiliations

CORRESPONDING AUTHOR: Thomas Bodenheimer, MD, Department of Family and Community Medicine, University of California, San Francisco, Bldg 80–83, SF General Hospital, 995 Potrero Ave, San Francisco, CA 94110, TBodenheimer@fcm.ucsf.edu or tbodie@earthlink.net

Abstract

Our experiences studying exemplar primary care practices, and our work assisting other practices to become more patient centered, led to a formulation of the essential elements of primary care, which we call the 10 building blocks of high-performing primary care. The building blocks include 4 foundational elements—engaged leadership, data-driven improvement, empanelment, and team-based care—that assist the implementation of the other 6 building blocks—patient-team partnership, population management, continuity of care, prompt access to care, comprehensiveness and care coordination, and a template of the future. The building blocks, which represent a synthesis of the innovative thinking that is transforming primary care in the United States, are both a description of existing high-performing practices and a model for improvement.

Key Words:

- primary health care
- practice management
- medical
- physician's practice patterns

INTRODUCTION

Achieving the triple aim of health reform—better health, improved patient experience, and more affordable costs—is dependent on a foundation of high-performing primary care. To this end, a vigorous movement is underway to re-engineer primary care practices. Both patients and care providers feel uncertain about how this new primary care model looks. Practices could benefit from a roadmap to help navigate the journey from old to new. In this article we describe a conceptual model that guides our work as practice improvement facilitators: the 10 building blocks of high-performing primary care. The model represents the synthesis of our thinking from a decade of observing and experiencing improvement work in primary care.

METHODS

Our development of the building blocks framework was based on case study methods using information from several sources: site visits by the authors and colleagues to 23 highly regarded practices,^{1,2} our experiences as practice facilitators in more than 25 practices, and a review of existing models and research on primary care improvement. Seven site visits were performed by the authors; for the others, the authors reviewed site visit reports, looking for descriptions of building block implementation.

Practices were selected for site visits on the basis of being known as innovators and having a reputation for high performance in 1 or more of the triple aims. The 23 practices included 8 hospital-based clinics, 7 integrated delivery system sites, 6 federally qualified health centers, and 2 independent private practices. Seven of the 23 practices had 5 or fewer physicians.² Most of the 25 practices for which the authors have worked as practice facilitators are federally qualified health centers.

From these case studies and coaching experiences, we used an iterative process to identify common attributes of high-performing primary care. By comparing and discussing field notes, we discerned a set of elements—building blocks—that occurred with regularity among well-functioning practices. We cross-referenced emerging building block concepts with themes articulated in other published frameworks to look for shared elements. These frameworks included the Joint Principles of the Patient-Centered Medical Home (PCMH),³ various medical home recognition standards, the Change Concepts for Practice Transformation,⁴ University of Utah’s Care by Design,⁵ and published research on practice transformation.^{6,7} We also vetted the model with practices during our work in the field and refined the model in response to their feedback.

Our development of the building block model was prompted by our recognition of some important limitations of existing frameworks for understanding the key attributes of high-performing primary care.

Starfield’s 4 Pillars of Primary Care

In 1992 Barbara Starfield articulated the 4 pillars of primary care practice: first-contact care, continuity of care, comprehensive care, and coordination of care.^{8,9} These pillars were the foundation for all future elaborations of key primary care attributes. In 2007, 4 primary care professional societies coalesced around a vision for primary care—the Joint Principles of the Patient-Centered Medical Home.³ Although the Starfield pillars and Joint Principles describe the essential functions of primary care, they do not offer specific guidance on operationalizing these functions.

Patient-Centered Medical Home Recognition Standards

The publication of the Joint Principles stimulated efforts to define the PCMH in more detail. Propelling this effort was the willingness of some payers to consider enhanced payments to practices meeting certain qualifications. In 2008 (modified in 2011) the National Committee on Quality Assurance (NCQA) unveiled a PCMH recognition process with specific requirements.¹⁰ The Joint Commission and URAC have developed their own recognition programs.¹¹


Practices find PCMH standards useful for targeting their improvement efforts; however, the PCMH recognition process has come under criticism. Practices may receive recognition without making fundamental change. Some believe that NCQA requirements are excessively prescriptive, using a checklist approach that may not be responsive to the needs of practices and patients.¹² A study of 30 Los Angeles community health centers found no association between NCQA medical home scores and the quality of diabetes care.⁶ Initiatives assisting practices to transform suggest that the process is long and complex.⁶

Research on Practice Transformation

Researchers studying primary care improvement have identified several facilitators and barriers to change.^{6,14,15} These findings, however, have not been formally codified into a set of core capabilities of high-performing primary care that can guide self-improvement work.

