Care Management: Implications for Medical Practice, Health Policy, and Health Services Research

Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

IMPROVING PRIMARY CARE

Care Management: Implications for Medical Practice, Health Policy, and Health Services Research

Timothy W. Farrell, MD[1,2,3]
Andrada Tomoaia – Cotisel, MPH, MHA[1, 4]
Debra L. Scammon, PhD[1, 5]
Julie Day, MD[6]
Rachel L. Day, BA[1]
Michael K. Magill, MD[1]

[1]Department of Family and Preventive Medicine, University of Utah School of Medicine, Salt Lake City, Utah [2]Division of Geriatrics, University of Utah School of Medicine, Salt Lake City, Utah [3]VA Salt Lake City Geriatric Research, Education, and Clinical Center, Salt Lake City, Utah [4]Department of Health Services Research and Policy, London School of Hygiene and Tropical Medicine, London [5]David Eccles School of Business, University of Utah, Salt Lake City, Utah [6]University of Utah Medical Group

Acknowledgements

The authors wish to acknowledge Michael I. Harrison, PhD, Janice L. Genevro, PhD, MSW, and David Meyers, MD, for carefully reviewing this issue brief.

Support

This work was funded by a subcontract with Econometrica, Inc. (2235-000-UTAH; PI: Magill), which was operating under AHRQ contract HHSA2902007 TO No. 5. The views expressed in this paper are solely those of the authors and do not represent any U.S. government agency or any institutions with which the authors are affiliated.

EXECUTIVE SUMMARY

Health care delivery systems throughout the United States are employing the triple aim (improving the experience of care, improving the health of populations, and reducing per capita costs of health care) as a framework to transform health care delivery.[1] Understanding and effectively managing population health is central to each of the aim's three elements. Care management (CM) has emerged as a leading practice-based strategy for managing the health of populations.

This issue brief highlights three key strategies to enhance existing or emerging CM programs: (1) identify population(s) with modifiable risks; (2) align CM services to the needs of the population(s); and (3) identify, prepare, and integrate appropriate personnel to deliver the needed services. This brief summarizes recommendations for decision-makers in practice and policy, as well as for future research. The brief's recommendations were informed by 14 Transforming Primary Care grants and 4 Delivery System Research grants, all funded by the Agency for Healthcare Research and Quality (AHRQ), the authors' experience, and the CM literature.

Key strategies and recommendations are listed in the Exhibit and discussed in more detail in the body of this issue brief.

CARE MANAGEMENT: A FUNDAMENTAL VEHICLE FOR MANAGING THE HEALTH OF POPULATIONS

OVERVIEW

In order to achieve the triple aim, health care delivery systems throughout the country are working to effectively treat patient populations, while at the same time decreasing health risks and health care costs. Care management (CM) has emerged as a primary means of managing the health of a defined population. Unlike case management, which tends to be disease-centric and administered by health plans,[2] CM is organized around the precept that appropriate interventions for individuals within a given population will reduce health risks and decrease the cost of care.

> Care Management is a promising team-based, patient-centered approach "designed to assist patients and their support systems in managing medical conditions more effectively."[3] It also encompasses those care coordination activities needed to help manage chronic illness.

The CM recommendations presented in this brief emerged from recent research funded by the Agency for Healthcare Research and Quality (AHRQ) on primary care practice transformation. In 2010, AHRQ funded 14 Transforming Primary Care grants and supported four additional Delivery System Research grants through American Recovery and Reinvestment Act funding. These 18 projects explored ways to more effectively and efficiently deliver primary care in various practice contexts (e.g. urban/rural and large/small practices).

Aims among these funded grants included the investigation of successful strategies for the implementation and practice of CM. A subgroup of 12 investigators conducted a narrative synthesis of experiences developing CM programs within different clinical, geographical, and administrative contexts.[4] Participants provided a brief summary of the study context, available data sources, and lessons learned. They also identified shared themes and provided case studies. Findings confirmed the importance of establishing CM services appropriate to the clinic context as well as the population served.

