

# Core Value, Community Connections:

▶ CARE COORDINATION  
IN THE MEDICAL HOME



*Patient-Centered*  
**Primary Care**

COLLABORATIVE

# Acknowledgments

This report was developed by Health2 Resources on behalf of the Patient-Centered Primary Care Collaborative (PCPCC). This document was supported with unrestricted grants from Merck and Phytel.

We would like to acknowledge and thank members of the PCPCC's Care Coordination Task Force, who offered valuable insights into the structure and format of this document as well as input for case examples selection. Special thanks are offered to the task force's leadership:

- **Julie Schilz**, *BSN, MBA, director*, Community Collaboratives & Practice Transformation, Colorado Beacon Consortium;
- **Guy Mansueto**, *MBA, vice president of marketing*, Phytel; and
- **Karen Moseley**, *research director*, Care Continuum Alliance

We would also like to thank the other members of the paper planning committee:

- **Angela Tobin**, *MA, LSW*, National Center for Medical Home Implementation
- **Joe Grundy**, TransforMED
- **Diane Cardwell**, TransforMED
- **Jettie Eddleman**, *BSN, RN*, TransforMED
- **Anshu Choudhri**, *MHS, BCBSA*

This publication would not be possible without the voluntary efforts of expert authors who contributed papers to this project. Grateful thanks are extended to these dedicated contributors:

- **Christine Bechtel**, *Vice President*, National Partnership for Women & Families
- **Walter Stewart**, *Ph.D., M.P.H., Director*, Geisinger Center for Health Research
- **Jaan Sidorov**, *MD, MHSA, FACP, Principal*, Sidorov Health Solutions
- **James Crawford**, *MD, Ph.D., Chair*, Department of Pathology and Laboratory Medicine, and Senior Vice President for Laboratory Services, North Shore-Long Island Jewish Health System
- **Jane Brock**, *MD, MSPH, Clinical Coordinator*, Colorado Foundation for Medical Care
- **Melinda Abrams**, *MS, Vice President*, The Commonwealth Fund

The PCPCC would also like to thank Health2 Resources, which served as project manager in the development of this report conducting research, writing, editing, and managing the expert author process. Specifically:

**Katherine H. Capps**  
*President*

**Sandy Mau**  
*Vice President of Communications*

**Roxanna Guilford-Blake**  
*Director of Strategic Communications*

# Table of Contents

## **Introduction ..... 4**

PCPCC Letter

A Note on The Medical Neighborhood

Introduction and Methodology

## **Section I: The Experts Speak..... 12**

Foreword

- The Medical Home Experience: The Patient’s Role in Shared Decision Making, and Team Communication
- Practical Population Health Management Tools in the Patient-centered Medical Home
- Use of Information Systems to Support Coordination of Care Improving Transitions of Care: Evidence-Based Models and Effective Implementation Practices
- Care Coordination Measurement: Guidance on Setting up Systems to Monitor Performance in Medical Homes
- Improving Transitions of Care: Evidence-based Models and Effective Implementation Practices

## **Section II: Practices in the Spotlight: Case Examples ..... 42**

Introduction

- Case Example 1: Southwestern Vermont Medical Center
- Case Example 2: Bon Secours Virginia Medical Group
- Case Example 3: Allegiance Depression Management Program
- Case Example 4: Elmhurst Clinic, LLC
- Case Example 5: Trinity Clinic Whitehouse
- Case Example 6: St. Elizabeth Physicians

## **Section III: Practices in the Spotlight: Survey Responses..... 68**

Selected Respondents

- Allegiance Health, Medical Practice Management
- Bon Secours Virginia Medical Group
- Chapel Hill Pediatrics & Adolescents, PA
- Comprehensive Pediatric Care, P.C.
- Dartmouth Hitchcock Manchester
- Elmhurst Clinic, LLC
- Hudson River HealthCare
- Hudson Valley Primary Care
- Indiana University School of Medicine
- Jefferson Family Medicine Associates
- Sisters of Mercy Health System
- Southwestern Vermont Medical Center
- St. Elizabeth Physicians
- Trinity Clinic Whitehouse
- Westminster Medical Clinic