THE 10 BUILDING BLOCKS

The 10 building blocks of primary care embrace the Starfield 4 pillars, elements of the Joint Principles and PCMH recognition standards, and other core components (Figure 1). Although the practices we have studied and coached vary the order of implementing the building blocks, many have first established the 4 foundational building blocks of engaged leadership, data-driven improvement, empanelment, and team-based care before achieving success in the higher order blocks. For example, the Starfield essential primary care functions of access, continuity, comprehensiveness, and coordination perch near the top of the building blocks hierarchy; first-tier blocks often support achievement of these functions.

 [View larger version:](#) Figure 1

Block 1: Engaged Leadership, Creating a Practice-wide Vision With Concrete Goals and Objectives

High-performing practices have leaders fully engaged in the process of change. Even natural leaders learn the science of how to facilitate organizational transformation. High-performing practices have leadership at all levels of the organization; medical assistants, receptionists, clinicians, and other staff take on the mantle of changing how they and their colleagues do their work. Some engage patients in leadership roles, calling upon them as experts in the health care experience to identify priorities for improvement. Leaders create concrete, measurable goals and objectives, such as, the percentage of our patients with diabetes who have glycosylated hemoglobin (HbA_{1c}) levels greater than 9% will decrease from 20% to 10% by December 31, 2013.

Block 2: Data Driven Improvement Using Computer-Based Technology

Monitoring progress toward objectives requires the second building block: data systems that track clinical (eg, cancer screening and diabetes management), operational (continuity of care and access), and patients' experience metrics. Performance measures are often drilled down to each clinician and care team and are regularly shared with the entire staff to stimulate and evaluate improvement. Data charts may be displayed in prominent locations on the walls of the practice, and performance data are discussed in team meetings.

Block 3: Empanelment

Empanelment means linking each patient to a care team and a primary care clinician.¹⁶ Even though empanelment requires constant monitoring,¹⁶ many practices have viewed it as foundational. Empanelment is the basis for the therapeutic relationship that is essential for good primary care. To improve continuity (block 7) and establish a patient-team partnership (block 5), it is desirable that patients and care teams know each other. Empanelment interacts closely with team formation because teams assume responsibility for their patient panel.

Empanelment enables the practice to calculate adjusted panel size, which determines whether each clinician and team has a reasonable balance between patients' demand for care and the capacity to provide that care.¹⁷ Demand exceeding capacity impedes prompt access to care (block 8). Empanelment allows practices to adjust the workload among clinicians and teams.

Defined panels provide a denominator for performance measures (block 2). How does a clinician know the percentage of her diabetes patients with HbA_{1c} levels greater than 9%? First she needs to know the denominator: how many patients with diabetes are in her panel. Empanelment is also essential for identifying the patient population and stratifying by need for population management (block 6).

Block 4: Team-Based Care

High-performing practices view teams as a necessity for the survival of adult primary care. Clinicians without teams caring for a panel of 2,500 patients would spend 17.4 hours per day providing recommended acute, chronic, and preventive care.¹⁸ Yet panel size will inevitably grow as the shortage of adult primary care clinicians worsens.¹⁹ Many exemplar practices have created teams with well-trained nonclinicians who add primary care capacity.¹ Building teams that add capacity is called "sharing the care."²⁰

A problem with large teams is that patients may not identify 1 or 2 team members who know them well. To address this issue, high-performing practices generally organize their teams around teamlets—a stable pairing of a clinician and clinical assistant(s) who work together every day and share responsibility for the health of their panel.¹ Some practices have increased productivity or panel size by having 2 or 3 clinical assistants for each clinician.^{1,21,22} Often a larger team—perhaps a registered nurse, social worker, pharmacist, and behaviorist—supports several teamlets.