This issue brief was informed by the experience of the AHRQ grantees (including reports from the *Annals of Family Medicine* special issue on the Transforming Primary Care grants),[5-16] our own process of primary care practice transformation, and the CM literature more broadly. It presents practice and policy recommendations for the provision of CM services and highlights three key strategies to enhance CM for target populations: (1) identify population(s) with modifiable risks; (2) align CM services to the needs of the population(s); and (3) identify, prepare, and integrate appropriate personnel to deliver the needed services.

Despite the rapid and widespread adoption of CM, questions remain about the best way to optimize and pay for the mix of staff and services involved in its delivery. The current fee-for-service payment model does not generally reimburse practices for the CM and coordination services required to oversee panels of heterogeneous patients, many of whom have increasingly complex and comorbid conditions.[17]

The historical context of misaligned incentives notwithstanding, recent payment reform initiatives are well suited to CM. For example, transitional care management billing codes (99495, 99496) incentivize appropriate outpatient practices for patients moving from the hospital back into primary care settings,[18] and the Centers for Medicare & Medicaid Services (CMS) implemented new chronic care management billing codes in 2015.[19] Both CMS and private payors are starting to support the provision of CM services by either paying for the services directly or paying for the processes and outcomes associated with effective CM. Currently, the CMS Comprehensive Primary Care initiative[20] includes risk-stratified approaches to CM among five comprehensive primary care functions designed to achieve the triple aim. In addition, the Patient-Centered Primary Care Collaborative[21] considers CM components such as population management and risk stratification to be essential aspects of the medical home, and important across the continuum of care.

The Exhibit below presents practice, policy, and research recommendations intended to support and guide decision-making by primary care providers, practice managers, health systems administrators, payors, and governmental officials as they implement CM services and formulate policies to promote practice transformation. While we intend these strategies and recommendations to be broadly applicable, we recognize that they may not be appropriate for or relevant to all providers, administrators, and policymakers.

Exhibit. Key Care Management Strategies and Recommendations

Strategy	Recommendations for Medical Practice	Recommendations for Health Policy	Recommendations for Health Services Research
Identify populations with modifiable risks	▪ Use multiple metrics to identify patients with modifiable risks ▪ Develop risk-based approaches to identify patients most in need of care management	▪ Consider return on investment of providing CM services to patients with a broad set of eligibility requirements ▪ Establish metrics to identify and track CM outcomes to determine success ▪ Implement value-based payment methodologies through State and Federal tax incentives to practices for achieving the triple aim	▪ Determine the benefits to different patient segments from CM services ▪ Investigate the understanding of and parameters surrounding modifiable risks ▪ Develop/refine tools for risk stratification ▪ Develop predictive models to support risk stratification

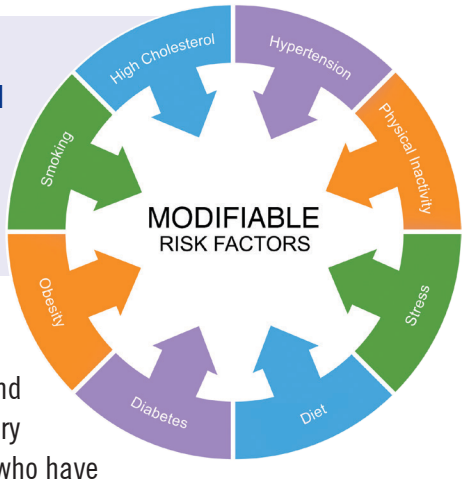
Strategy	Recommendations for Medical Practice	Recommendations for Health Policy	Recommendations for Health Services Research
Align CM services to the needs of the population	▪ Tailor CM services, with input from patients, to meet specific needs of populations with different modifiable risks ▪ Use EMR to facilitate care coordination and effective communication with patients and outreach to them	▪ Incentivize CM services through CMS transitional CM and chronic care coordination billing codes ▪ Provide variety of financial and non-financial supports to develop, implement and sustain CM ▪ Reward CM programs that achieve the triple aim	▪ Evaluate initiatives seeking to foster care alignment across providers ▪ Create a framework for aligning CM services across the medical neighborhood to reduce potentially harmful duplication of these services[22] ▪ Determine how best to implement CM services across the spectrum of long-term services and supports[22]
Identify and train personnel appropriate to the needed CM services	▪ Determine who should provide CM services given populations' needs and practice context ▪ Identify needed skills, appropriate training, and licensure ▪ Implement interprofessional team-based approaches to care	▪ Incentivize care manager training through loans or tuition subsidies ▪ Develop CM certification programs that recognize functional expertise	▪ Determine what team-building activities best support delivery of CM services ▪ Design protocols for workflow that accommodate CM services in different contexts ▪ Develop models for interprofessional education that bridge trainees at all levels and practicing health care professionals[23]