## A Note on The Medical Neighborhood

<sup>1</sup> The Patient-Centered Medical Home Neighbor: The Interface Of The Patient-Centered Medical Home With Specialty/Subspecialty Practices. Position paper, American College of Physicians, 2010 ([www.acponline.org/running\\_practice/pcmh/understanding/specialty\\_physicians.htm](http://www.acponline.org/running_practice/pcmh/understanding/specialty_physicians.htm))

<sup>2</sup> ACP Press release, American College of Physicians says Subspecialist “Neighbors” Vital Part of Patient Centered Medical Home, Oct., 12, 2010 ([www.acponline.org/pressroom/pcmh\\_neighbors.htm](http://www.acponline.org/pressroom/pcmh_neighbors.htm))

This paper focuses on care coordination in the patient-centered medical home; however, to cultivate a coordinated patient-centered health care delivery system, the PCMH model must be connected to the medical neighborhood. Coordinating care across providers means connecting with specialty and subspecialty providers, many of whom are essential to the successful treatment of chronic illnesses.

The American College of Physicians makes this case in a 2010 position paper. Realization of the full potential of the PCMH model of patient care to improve coordination and integration requires the cooperation of subspecialist physicians and other health care professionals, according to “The Patient-Centered Medical Home Neighbor: The Interface of the Patient-Centered Medical Home with Specialty/Subspecialty Practices.” The paper addresses the notion of the medical neighborhood in detail; it defines the concept and lays out a framework for how to foster improved collaboration between the PCMH and its medical neighbors.

“For a patient, the PCMH practice operates as the central hub for their health care information, providing both primary care and care coordination across different health care settings,” said J. Fred Ralston, Jr., MD, FACP, president of ACP. “For a PCMH to be functioning properly it must have an effective relationship with specialty/subspecialty physicians, hospitals, pharmacists, care managers, and others; making these ‘neighboring’ physicians and other health care providers is of the utmost importance to patient care.”

Resources: A basic model care coordination contract and a checklist of important information to include in referral requests (and neighbor responses to these requests) is available at [www.acponline.org/running\\_practice/pcmh/understanding/specialty\\_physicians.htm](http://www.acponline.org/running_practice/pcmh/understanding/specialty_physicians.htm).

# Introduction

Dear Colleagues:

The PCPCC is an open forum where health care stakeholders freely communicate and work synergistically to improve the American health care system. It works with a broad array of stakeholder organizations and individuals who share the belief that the patient-centered medical home (PCMH) offers a model for transforming health care delivery.

The Joint Principles of the Patient-Centered Medical Home state that “care is coordinated and/or integrated across all elements of the complex health care system and the patient’s community.” Care coordination has also been identified by the Institute of Medicine as a key strategy for potentially accomplishing quality improvements. The PCPCC’s Care Coordination Task Force, which operates under the Center for Multi-Stakeholder Demonstrations and is sponsor of this report, explores the role and issues associated with care coordination and the medical home.

It is important to note that, despite years of discussion and research, formalized care coordination is a relatively new concept for primary care practices. Measurement criteria for care coordination are emerging, but we are still watching the earliest stages of its evolution. It will be some time before the elements for success in care coordination are quantified on a broad scale, but the foundation has been laid for pilots and early adopters to educate and inform the greater primary care community in the years to come.

Appropriately, this report begins by firmly placing the patient at the center of the patient-centered medical home. Christine Bechtel, vice president, National Partnership for Women & Families captures this perfectly in the foreword with this succinct thought: “I just want my doctors to talk to each other.”

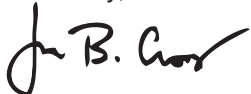
The expert articles offer insight into what is known and tested about care coordination, and are designed to offer a roadmap for new and emerging programs. The case examples in this report represent a range of programs at various stages in the journey. Care coordination is not a cookie-cutter exercise for the patient; its implementation in programs across practice types, sizes, and even practice sites within the same organization may be similarly varied. There is much to learn from what is being tried, tested and applied by those on the care coordination journey.