Some high-performing practices introduce side-by-side colocation of clinicians and nonclinician staff in common work areas (called pods), agree on ground rules that establish a respectful culture, perform daily huddles, and write standing orders empowering nonclinician staff to share the care. Practices may increase their panel size by assigning a subpanel of patients with uncomplicated chronic conditions to nurses or pharmacists who manage the chronic condition using standing orders.^{1,23,24}

Block 5: The Patient-Team Partnership

An effective partnership recognizes the expertise that patients bring to the medical encounter, as well as the evidence base and medical judgment of the clinician and team. Patients are not told what to do but are engaged in shared decision making that respects their personal goals. For patients with chronic conditions, health coaching (see block 6) provides a framework for self-management support.^{25,26}

Block 6: Population Management

High-performing practices stratify the needs of their patient panels and design team roles to match those needs. Three population-based functions provide major opportunities for sharing the care: panel management, health coaching, and complex care management. Panel management involves a staff member, usually a medical assistant or nurse, periodically checking the practice registry to identify patients who are due for routine services (eg, mammograms, colorectal cancer screening, and HbA_{1c} or low-density lipoprotein cholesterol laboratory work). Alternatively, the panel manager can check the health maintenance screen on the electronic medical record before a huddle or medical visit to look for care gaps for these services.²⁷ Standing orders enable panel managers to address care gaps without involving the clinician. In some practices, most routine care is completed before the clinician enters the examination room, so that visits can focus on patients' concerns, issues requiring the clinician's level of expertise, treatment options, and shared care plans.

For patients with chronic conditions, health coaching entails assessing patients' knowledge and motivation, providing information and skills, and engaging patients in behavior-changing action plans known to improve outcomes.^{25,28} Diabetes patients working with health coaches, whether medical assistants or other patients with diabetes, may have better outcomes than patients without health coaches.^{29,30} When medical assistants, nurses, health educators, or pharmacists act as health coaches, they usually are given protected time to assume this time-consuming function.

Complex care management has emerged as a way to address patients' needs that are medically and psychosocially complex, as well as patients who are high utilizers of expensive services. Teams headed by registered nurses or social workers have been shown to improve care and reduce costs for patients needing complex care management.³¹ Health coaching and complex care management take considerable time, and small practices can benefit from outside organizations assisting them with these functions.^{32,33}

Block 7: Continuity of Care



Continuity of care is associated with improved preventive and chronic care, greater patient and clinician experience, and lower costs.³⁴ To achieve continuity requires empanelment (block 3), which links each patient to a clinician and team. High-performing practices measure continuity for each clinician and achieve continuity goals of 75% to 85%. Reaching these goals requires the front desk staff to encourage patients to see the clinician to whom they are empaneled.¹

Block 8: Prompt Access to Care

Access is closely linked to patient satisfaction and is a prominent objective for many practices. Though the science of access is well-developed,³⁵ practices frequently fail in their efforts to reduce patient waiting.³⁶ Our experience has been that practices are more successful at improving access in a sustainable way when they first measure and control panel size (block 3) and build capacity-enhancing teams (block 4). Access and continuity may be in tension if patients prefer to see any clinician today than their own clinician next week. High-performing practices allow patients to decide which takes priority.

Block 9: Comprehensiveness and Care Coordination

One of Starfield's 4 pillars is comprehensiveness—the capacity of a practice to provide most of what patients need. Another pillar—care coordination—is the responsibility of primary care to arrange for services that primary care is unable to provide.³⁷ When a patient's needs go beyond primary care practice's level of comprehensiveness, care coordination is required with the other members of the medical neighborhood, such as hospitals, pharmacies, and specialists. In high-performing systems, clinicians automatically learn when their patients have been discharged from the hospital, and specialist referrals are used to their greatest capacity because diagnostic studies are secured in advance by the primary care clinician.³⁸ Improving care coordination requires teams because busy clinicians lack the time required to coordinate care for every patient with every health care institution. High-performing practices often include a care coordinator or referral coordinator whose sole responsibility is care coordination.

Block 10: Template of the Future

The crown of the building blocks is the template of the future.³⁹ Few practices have achieved this ultimate goal: a daily schedule that does not rely on the 15-minute in-person clinician visit but offers patients a variety of e-visits, telephone encounters, group appointments, and visits with other team members. Clinicians would have fewer and longer in-person visits and protected time for e-visits and telephone visits. With a team empowered to share the care, clinicians would be able to assume a new role—clinical leader and mentor of the team.

Full implementation of this future template requires payment reform that does not reward primary care simply for in-person clinician visits. Some practices are receiving non-visit-based care coordination and pay-for-performance dollars in addition to fee-for-service reimbursement, payments that begin to support new modes of patient encounters. More transformative is to eliminate fee-for-service payments altogether and pay for primary care on a risk-adjusted comprehensive fee per patient with adjustments for quality and patient experience. If primary care practices can reduce unnecessary emergency department and hospital costs for their patients, these practices could also receive a portion of the cost savings.⁴⁰

DISCUSSION

The 10 building blocks provide a practical conceptual model that can help practices in the journey toward becoming high-performing patient-centered medical homes. This model was derived from our observations of highly regarded primary care practices and from our engagement with other clinics on the journey of transformation. The building blocks focus on design elements largely under the control of the practice or practice organization. Clearly, external reforms are needed to support the building blocks—principally a reformed payment model.

