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Contents

Introduction

The effective coordination of a patient's health care services is a key component of high-quality and efficient care. Two relatively new models in health policy—the patient-centered medical home (PCMH) and Accountable Care Organizations (ACOs)—provide an opportunity to increase the extent and effectiveness of care coordination in the United States. [1] (American Academy of Family Physicians et al., 2007)

The two models can work in tandem, with medical homes providing the direct coordination of services and ACOs providing the infrastructure and incentives to facilitate collaboration across different types of providers and organizations.

For the purpose of this brief, we define care coordination as:

> *The deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care service. (* McDonald et al., 2007.)

Care coordination improves the quality, appropriateness, timeliness, and efficiency of clinical decisions and care, thereby improving the quality and efficiency of health care overall.

In this brief we first describe the goals of care coordination and the central role for primary care, followed by the specific activities involved in care coordination. Next we summarize the evidence on the effectiveness of different care coordination activities that PCMHs and ACOs can pursue. Finally, we suggest roles for PCMHs and ACOs in coordinating care and summarize key points.

[1] While the specific concept of the PCMH is relatively new, the idea of the medical home was developed more than 40 years ago in the field of pediatrics (American Academy of Family Physicians et al. 2007)

I. The Goals of Care Coordination

The two fundamental goals of care coordination are:

- To *transfer information*, such as medical history, medication lists, test results, and patient preferences, appropriately from one participant in a patient's care to another. This includes transferring information to or from the patient.

- To *establish accountability* by clarifying who is responsible for each aspect of a patient's overall care. This includes specifying who is primarily responsible for key care delivery activities, the extent of that responsibility, and when that responsibility will be transferred to other care participants. The accountable entity (whether a health care professional, care team, or health care organization) accepts responsibility for failures in the aspect(s) of care for which it is accountable. The patient or family also at times may be the accountable entity.

Coordination of care is one of the core functions of primary care. As conceptualized by Barbara Starfield and the Institute of Medicine, primary care consists of providing accessible, comprehensive, longitudinal, and *coordinated* care in the context of families and community. (National Academy of Sciences, 1996.) In this model, primary care promotes cohesive care by integrating the diverse services a patient may need. This integrative function–interpreting with patients the meaning of many streams of information and working together with the patient to make decisions based on the fullest understanding of this information in the context of a patient's values and preference–is one of the under-recognized and under-appreciated values of primary care. Nonetheless, it is one of the main reasons that primary care contributes substantially to the value of health care in many different health systems. (Starfield, 2005.)

Appropriate care coordination depends in large measure on the complexity of needs of each patient or population of patients. As complexity increases, the challenges involved in facilitating the delivery of appropriate care also increase, often exponentially. Factors that increase the complexity of care include multiple chronic or acute physical health problems, the social vulnerability of the patient, and a large number of providers and settings involved in a patient's care. Patients' preferences and their abilities to organize their own care can also affect the need for care coordination. For patients with uncomplicated care needs in ambulatory settings, primary care physicians may be able to coordinate care effectively as part of their routine clinical work. However, increasingly complex needs can overwhelm these informal or implicit coordinating functions, leading to the need for a care team to explicitly and proactively coordinate care. These teams might include individuals who specifically assume responsibility for coordinating a patient's care. For example, a frail elderly man with heart failure may benefit from a nurse care manager working in concert with his primary care physician and cardiologist

to coordinate services to optimize his functional status and reduce the likelihood of hospitalization.

Care coordination, however, is valuable for all patients, including those without complex chronic conditions. For example, the involvement of a primary care clinician in coordinating care for a patient with occasional migraine headaches and intermittent dyspepsia can reduce the likelihood of the patient receiving medications that have adverse drug interactions prescribed by different specialists focusing on each problem separately. Similarly, coordination between a radiologist, emergency department (ED) physician, and primary care clinician can be important in assuring appropriate followup of a worrisome incidental finding on a CT scan obtained in the ED for an unrelated acute problem.