The report features three core elements:

1. Expert-authored articles on the definition, role and function of care coordination, as well as tools for implementation, and measurement and monitoring of its effectiveness
2. Case examples
3. Summary of survey responses from select practices

We hope you find this report to be thought-provoking, informative and inspiring. We encourage you to reach out to both the sites that were profiled and those with selected examples listed as they can offer valuable insight as you begin your own journey.

Sincerely,



**John B. Crosby, JD**  
*PCPCC Chair & Executive Director*  
American Osteopathic Association



**Paul Grundy, MD, M.P.H.**  
*PCPCC President, and IBM's Global Director*  
of Healthcare Transformation



## Methodology

The PCPCC Care Coordination Task Force has long been exploring the roles and issues associated with care coordination and the medical home. This paper emerged out of this effort. Although the planning began many months in advance, the planning committee and Health2 Resources began work in earnest in June 2011.

The committee and Health2 Resources met several times to discuss potential authors for the papers, agreeing on the six thought leaders to be invited by Health2 Resources to contribute.

Concurrently, Health2 Resources developed a market scan tool based on a case management framework (assess, plan, implement, coordinate, monitor and evaluate) to identify 30 pioneering practices. From that pool, 15 were selected to have their results included in this report and had the opportunity to review their results. The committee focused on selection of sites that offered diversity of geographic location, practice size, practice type and program focus. Selected survey responses and corresponding contact information for each site are found in Section IV. To further illuminate mechanics of the journey toward development of care coordination programs among a variety of settings, the committee selected six of the practices to feature in case profiles in found in Section III. Health2 Resources conducted one-to-one telephone interviews with leadership from those six entities and wrote the profiles to offer readers more insight into the work that is occurring in the field.

## Introduction: The Journey to Improved Care Coordination

Any discussion of care coordination must begin with acknowledgement of the lack of it in our current system. Poor—or nonexistent—care coordination is the source of many of our ills: fragmentation of care, cost inefficiency and poor outcomes.<sup>1</sup> Proper care coordination should allow for seamless transitions across the health care continuum in an effort to improve outcomes and reduce errors and redundancies. But, too often, those points of transition are the weakest links.

Clearly, the effective coordination of a patient's health care services is a key component of high quality, patient-centered, efficient care—care delivered in the medical home. While aspects of the medical home—such as use of electronic health records, increased access and payment reform—are more tangible elements to measure, patient-centered care coordination is no less vital to the medical home's success.

In studies of the medical home, care coordination has emerged as one of the key pillars of programs that have demonstrated improved outcomes and lowered costs.<sup>2</sup> Care coordination is more easily implemented in an integrated health care system as its costs and benefits are shared across payers and providers; however, the demand for care coordination in the primary care medical home setting is growing as stakeholders learn more about its

promise to improve care, particularly for the most vulnerable—the chronically ill. Because care coordination at the ambulatory level is challenging to implement, the case examples included in this report are offered to demonstrate how the strong potential for improved care coordination in the medical home, properly implemented, can have a positive effect on patient care. Many primary care practices are just beginning this journey, and their experiences as earlier adopters are instructive for new and emerging programs that will benefit patients and their families across the lifespan.

It is important to note that improvements in care coordination are just one aspect of the overall medical home picture. Achieving the benefits of care coordination requires an overall approach that includes a trusted relationship between a patient/family and their primary care team, effective use of health IT and other elements of the medical home. It requires a whole-patient orientation to care

Improved care coordination has captured the attention of all stakeholders; the advent of clearer definitions of and national guidelines for measurement of care coordination mean increased scrutiny of the process in the coming years. Employers and public payers seeking value in their chronic care program dollars spent, providers, insurers and consumers of care will all benefit from improvements in care coordination. By examining the work of trailblazers that illustrates the central role of care coordination in the medical home, all stakeholders can learn from and apply the lessons offered by this report.