Our development of the building blocks has important methodological limitations. Small, independent private practices are underrepresented in the case studies and practices we have coached. In 2008, 47% of practices included 5 or fewer physicians,⁴¹ although there is an accelerating trend toward consolidation.^{42,43} The building blocks model needs further refinement to be useful for small private practices. Nutting et al, summarizing their studies of small practices, concluded that there is “a set of characteristics found in many small primary care practices that are substantially unlike those in large integrated systems or federally qualified health centers.” These researchers, however, also posited several key attributes needed for small practices to succeed in advanced primary care models that align with the building blocks model: “rethinking the mission and strategies of the practice [block 1]; embracing the need for a meaningful care team approach [block 4]; and adopting a proactive, population-based approach to care [block 6].”¹⁴

We did not empirically test whether sequentially focusing improvement work using the building blocks as ordered from 1 to 10 is superior to other pathways of building block implementation. Although our observations and experiences have led us to suggest a degree of hierarchy in the building blocks, with some blocks being enablers of others, we acknowledge that there is no single right way of moving forward on practice improvement.

Our work on the building blocks model has not yet included research to systematically and quantitatively test whether practices that have more fully implemented the 10 building blocks perform better on triple aim measures than practices

implementing fewer building blocks. An extant evidence base exists, however, for most of the individual building blocks, demonstrating a favorable association with outcomes. For example, research has documented the salutary effects of continuity of care,³⁴ a population-oriented approach to chronic care,⁴⁴ teamwork,⁴⁵ and care coordination.³⁷ The foundational building blocks of engaged leadership and data-driven improvement are well-established precepts of quality improvement. Some evaluations, using other models and tools for assessing PCMH capabilities, overlap with many building block components and have found an association between a higher level of these attributes and better clinical performance.^{46,47}

To facilitate and evaluate improvement with the practices we coach, we have piloted a building block assessment (Supplemental Appendix), adapted from an instrument developed by the MacColl Center for Health Care Innovation. Although further research is needed to rigorously validate this instrument, we have found it useful as a self-assessment tool.

The 10 building blocks synthesize the innovative thinking that is inspiring the national movement for high-performing primary care. Even though the building blocks are not a universal roadmap, they can provide an overview that assists practices to transform.

Footnotes

Conflicts of interest: authors report none.

Previous presentations: Limited portions of this article were presented at University of California San Francisco, May 2012; Colorado Academy of Family Physicians, April 2013; University of Rochester School of Medicine, May 2013; and Kansas University Medical School, May 2013.

Supplementary materials: Available at <http://www.AnnFamMed.org/content/12/2/166/suppl/DC1/>

Received for publication May 9, 2013.
Revision received August 22, 2013.
Accepted for publication September 12, 2013.

© 2014 Annals of Family Medicine, Inc.

References

1. Willard R, Bodenheimer T. The California Healthcare Foundation. *The Building Blocks of High-Performing Primary Care: Lessons from the Field*. Oakland, CA: California HealthCare Foundation; 2012. <http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/B/PDF%20BuildingBlocksPrimaryCare.pdf>.
2. 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;11(3):272-278. » [Abstract/FREE Full Text](#)
3. Patient-Centered Primary Care Collaborative. *Joint Principles of the Patient-Centered Medical Home*. http://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/PCMHJoint.pdf. Accessed Aug 19, 2013.
4. Safety Net Medical Home Initiative. *Patient-centered care for the safety net*. <http://www.safetynetmedicalhome.org>. Accessed May 18, 2013.
5. Egger MJ, Day J, Scammon DL, Li Y, Wilson A, Magill MK. Correlation of the Care by Design primary care practice redesign model and the principles of the patient-centered medical home. *J Am Board Fam Med*. 2012;25(2):216-223. » [Abstract/FREE Full Text](#)
6. Nutting PA, Crabtree BF, Miller WL, Stange KC, Stewart E, Jaén C. Transforming physician practices to patient-centered medical homes: lessons from the national demonstration project. *Health Aff*