II. Definitions of Care Coordination Activities[1]

Care coordination includes six specific activities:

1. Determine and update care coordination needs: Care coordination needs are based on a patient's health care needs and treatment recommendations, which reflect physical, psychological, and social factors. Coordination needs also are determined by the patient's current health and health history; functional status; self-management knowledge and behaviors; and needs for support services. The assessment of both care needs and care coordination needs should identify the patient's preferences and goals for health care. The assessment should be updated periodically and after new diagnoses or other changes in health or functional status. Needs assessment is an often overlooked foundational element in care coordination.

2. Create and update a proactive plan of care[2]: Establish and maintain a plan of care, jointly created and managed by patients and their families and their health care team. The plan of care outlines the patient's current and long-term needs and goals for care, identifies coordination needs, and addresses potential gaps. It also clarifies how the patient will reach the goals and who is responsible for implementing each part of the plan (e.g. the physician, care team, or patient). The care plan anticipates routine needs and tracks current progress toward patient goals.

3. Communicate: Exchange information, preferences, goals, and experiences among participants in a patient's care. Communication takes place in many forms including in person, over the phone, and in writing, both on paper

[2] Definition adapted from McDonald, et al, Care Coordination Measures Atlas, Agency for Healthcare Research and Quality, Forthcoming.

[3] Definition adapted from Brown et al. 2004.

over the phone, and in writing, both on paper and electronically. It also may be done directly or asynchronously.

a. ***Between health care professionals and patients and their families:*** Ensure that patients' preferences, goals, and experiences are communicated to providers, and that providers communicate to patients their assessment of the patient's health needs and care plans. Communication should be culturally and linguistically appropriate.

b. ***Within teams of health care professionals:*** Ensure that information and accountability are explicitly exchanged among members of the patient's care team. Professionals should continually ask themselves, "What do I know that others need to know?" and share appropriate information.

c. ***Across health care teams or settings:*** While similar to communication within teams, communication across teams and settings cannot rely on close proximity, frequent interactions, and personal connection to assure timely transfer of information and accountability. Timely, targeted, and formal communication systems across settings must be built, utilized, and maintained.

4. Facilitate transitions: Share information among providers and patients when the accountability for some aspect of a patient's care is transferred between two or more health care entities. Transitions require transfer of both accountability and information. This is especially critical when care moves between distinct settings, such as during a hospital discharge. Patients (and their families) often assume greater responsibilities during care transitions, especially when moving from a higher to lower level of care intensity. Patients, however, generally do not assume all responsibility for their care, and the health care providers who are assuming responsibility need to be included in the transfer of information during transitions. Examples include transitions from the inpatient (hospital) or skilled nursing facility setting to the ambulatory setting (i.e., physician's office), as well as transitions from acute episodes of care to chronic disease management.

5. Connect with community resources: Provide, and if necessary, coordinate services with additional resources available in the community that help support patients' health and wellness or meet their care goals. Community resources are any service or program outside the health care system that may support a patient's health and wellness. These include financial resources (e.g., Medicaid, food stamps), social services, educational resources, accessible schools for pediatric patients, support groups, or support programs (e.g., Meals on Wheels).

6. Align resources with population needs: At a system-level, assess the needs of populations to identify and address gaps in services. Aggregating the needs assessments of

individual patients is one method that should be used to identify the population's needs. Care coordination and feedback from providers and patients should also be used to identify opportunities for improvement. Examples of such population health coordination might be identifying clusters of patients who smoke and offering smoking cessation programs in those neighborhoods and identifying long wait times for specific subspecialty consultations and designing electronic referral systems that reduce referral delays.

III. Summary of Evidence from Care Coordination Activities

A review of existing evidence on care coordination suggests that some approaches work while others are not effective. We note that almost all models do not test the effects of care coordination in isolation, but rather in combination with some direct clinical services.

What Works

- Primary care, defined as coordinated comprehensive first contact care, is strongly associated with improved health and health system functioning. (Starfield, 2005.)

    - Recent *comprehensive* efforts to strengthen primary care, including implementation of the PCMH model, which includes an emphasis on the core coordinating functions of primary care, are demonstrating improved patient experience, improved staff experience, improved quality, and reduced ED and hospital utilization. (Reid et al. 2010; Paulus et al. 2008.)

- Well-designed, targeted care coordination interventions delivered to the right people can improve patient, provider, and payer outcomes.