More than a decade ago, the Institute of Medicine’s “*Crossing the Quality Chasm*” study highlighted the failings in care coordination. But bridging the chasm has taken too long. Now, thanks to the convergence of health care reform, health information technology, the patient-centered medical home—and the efforts of the PCPCC—care coordination is again in the spotlight. And there it must stay. Any serious, sustainable effort to transform health care delivery must embrace care coordination. The Institute for Healthcare Improvement’s Triple Aim—improve the health of the population; enhance the patient experience of care (including quality, access, and reliability); reduce, or at least control, the per capita cost of care—demands coordinated care.

Given its relative infancy in this context, it is not surprising that definitions of care coordination abound; one of the simplest—and most frequently cited—is from the Agency for Healthcare Research and Quality: “*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 services.*”

<sup>1</sup> Fisher ES, et al. Creating Value: Better Care Coordination, Better to Best: Value-Driving Elements of the Patient-centered Medical Home and Accountable Care Organizations; PCPCC, March 2011.

<sup>2</sup> Meyers D, Peikes D, Genevro J, Peterson Greg, Taylor EF, Tim Lake T, Smith K, Grumbach K. The Roles of Patient-Centered Medical Homes and Accountable Care Organizations in Coordinating Patient Care. AHRQ Publication No. 11-M005-EF. Rockville, MD: Agency for Healthcare Research and Quality. December 2010.

<sup>3</sup> 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.

That definition is an excellent beginning.

Here's a look at two other definitions of care coordination:

- In the care coordination chapter of the PCPCC report, *Better to Best: Value-Driving Elements of the Patient-Centered Medical Home and Accountable Care Organizations*, Elliott S. Fisher, MD, M.P.H., director, Center for Population Health, Dartmouth Institute for Health Policy and Clinical Practice, and his coauthors define care coordination (vis-à-vis the medical home) thusly: “[C]are coordination is an essential function of primary care and the PCMH. To be successful and sustainable, PCMHs require resources that enable care coordination, including health IT and appropriately trained staff for team-based models, as well as payment models that compensate PCMHs for the effort devoted to care coordination activities that fall outside the in-person patient visit.”<sup>4</sup>

In the same document, care coordination is characterized as “aimed at improving the transfer of patient care information, and establishing accountability by clearly delineating who is responsible for which aspect of patient care delivery and communication across the care continuum. There is substantial evidence that enhanced access and improved care coordination result in improved health outcomes and patient satisfaction, and decreased total costs of care for a defined population.”<sup>5</sup>

- A Commonwealth Fund report proposed a framework for care coordination in a high-performing pediatric health care system. It offered the following definition:

*“Pediatric care coordination is a patient- and family-centered, assessment-driven, team-based activity designed to meet the needs of children and youth while enhancing the care giving capabilities of families. Care coordination addresses interrelated medical, social, developmental, behavioral, educational, and financial needs in order to achieve optimal health and wellness outcomes.”<sup>6</sup>*

*Although pediatrics has led the way in patient and family care, the notion of family-centered care is not limited to pediatrics. Truly coordinated, patient-centered care requires engaged, activated, knowledgeable families—and a community that integrates families at all levels of planning and clinical care. It's not just doing for patients and families; it's partnering with them.*

<sup>4</sup> Fisher ES, et al. *Creating Value: Better Care Coordination, Better to Best: Value-Driving Elements of the Patient-centered Medical Home and Accountable Care Organizations*; PCPCC, March 2011. [http://www.pcpcc.net/files/better\\_best\\_guide\\_full\\_2011.pdf](http://www.pcpcc.net/files/better_best_guide_full_2011.pdf)

<sup>5</sup> Grumbach, K. and Grundy, Paul. *Outcomes of Implementing Patient-centered Medical Home Interventions: A Review of the Evidence from Prospective Evaluation Studies in the United States*. Patient-Centered Primary Care Collaborative 2010. Accessed at <http://www.pcpcc.net/content/pcmh-outcome-evidence-quality>

<sup>6</sup> R. C. Antonelli, J. W. McAllister, and J. Popp, *Making Care Coordination a Critical Component of the Pediatric Health System: A Multidisciplinary Framework*, The Commonwealth Fund, May 2009. [www.commonwealthfund.org/Publications/Fund-Reports/2009/May/Making-Care-Coordination-a-Critical-Component-of-the-Pediatric-Health-System.aspx](http://www.commonwealthfund.org/Publications/Fund-Reports/2009/May/Making-Care-Coordination-a-Critical-Component-of-the-Pediatric-Health-System.aspx)





As the journey continues, we will likely see refined definitions and enhanced metrics, not only for care coordination as a function, but also regarding who will serve on the team in the care coordination role.