Strategy: Identify Populations with Modifiable Risks

Providers must be able to identify populations with modifiable risks if they are to manage and coordinate care in ways that help achieve the goals of cost savings, improved quality, and enhanced patient experience. While all patients are likely to benefit from basic elements of care coordination such as effective communication and the efficient exchange of information among care providers, it is critical that providers understand which patients are likely to benefit from more intensive CM. This requirement is particularly important for high-risk and/or high-cost populations. There may be other patients for whom CM interventions would have little impact.

To manage resources sustainably, practices must accurately identify individuals and entire populations that can control risk factors, and by doing so improve their health. Careful management of select

> Modifiable risk factors are those that an individual has control over and, if minimized, will increase the probability that a person will live a long and productive life.[24]



populations may increase the quality of care (e.g., improving the delivery of appropriate clinical preventive services), safety (e.g., medication reconciliation to avoid duplication and prescription errors), and efficiency (e.g., reducing unnecessary utilization). Consider, for example, a population of patients who have not yet developed one or more chronic diseases such as diabetes mellitus, but are at risk of doing so. The risk of progression from glucose intolerance to diabetes mellitus can be influenced by diet and exercise. Individuals within this "rising risk" population are at different stages of readiness to change, and consequently at different stages of modifiable risk. This insight allows providers to offer services at the appropriate level and time.

It is well understood that poorly executed transitions of care between different locations (e.g., from hospital to primary care) are associated with increased risks of adverse medication events, hospital readmissions, and higher health care costs.[25] Determining which transitions present the greatest risks, and targeting CM services to patients undergoing those transitions should conserve resources and lead to better cost and quality outcomes.

In the broadest terms, modifying risk includes improving health outcomes, positively influencing psychosocial concerns, as well as helping patients achieve goals that produce better health outcomes. Patient characteristics such as ethnicity, age, metabolic risk factors, smoking status, and chronic disease burden, as well as psychosocial issues, such as availability of caregiver support, help practices and payors identify individuals and populations that might benefit from CM services. An understanding of these variables may be helpful in designing supports to assist patients in achieving their individual goals. When risks do not appear to be modifiable, coordination of services can often benefit patients and their families. Coordination helps clarify roles and eliminate duplication of services.

The need for CM can also be identified through gaps in evidence-based care or by a triggering event, such as hospitalization. Appropriate identification of the need for CM services should be followed by engagement of patients and caregivers in shared decision-making to determine which CM services would be most appropriate to address patients' modifiable risks and optimize their health.

As medical practices focus on identifying populations with modifiable risks, their work could be supported by health policies that consider a broad set of eligibility criteria for patients receiving CM. Different CM services could be supported for patients with different needs. Policies should establish metrics by which needs for and outcomes from CM can be assessed. With these in mind, value-based payment methodologies could reward successful CM with State and Federal tax incentives for practices that achieve the triple aim.

Future research is needed to determine the benefits to different patient segments of CM strategies. For some patient segments, emergency department admissions and hospital readmissions may be reduced. For others, medication errors may be decreased. For yet others, individual engagement in self-management may be enhanced. There are also segments where all of these strategies will need to be employed. More work is needed to explore what constitutes modifiable risks. Beyond changing unhealthy behaviors, other types of risks may be modified with the targeted application of specific resources, such as patient education or addressing psychosocial needs. Although much progress has been made in the area of risk stratification tools, more work is needed to develop new tools and refine existing tools. Developing predictive models that support risk stratification will be especially significant.

Strategy: Align Care Management Services to the Needs of the Population

Alignment of care management with population needs promotes supportive, trusting relationships between providers and patients—a critical component of successful delivery of primary care and of CM. CM services can build a stronger relationship between the patient and provider and help extend that relationship to the care team. This trusting relationship facilitates the consideration of patient needs and preferences when adapting CM services to serve specific patients.