    - Some models that combined care coordination and care have improved health outcomes and/or reduced hospitalizations, readmissions, and/or costs. (Paulus et al. 2008; Friedberg et al. 2009; Reid et al. 2009, 2010; Dorr et al. 2008; Leff et al. 2009; Counsell et al. 2007, 2009; Naylor et al. 2004; Coleman et al. 2006; Jack et al. 2009; Peikes et al. 2009.) Not all programs have been shown to be effective. (CMS 2008; McCall et al. 2008; Chen et al. 2007; Peikes et al. 2009.) Among effective programs, effects on hospitalization rates range from 8% to 46% reductions. Most have been determined to be effective only for high risk patients. (Peikes et al. 2009; Dorr et al. 2008; Leff et al. 2009; Counsell et al. 2007, 2009; Naylor et al. 2004; Coleman et al. 2006; Jack et al. 2009.)

- Targeted care coordination can be effective in several different settings.

    - Some successful models of targeted care coordination have been embedded in primary care offices. (Paulus et al. 2008; Friedberg et al. 2009; Reid et al. 2010; Dorr et al. 2008; Leff et al. 2009; Counsell et al. 2007, 2009.)

    - Other successful models of targeted care coordination have been administered outside the primary care practice but have built strong, personal links with the staff of primary care and specialty care offices. (Naylor et al. 2004; Coleman et al. 2006; Jack et al. 2009; Peikes et al. 2009.)

    - Some transitional care interventions have demonstrated positive results by using a targeted form of care coordination to empower and inform patients and families during the period of transition without directly engaging clinical care providers. (Naylor et al. 2004; Coleman et al. 2006; Jack et al. 2009.)

- Most successful models of care coordination have incorporated some (and often a high degree of) face-to-face interaction between patients and care coordinators to establish and maintain personal relationships.

- Almost all successful models of targeted care coordination have incorporated some face-to-face interaction between the designated care coordinators and clinicians.

- Targeted care coordination interventions are frequently most successful (or only successful) for high-risk/high need patients.

What Has Not Worked

- Disease management services provided primarily by telephone have not been effective for Medicare beneficiaries.

- Targeted care coordination services provided to low-risk Medicare patients have not been shown to improve the quality or utilization of care and at times have increased overall costs.

- Patient enrollment and participation in targeted care coordination programs have been challenging to achieve. Support by the patient's existing providers has helped promote participation.

IV. Suggested Roles of Medical Homes and ACOs in Coordinating Patient Care

From the vantage point of the PCMH, care coordination is a core activity. Through proactive care teams, primary care medical homes can both coordinate care with and for patients and use the results of good care coordination to develop appropriate care plans. For most patients in a primary care practice, the medical home team – which might include nurses, pharmacists, nurse practitioners, physicians, physician assistants, medical assistants, educators, behavioralists, social workers, care coordinators, and others – will take the lead in working with the patient to define care needs and to develop and update a plan of care. The PCMH team is also responsible for assuring communication with patients and their families and across the primary care team. The PCMH is responsible for partnering with professionals and teams in other settings that participate in a given patient's care including at times of care transitions. The PCMH should also be involved in connecting with community resources and aligning resources, although these functions may be led by or supported by other providers external to the PCMH.

It is critical that PCMHs have the resources needed to accomplish care coordination activities. Traditional fee-for-service reimbursement schemes that pay only for face-to-face visits with primary care professionals undermine the provision of care coordination services, especially for complex patients. A recent study of high-functioning primary care practices found that in addition to seeing an average of 18 patients, physicians also handle an average of 24 telephone calls, 17 emails, 12 prescription refills, and 45 reviews of laboratory, imaging, or consultation reports per day. (Baron 2010.) Requiring additional activities without compensation is unlikely to result in increased care coordination.