## Learning From The Thought Leaders

The first section of this report includes six papers on different aspects of care coordination in the medical home; each is written by a leading expert in his or her field.

**Christine Bechtel**, *vice president*, National Partnership for Women & Families, sets the stage with her foreword, bringing the essential consumer/patient perspective and focusing on the patient in the patient-centered medical home. Her first 10 words clearly express the patient's core concern in the drive for better coordinated care, and are an engaging springboard for all that follows.

Sharing Geisinger's notable success with care coordination, **Walter Steward, Ph.D., MPH**, *director*, Geisinger Center for Health Research, and his colleagues write about what they have learned since the 2006 pilot launch of the ProvenHealth® Navigator, focusing on two key aspects: improved patient-centered shared decision making and building team communication.

Offering insights on population health management tools in the patient-centered medical home is thought leader—and popular blogger—**Jaan Sidorov, MD, MHSA, FACP**, *principal*, Sidorov Health Solutions. While these tools have long been recognized for their usefulness in the health benefits sector, the application of population health improvement tools—including elements that support care coordination—are still new to most primary care settings.

**James Crawford, MD, Ph.D.**, *chair*, department of pathology and laboratory medicine, and *senior vice president* for laboratory services at North Shore-Long Island Jewish Health System, offers important insights on information systems to support assessment, planning and coordination of care. He argues that the task of enabling the medical home to serve both as proactive coordinator of health care and reactive retriever of health information from all sources on every patient requires a robust infrastructure for information management.

**Jane Brock, MD, MSPH**, *clinical coordinator*, Colorado Foundation for Medical Care, tackles the challenging issue of transitions and handoffs, offering examples of what's working and what's being tested. She also offers practical action steps for motivated, patient-centered primary care practices to improve transitional care.


Finally, from The Commonwealth Fund, **Melinda Abrams, MS**, *vice president*, and **Georgette Lawlor**, *program associate* for Patient-Centered Coordinated Care, discuss how organizations are measuring and monitoring the effectiveness of care coordination.

## Testing Assumptions, Following The Process

The paper also features six profiles of practices, each of which has crafted its own unique approach to care coordination and are at different points in their journey. One example is from a behavioral health program that offers broad applicability to primary care practices aiming to improve coordination for a range of chronic conditions; others represent small practices, large group practices, multi-specialty practices, and an integrated health system. An underlying theme among them all is that improving care coordination is a journey, one guided by a framework established in other settings, but charting new territory in the medical home. Emerging evidence and new measurement tools guide the journey and offer opportunities for changing direction when change is needed to ensure truly patient-centered care.

It is not the intention of these case examples to offer detailed outcomes, scholarly footnotes or a catalogue of metrics. The practices profiled are blazing new trails and testing new approaches, often refining and expanding their vision as they travel this new path. It is a pioneering time in care coordination in the context of primary care, and within the medical home in particular; the case examples offer a glimpse into the activities of a variety of practices. Readers are encouraged to identify opportunities where additional tools, processes and evaluation criteria might play a role in the expansion and effectiveness of formalized care coordination programs within the context of the patient-centered medical home.

The case examples often offer real take-aways. The lessons they have learned—and are learning today—will shape the medical home of tomorrow. For example, this insight from **Jennifer Fels, RN, MS, director**, Southwestern Vermont Medical Center, offers a fresh take on coordination of care transitions:

 *“We’ve medicalized so many things, but transitions are not medical events,” Fels said. “It’s about the team working together. It’s a person event.”*

That “ha!” nugget of truth can only be learned from those living the daily experience of serving patients.

Several of those lessons are summarized in the introduction to Section II, but at least one insight bears repeating here: Care coordination takes the medical home into the larger care community; it is how you manage accountability across the care experience.