Key services directed toward the needs of particular populations include coordination of care, self-management support, and outreach.

Coordination of Care

Several CM services are intended to improve coordination of care. Although basic processes of care coordination should be an integral part of routine primary care, specific care coordination requirements vary among populations and among individuals. For high-risk and/or high-cost populations, personalized care plans play a critical role in coordinating care among various providers. Other services, such as coordination of specialty referrals, assistance with ancillary services, and referrals to and coordination with community services, also support high-risk and/or high-cost populations.

Self-Management Support

Self-management support is particularly important for patients dealing with chronic diseases and those with emerging modifiable risks. Understanding an individual's readiness to change, or his or her activation level, can help care managers employ motivational interviewing to set goals, track progress towards these goals, and foster individuals' self-management of their medical conditions.

Outreach

Outreach to patients is a critical service for managing patients with chronic conditions and those experiencing transitions of care. Contact with patients on disease registries facilitates ongoing outreach and the delivery of follow-up services. Phone calls to patients transitioning to lower levels of

care, such as from the inpatient hospital setting to home, can support reconnection with their primary care providers and reduce the risk of hospital readmission.[26] Informed by Coleman's "Four Pillars"® of effective transitional care,[27] outreach calls during transitions of care can address patients':

- Understanding of medication changes
- Awareness of signs for which they should seek medical attention
- Unanswered questions regarding their hospitalization
- Appropriate followup with primary care and/or specialty providers

Within each of these CM functions, clinical care such as medication reconciliation, assessment of adherence to treatment plans, and identification of adverse events can facilitate intensified treatment and/or mobilize clinic supports.

Financial incentives to perform the aforementioned care coordination, self-management support, and outreach activities are needed. For example, private payors could adopt incentives to perform CM and chronic care management activities similar to those implemented by CMS. Both public and private payors might also consider deploying additional financial incentives with respect to promoting self-management support. Policies that reward practices for achieving the triple aim could help support the development and implementation of CM programs and ensure their sustainability. In addition, payors can provide nonmonetary support for practice transformation via coaching, learning collaboratives, and coordination of CM provided by payors with that provided by practices.

In concert with these health policy goals involving alignment of CM services with population needs, research is needed regarding the development and implementation of CM services across the medical neighborhood, including the spectrum of long-term care services and supports.[28] For example, there is often considerable overlap of CM services across long-term care, leading to redundancy, role confusion, and potential for error.[22] Research is needed to evaluate initiatives, both individually and also from a systems perspective, that seek to foster care alignment across providers.

Strategy: Identify and train personnel appropriate to the needed CM services

Practice resources, along with the target population's clinical and psychosocial needs, will influence the background and training of personnel selected to deliver CM services. Different skill levels may be appropriate for the different CM services. For example, clinical pharmacists receive extensive training in conducting medication reconciliation, while social workers are well positioned to assess psychosocial needs and connect patients with community resources. There is often overlap between skill sets among those clinic staff providing CM services. For example, both nurses and social workers could provide effective coordination of care, self-management support, and transitions outreach calls.

Once patients' needs for CM services have been determined, practices must decide how best to assign staff to deliver those services. Two approaches should be considered: (1) assigning or hiring a dedicated care manager or (2) distributing CM functions across two or more clinic personnel. Dedicated care managers have diverse backgrounds (e.g. pharmacists, registered nurses, social workers, clergy, dieticians, unlicensed health coaches, child and family advocates, and medical assistants).

Assignment of clinically-oriented CM services such as medication reconciliation should be based upon the training and level of licensure of personnel.

Resource constraints may require the distribution of CM services among existing practice staff. For example, small practices may not be able to hire additional personnel. The fee-for–service payment model may initially limit the ability of smaller and/or resource-constrained practices to align the level of the CM services to the needs of their patient populations. However, in value-based payment models, alignment of clinic staffing with the needs of patient populations may be the most cost-effective approach.

The optimal delivery of CM services requires the right person for the right job. Individuals providing CM services must build trust with patients and with all members of the care team. Thus, interpersonal skills are highly valued. Similarly, the care team's culture must be receptive to the integration of the individuals delivering CM services. This may require culture change among the care team.