From the vantage point of an ACO, coordination of care is critical to achieving the dual goals of high-quality and high-value care. Building on the care coordination efforts of PCMHs, ACOs can ensure and incentivize communications among teams of providers operating in varied settings. Additionally, ACOs can facilitate transitions and align resources to meet the clinical care and care coordination needs of populations. This work includes and extends beyond creating hospital discharge care coordination programs to creating a "medical neighborhood" where providers share information with one another. Recognizing that, at times, primary responsibility for care coordination for specific patients, including assessing needs and developing a care plan, may be assigned to non-primary care specialty teams (for example, when patients are receiving a complex set of services for a particular disease, such as cancer or severe mental illness), ACOs can ensure that these transitions of accountability happen and that specialty teams are ready, willing, and able to provide these services. ACOs can also develop and support systems for care coordination for patients who reside in non-ambulatory care settings. Health information technology (Health IT) systems also are critical for the successful transfer of information. These

systems, when used appropriately, can play a critical role in establishing and monitoring accountability. For example, an ACO could use Health IT to monitor the timeliness and completeness of information flows between primary care providers and specialists, and use the tracking information to incentivize high levels of responsiveness and collaboration.

Bringing the PCMH and ACO Perspectives Together. A concept that bridges the PCMH and ACO perspectives on care coordination is "integrated care." As articulated by Anne Beal and the Aetna Foundation, "Integrated health care starts with good primary care and refers to the delivery of comprehensive health care services that are well coordinated with good communication among providers; includes informed and involved patients; and leads to high-quality, cost-effective care. At the center of integrated health care delivery is a high-performing primary care provider who can serve as a medical home for patients." (Aetna Foundation 2010.) As this definition indicates, a well-functioning patient-centered medical home is a necessary component of integrated care—but it is not sufficient. True integration also requires the type of cohesive medical neighborhood that is envisioned as a product of ACOs.

Summary

- Care coordination is an essential function of primary care and the PCMH.

- PCMHs require additional resources for care coordination. Health IT, appropriately-trained staff for team-based models of care coordination, and payment models that compensate PCMHs for the effort devoted to care coordination activities that fall outside the in-person patient visit may help to encourage coordination.

    - Current fee-for-service based reimbursement systems are not adequate to support care coordination functions in primary care and in fact disincentivize needed investments and activities.

- While all patients have care coordination needs and benefit from receiving appropriate coordination and the resulting improved care management, patients with complex health needs will benefit the most from care coordination.

    - Patient assessments should guide more intensive and personalized services to those with the greatest needs.

- Patients with conditions requiring complex care from multiple providers often need enhanced coordination of services. These enhanced services may require the support of skilled care coordinators who work closely with patients, families, and clinicians.

- Evidence suggests that care coordinators should be supported in having some face-to-face contact with patients in order to build trusting relationships.

- Comprehensive care coordinators can be integrated into PCMH primary care teams; if they operate in community settings outside of the PCMH office, coordinators must develop close and strong relationships with health professionals and teams.

- In addition to primary care-based care coordination, ACOs should develop additional care coordination programs for other settings including hospitals.

- The structures and functions of ACOs allow them to ensure high-quality care coordination by incentivizing both cooperation across care teams and settings and the transfer of accountability and information. Additionally, ACOs are well suited to aligning resources to meet population care coordination needs.

- Care coordination interventions, both in PCMHs and ACOs, should be designed to reflect the strengths and needs of local communities.

- Multiple models of care coordination are likely to be effective. To promote learning and quality improvement, care coordination efforts in PCMHs and ACOs should be evaluated and the results shared widely.

References

Aetna Foundation. Program Areas: Specifics. 2010. Accessed 8/2/10, at http://www.aetna.com/about-aetna-insurance/aetna-foundation/aetna-grants/program-area-specifics.html.

American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Osteopathic Association. Joint principles of a patient centered medical home. Mar 2007. Available at: http://www.aafp.org. Accessed November 12, 2009.

Baron, R. What's keeping us so busy in primary care? A snapshot from one practice. *New Engl J Med.* 2010;362(17):1632-1636.

Brown R, Schore J, Archibald N, Chen A, Peikes D, Sautter K, Lavin B, Aliotta S, Enso T. Coordinating Care for Medicare Beneficiaries: Early Experiences of 15 Demonstration Programs, their Patients, and Providers, Report to Congress. Mathematica Policy Research Policy Research, Inc. May 2004.