- (Millwood). 2011;30(3):439–445. » [Abstract/FREE Full Text](#)
7.  Stewart EE, Nutting PA, Crabtree BF, Stange KC, Miller WL, Jaén CR. Implementing the patient-centered medical home: observation and description of the national demonstration project. *Ann Fam Med*. 2010;8(Suppl 1):S21–32; S92. » [Abstract/FREE Full Text](#)
 8.  Starfield B. *Primary Care: Concept, Evaluation, and Policy*. New York, NY: Oxford University Press; 1992. » [Google Scholar](#)
 9.  Starfield B. *Primary Care: Balancing Health Needs, Services, and Technology*. New York, NY: Oxford University Press, 1998. » [Google Scholar](#)
 10.  National Committee for Quality Assurance (NCQA). *Patient-centered medical home recognition*. <http://www.ncqa.org/Programs/Recognition/PatientCenteredMedicalHomePCMH.aspx>. Accessed Mar 14, 2013.
 11.  Burton RA, Devers KJ, Berenson RA. *Patient-Centered Medical Home Recognition Tools: A Comparison of Ten Surveys' Content and Operational Details*. Washington DC: The Urban Institute; March 2012. » [Google Scholar](#)
 12.  Berenson RA, Hammons T, Gans DN, et al. A house is not a home: keeping patients at the center of practice redesign. *Health Aff (Millwood)*. 2008;27(5):1219–1230. » [Abstract/FREE Full Text](#)
 13.  Clarke RMA, Tseng CH, Brook RH, Brown AF. Tool used to assess how well community health centers function as medical homes may be flawed. *Health Aff (Millwood)*. 2012;31(3):627–635. » [Abstract/FREE Full Text](#)
 14.  Nutting PA, Crabtree BF, McDaniel RR. Small primary care practices face four hurdles—including a physician-centric mind-set—in becoming medical homes. *Health Aff (Millwood)*. 2012;31(11):2417–2422. » [Abstract/FREE Full Text](#)
 15.  Solberg LI. Improving medical practice: a conceptual framework. *Ann Fam Med*. 2007;5(3):251–256. » [Abstract/FREE Full Text](#)
 16.  Safety Net Medical Home Initiative. *Empanelment Part 1: Establishing Patient-Provider Relationships*, March 2010. <http://www.safetynetmedicalhome.org/sites/default/files/Implementation-Guide-Empanelment-1.pdf>. Accessed May 1, 2013.
 17.  Murray M, Davies M, Boushon B. Panel size: how many patients can one doctor manage? *Fam Pract Manag*. 2007;14(4):44–51. » [Medline](#) » [Google Scholar](#)
 18.  Yarnall KS, Østbye T, Krause KM, Pollak KI, Gradison M, Michener JL. Family physicians as team leaders: “time” to share the care. *Prev Chronic Dis*. 2009;6(2):A59. » [Medline](#) » [Google Scholar](#)
 19.  Bodenheimer T, Pham HH. Primary care: current problems and proposed solutions. *Health Aff (Millwood)*. 2010;29(5):799–805. » [Abstract/FREE Full Text](#)
 20.  Ghorob A, Bodenheimer T. Sharing the care to improve access to primary care. *N Engl J Med*. 2012;366(21):1955–1957. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 21.  Anderson P, Halley MD. A new approach to making your doctor–nurse team more productive. *Fam Pract Manag*. 2008;15(7):35–40. » [Medline](#) » [Google Scholar](#)
 22.  Patel MS, Arron MJ, Sinsky TA, et al. Estimating the staffing infrastructure for a patient-centered medical home. *Am J Manag Care*. 2013;19(6):509–516. » [Medline](#) » [Google Scholar](#)
 23.  Bunting BA, Smith BH, Sutherland SE. The Asheville Project: clinical and economic outcomes of a community-based long-term medication therapy management program for hypertension and dyslipidemia. *J Am Pharm Assoc (2003)*. 2008;48(1):23–31. » [CrossRef](#) » [Google Scholar](#)
 24.  Carter BL, Ardery G, Dawson JD, et al. Physician and pharmacist collaboration to improve blood pressure control. *Arch Intern Med*. 2009;169(21):1996–2002. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 25.  Bennett HD, Coleman EA, Parry C, Bodenheimer T, Chen EH. Health coaching for patients with chronic illness. *Fam Pract Manag*. 2010;17(5):24–29. » [Medline](#) » [Google Scholar](#)
 26.  Ghorob A. Health coaching: teaching patients how to fish. *Fam Pract Manag*. 2013;20(3):40–42. » [Medline](#) » [Google Scholar](#)
 27.  Chen EH, Bodenheimer T. Improving population health through team-based panel management: comment on “Electronic medical record reminders and panel management to improve primary care of elderly patients”. *Arch Intern Med*. 2011;171(17):1558–1559. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 28.  Naik AD, Palmer N, Petersen NJ, et al. Comparative effectiveness of goal setting in diabetes mellitus group clinics: randomized clinical trial. *Arch Intern Med*. 2011;171(5):453–459. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 29.  Thom DH, Ghorob A, Hessler D, De Vore D, Chen E, Bodenheimer TA. Impact of peer health coaching on glycemic