This coordinated, team-based approach to care is a departure from the traditional disease-oriented and provider-centric approach. As CM functions are added to the set of services a practice provides, the roles of the physician and other care team members may need to change. The integration of CM services will likely be most effective and sustainable if it is accompanied by broader transformation of the practice, its workforce, and its workflows.[29,30]

Loans or tuition subsidies should be considered to incentivize training that supports culture change toward coordinated, team-based care that includes CM. Training should emphasize competency in the provision of CM services regardless of the learner's previous background and qualifications.

The provision of CM training should be informed by research to support the optimal team-building activities that best support the delivery of CM services. Although research has addressed workflow in primary care teams, evidence suggests that optimal workflows are likely to be context-specific.[31] Hence, as practices add CM services research identifying best practices for workflow is needed. Finally, interprofessional education must be ingrained in the training of all health care trainees and professionals so that they are equipped to value interprofessional practice, understand the roles of other disciplines, communicate effectively, and function as high-performing teams.[32] Without such training in the core competencies of interprofessional practice, culture change embracing CM services will be difficult to achieve.

Conclusion

The development and implementation of CM parallels the rapid transformation of US health care delivery and payment systems over the last decade. CM is a team-based, patient-centered approach designed to address the increasing complexity of care in outpatient settings. It is both a process

innovation, with a new model of care and new care services, and a workforce innovation, involving new members of the care team.[33] This issue brief suggests that CM is a key tool for managing the health of populations. It presents three strategies for implementing CM: identifying populations with modifiable risk, aligning CM services to population needs, and identifying and training personnel appropriate to the needed CM functions. It further provides medical practice, health policy, and health services research recommendations. There is still much to learn about the effective implementation of CM. Research is needed to discover which CM services are most effective, the contexts in which they are ideally deployed, and how they are best executed. By practices working diligently to implement CM and policymakers supporting their efforts through changes in payment models and incentives for achieving the triple aim, improved management of the health of populations will be possible.

REFERENCES

1. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health and cost. Health Affairs 2008; 27(3):765-9.
2. Taylor EF, Machta RM, Meyers DS, Genevro J, Peikes DN. Enhancing the primary care team to provide redesigned care: the roles of practice facilitators and care managers. Ann Fam Med 2013; 11(1):80-83.
3. Centers for healthcare strategies. Care management definition and framework (2007). http://www.chcs.org/media/Care_Management_Framework.pdf
4. Tomoaia-Cotisel A, Farrell TW, Solberg LI et al. Implementation of care management: a narrative synthesis of recent AHRQ research [Under review.]
5. Scholle S, Asche SE, Morton S, Solberg LI, Tirodkar MA, Jaén CR. Support and strategies for change among small patient-centered medical home practices. Ann Fam Med 2013; 11:S6-13.
6. Dohan D, McCuistion MN, Frosch DL, Hung DY, Tai-Seale M. Recognition as a patient-centered medical home: fundamental or incidental? Ann Fam Med 2013; 11: S14-18.
7. Reid RJ, Johnson EA, Hsu C, Ehrlich K, Coleman K, Trescott C, Erikson M, Ross TR, Liss DT, Cromp D, and Fishman PA. Spreading a medical home redesign: effects on emergency department use and hospital admissions. Ann Fam Med 2013; 11:S19-26.
8. Donahue KE, Halladay JR, Wise A, Reiter K, Lee SY, Ward K, Mitchell M, Qaqish B. Facilitators of Transforming Primary Care: a look under the hood at practice leadership. Ann Fam Med 2013; 11:S27-33.
9. Driscoll DL, Hiratsuka V, Johnston JM, Norman S, Reilly KM, Shaw J, Smith J, Szafran QN, Dillard D. Process and outcomes of patient-centered medical care with Alaska native people at Southcentral Foundation. Ann Fam Med 2013; 11:S41-9.
10. Day J, Scammon DL, Kim J, Sheets-Mervis A, Day R, Tomoaia-Cotisel A, Waitzman NJ, Magill MK. Quality, satisfaction, and financial efficiency associated with elements of primary care practice transformation: preliminary findings. Ann Fam Med 2013; 11:S50-9.
11. Calman NS, Hauser D, Weiss L, Waltermaurer E, Molina-Ortiz E, Chantarat T, Bozack A. Becoming a patient-centered medical home: a 9-year transition for a network of federally qualified health centers. Ann Fam Med 2013; 11:S68-73.