Chen A, Brown R, Esposito D, Schore J, Shapiro R. Report to Congress on the Evaluation of Medicare Disease Management Programs. Princeton, NJ: Mathematica Policy Research, Inc. February 14, 2008. (http://www.policyarchive.org/handle/10207/bitstreams/8795.pdf)

Coleman EA, Parry C, Chalmers S, and Min SJ. The care transitions intervention: results of a randomized controlled trial. *Arch Intern Med.* 2006;166(17):1822-1828.

Counsell SR, Callahan CM, Clark DO, et al. Geriatric care management for low-income seniors: a randomized controlled trial. *JAMA.* 2007;12;298(22):2623-2633.

Counsell, SR, Callahan CM, Tu W, Stump TE, Arling GW. Cost analysis of the geriatric resources for assessment and care of elders care management intervention. *J Am Geriatr* Soc. 2009;57(8):1420-1426.

Centers for Medicare & Medicaid Services. Completion of Phase I of Medicare Health Support Program. Fact Sheet. Baltimore, MD: CMS, 2008. https://www.cms.gov/CCIP/downloads/EOP_FactSheet_FINAL_012808.pdf. Accessed June 14, 2010.

Dorr DA, Wilcox AB, Brunker CP, Burdon RE, Donnelly SM. The effect of technology-supported, multidisease care management on the mortality and hospitalization of seniors. *J Am Geriatr* Soc. 2008;56(12):2195-2202.

Friedberg MW, Lai DJ, Hussey PS, Schneider EC. A guide to the medical home as a practice-level intervention. *Am J Man Care.* 2009;15:S291-S299.

Jack B, Chetty V, Anthony D, Greenwald J. A Re-engineered hospital discharge program to reduce rehospitalizations. *AIM.* 150(3)2009;178-187.

Leff B, Reider L, Frick K, et al. Guided care and the cost of complex health care: a preliminary report. *Am J Man Care.* 2009; 15(8):555-559.

McCall N, Cromwell J, Urato C, Rabiner D. Evaluation of Phase I of the Medicare Health Support Pilot Program Under Traditional Fee-for-Service Medicare 18-month Interim Analysis. Washington, DC: RTI International, October 2008. http://www.cms.gov/reports/downloads/MHS_Second_Report_to_Congress_October_2008.pdf.

McDonald KM, Sundaram V, Bravata DM, Lewis R, Lin N, Kraft S, McKinnon M, Paguntalan H, Owens DK. Care Coordination. Vol 7 of: Shojania KG, McDonald KM, Wachter RM, Owens DK, editors. Closing the quality gap: A critical analysis of quality improvement strategies. Technical Review 9 (Prepared by Stanford-UCSF Evidence-Based Practice Center under contract No. 290-02-0017). AHRQ Publication No. 04(07)-0051-7. Rockville, MD: Agency for Healthcare Research and Quality. June 2007.

National Academy of Sciences. Primary Care: America's Health in a New Era. Washington, DC. 1996.

Naylor MD, Brooten DA, Campbell RL, et al. Transitional care of older adults hospitalized with heart failure: A randomized, controlled trial. *J Am Geriatr Soc.* 2004;52(5): 675-684.

Paulus, RA, Davis K, Steele GD. Continuous innovation in health care: implications of the Geisinger experience. *Health Aff.* 2008;27(5):1235-1245.

Peikes D, Chen A, Schore J, and Brown R. Effects of care coordination on hospitalization, quality of care, and health care expenditures among medicare beneficiaries: 15 randomized trials. *JAMA*.. 2009, 301(6):,603-618.

Reid RJ, Coleman K, Johnson EA, Fishman PA, Hsu C, Soman MP, Trescott CE, Erikson M, Larson EB. The group health medical home at year two: cost savings, higher patient satisfaction, and less burnout for provider. *Health Aff*. 2010;29(5):835-843.

Reid RJ, Fishman PA, Yu O, Ross TR, Tufano JT, Soman MP, Larson EB. Patient-centered medical home demonstration: a prospective, quasi-experimental, before and after evaluation. *Am J Man Care*. 2009;15(9):e71-e87.

Starfield B, Shi L, and Macinko J. Contribution of primary care to health systems and health. *Milbank Q*. 2005;83(5):457–502.

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