- control in low-income patients with diabetes: a randomized controlled trial. *Ann Fam Med*. 2013;11(2):137-144. » [Abstract/FREE Full Text](#)
30. Ivey SL, Tseng W, Kurtovich E, et al. Evaluating a culturally and linguistically competent health coach intervention for Chinese-American patients with diabetes. *Diabetes Spectrum*. 2012;25(2):93-102. » [Abstract/FREE Full Text](#)
 31. Bodenheimer T, Berry-Millett R. *Care Management for Patients with Complex Healthcare Needs*. Princeton, NJ: Robert Wood Johnson Foundation, 2009. » [Google Scholar](#)
 32. Steiner BD, Denham AC, Ashkin E, Newton WP, Wroth T, Dobson LA Jr. Community care of North Carolina: improving care through community health networks. *Ann Fam Med*. 2008;6(4):361-367. » [Abstract/FREE Full Text](#)
 33. Bielaszka-DuVernay C. Vermont's Blueprint for medical homes, community health teams, and better health at lower cost. *Health Aff (Millwood)*. 2011;30(3):383-386. » [FREE Full Text](#)
 34. Saultz JW, Lochner J. Interpersonal continuity of care and care outcomes: a critical review. *Ann Fam Med*. 2005;3(2):159-166. » [Abstract/FREE Full Text](#)
 35. Murray M, Berwick DM. Advanced access: reducing waiting and delays in primary care. *JAMA*. 2003;289(8):1035-1040. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 36. Mehrotra A, Keehl-Markowitz L, Ayanian JZ. Implementing open-access scheduling of visits in primary care practices: a cautionary tale. *Ann Intern Med*. 2008;148(12):915-922. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 37. Bodenheimer T. Coordinating care—a perilous journey through the health care system. *N Engl J Med*. 2008;358(10):1064-1071. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 38. Group Health Research Institute. *Improving Chronic Illness Care. Care coordination model*. http://www.improvingchroniccare.org/index.php?p=Care_Coordination_Model&s=353.
 39. Margolius D, Bodenheimer T. Transforming primary care: from past practice to the practice of the future. *Health Aff (Millwood)*. 2010;29(5):779-784. » [Abstract/FREE Full Text](#)
 40. *Report of the National Commission on Physician Payment Reform*. March, 2013. http://physicianpaymentcommission.org/wp-content/uploads/2013/03/physician_payment_report.pdf. Accessed Aug 19, 2013.
 41. Boukis ER, Cassil A, O'Malley AS. *A snapshot of US physicians: key findings from the 2008 Health Tracking Physician Survey*. Data Bulletin No. 35. Center for Studying Health System Change; September 2009. » [Google Scholar](#)
 42. Kocher R, Sahni NR. Hospitals' race to employ physicians—the logic behind a money-losing proposition. *N Engl J Med*. 2011;364(19): 1790-1793. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 43. Kirchhoff SM. *Physician Practices: Background, Organization, and Market Consolidation*. Congressional Research Service. January 2, 2013. <http://www.fas.org/sgp/crs/misc/R42880.pdf>. Accessed Aug 12, 2013.
 44. Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. *JAMA*. 2002;288(19):2469-2475. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 45. Grumbach K, Bodenheimer T. Can health care teams improve primary care practice? *JAMA*. 2004;291(10):1246-1251. » [CrossRef](#) » [Medline](#) » [Google Scholar](#)
 46. Jackson GL, Powers BJ, Chatterjee R, et al. The patient-centered medical home. A systematic review. *Ann Intern Med*. 2013;158(3):169-178. » [CrossRef](#) » [Google Scholar](#)
 47. Paustian ML, Alexander JA, El Reda DK, Wise CG, Green LA, Feters MD. Partial and Incremental PCMH Practice Transformation: Implications for Quality and Costs. [Epub ahead of print]. *Health Serv Res*. 2013. » [Google Scholar](#)