12. Alexander JA, Paustian M, Wise CG, Green LA, Fetters MD, Mason M, El Reda DK. Assessment and measurement of patient-centered medical home implementation: the BCBSM experience. Ann Fam Med 2013; 11:S74-81.
13. Berry CA, Mijanovich T, Albert S, Winther CH, Paul MM, Ryan MS, McCullough C, Shih SH. Patient-centered medical home among small urban practices serving low-income and disadvantaged patients. Ann Fam Med 2013; 11:S82-9.
14. McAllister JW, Cooley WC, Van Cleave J, Boudreau AA, Kuhlthau K. Medical home transformation in pediatric primary care—what drives change? Ann Fam Med 2013; 11:S90-8.
15. Gabbay RA, Friedberg MW, Miller-Day M, Cronholm PF, Adelman A, Schneider EC. A positive deviance approach to understanding key features to improving diabetes care in the medical home. Ann Fam Med 2013; 11:S99-107.
16. Solberg LI, Crain AL, Tillema J, Scholle SH, Fontaine P, Whitebird R. Medical home transformation: a gradual process and a continuum of attainment. Ann Fam Med 2013; 11:S109-14.
17. Rich E, Lipson D, Libersky J, Parchman M. Coordinating care for adults with complex care needs in the Patient-Centered Medical Home: challenges and solutions. White paper (prepared by Mathematica Policy Research under Contract No. HHSA290200900019I/HHSA29032005T). AHRQ Publication No. 12-0010-EF. Rockville, MD: Agency for Healthcare Research and Quality. January 2012.
18. Medicare learning network: Transitional care management codes. http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/Transitional-Care-Management-Services-Fact-Sheet-ICN908628.pdf
19. CMS fact sheet: policy and payment changes to the Medicare Physician Fee Schedule for 2015. http://cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2014-Fact-sheets-items/2014-10-31-7.html
20. CMS comprehensive primary care initiative. http://innovation.cms.gov/initiatives/Comprehensive-Primary-Care-Initiative/
21. Shaljian M and Nielsen M. Managing populations, maximizing technology: population health management in the medical neighborhood. Patient-Centered Primary Care Collaborative (2013).
22. Achieving person-centered care through care coordination. The SCAN Foundation. Policy brief No. 8 (December 2013). http://thescanfoundation.org/achieving-person-centered-care-through-care-coordination
23. Health professions education: a bridge to quality. Institute of Medicine (2003).
24. Edington D. Emerging research: a view from one research center. Am J Health Promot 2001; 15(5):341-9.
25. Kripalani S, Jackson AT, Schnipper JL, Coleman EA. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitalists. Journal of Hospital Medicine 2007; 2(5):314-23.

26. Farrell TW, Tomoaia-Cotisel A, Scammon D, et al. Impact of an integrated transitions management program in primary care on hospital readmissions. J Healthc Qual 2015; 37(1): 81-92.
27. Coleman EA, Smith JD, Frank JC, et al. Preparing patients and caregivers to participate in care delivered across settings: The Care Transitions Intervention. J Am Geriatr Soc; 52(11): 1817-25.
28. Variation in health care spending: target decision making, not geography. Institute of Medicine (2013).
29. Peikes DN, Reid RJ, Day TJ, Cornwell DD, Dale SB, Baron RJ, Brown RS, Shapiro RJ. Staffing patterns of primary care practices in the comprehensive primary care initiative. Ann Fam Med 2014; 12(2):142-9.
30. Hoff T. Medical home implementation: a taxonomy of hard and soft best practices. Milbank Q 2013; 91(4):771-810.
31. Tomoaia-Cotisel A, Scammon DL, Waitzman NJ et al. Context matters: the experience of 14 research teams in systematically reporting contextual factors important for practice change. Ann Fam Med. 2013; 11 (Suppl1):S115-123.
32. Core competencies for interprofessional collaborative practice: report of an expert panel. Interprofessional Education Collaborative Expert Panel (2011).
33. Friedman A, Hahn KA, Etz R. A typology of primary care workforce innovations in the United States since 2000. Med Care 2014; 52(2):101-11.