# Introduction

***A practice cannot coordinate care and improve care transitions in a vacuum.***

*Care coordination within the medical home context is not a discrete event; it requires an overall approach that includes providing a patient (and, when appropriate, his or her family) with a trusted relationship with a primary care team, effective use of health IT, enhanced access and, most important, a whole-patient approach to care.*

*After all, care coordination is not a stand-alone service that ends at the practice's property line. Rather, it is a bridge to connect services across the greater care community, cementing the medical home's foundation as the central hub of patient care and accountability. Likewise, it includes not only the patient, but the patient's family and community.*

We trust the insights you glean from these pioneering practices and expert thought leaders will guide you as you move forward with future care coordination efforts, and will bring us all closer to achieving the Triple Aim.

**Katherine H. Capps**

*President*

Health2 Resources

# Section I

## The Experts Speak

We asked five thought leaders to take on a topic related to care coordination, with the goal of offering primary care providers and other readers instructive, succinct, useful guidance for new and emerging programs.

We begin this section with the foreword by Christine Bechtel, *vice president*, National Partnership for Women & Families. It powerfully positions care coordination from the patient and consumer perspective.

From this vantage point we examine key elements of care coordination via chapters from our other experts: Population health management tools, the proactive plan of care and shared decision making, the use of health IT, care transitions and, finally, measuring and monitoring the effectiveness of care coordination.

# Foreword

## Christine Bechtel

Vice President

National Partnership for Women & Families

Campaign for Better Care

*“I just want my doctors to talk to each other.”*

In our work with patients and their families, this is the phrase we hear over and over again. It is not a wish that should be taken lightly or ignored. Patients understand that when their doctors don’t talk to each other, they are at greater risk for serious medical or medication errors, misdiagnoses, duplication and waste.

Patients today often encounter a non-system that is fragmented, disorganized and complex. It frequently fails to meet their most pressing needs, especially for individuals with multiple chronic conditions.<sup>1</sup> Older adults are among the most vulnerable—nine in ten have at least one chronic condition and 77 percent have multiple chronic conditions. Among those with five or more conditions, who are the heaviest users of the health care system, they make 37 visits to 14 different doctors, and receive 50 separate prescriptions a year.<sup>2</sup> The lack of meaningful care coordination in our health system drives up costs and leads to poor health outcomes for not only these individuals and their families, but for patients writ large. The burden of this failure is tremendous, in both financial and human terms.

Care coordination should be the hallmark of the medical home model of care, especially if it is to live up to its name—the “patient-centered medical home”. But what is it? Researchers have identified more than 40 definitions, and no consensus has emerged on a single approach.<sup>3</sup>

In 2008, the National Partnership collaborated with diverse consumer organizations and patient advocates working at the national, state and local levels to define what “*patient-centered care*” in a medical home model really means. They identified care coordination as a central component of patient-centered care, and agreed on the following key principle:<sup>4</sup>

<sup>1</sup> Machlin, S., Cohen J., & Beauregard, K. (2008). Health Care Expenses for Adults with Chronic Conditions, 2005. (Statistical Brief #203). Rockville, MD: Agency for Healthcare Research and Quality. [http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/st203/stat203.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/st203/stat203.pdf).

<sup>2</sup> Berenson, R. & Horvath, J. (2002). The Clinical Characteristics of Medicare Beneficiaries and Implications for Medicare Reform. Prepared for: The Center for Medicare Advocacy Conference on Medicare Coordinated Care, Washington, DC. [www.partnershipforsolutions.org](http://www.partnershipforsolutions.org)

<sup>3</sup> <http://www.ahrq.gov/qual/careatlas/careatlas2.htm#perspectives>.

<sup>4</sup> For the full set of Consumer Principles for Patient- and Family-Centered Care, visit [www.nationalpartnership.org/medicalhome](http://www.nationalpartnership.org/medicalhome).



The patient-centered medical home takes responsibility for coordinating its patients' health care across care settings and services over time, in consultation and collaboration with the patient and family. The care team:

- Helps patients choose specialists and obtain medical tests when necessary. The team informs specialists of any necessary accommodations for the patient's needs.
- Helps the patient access other needed providers or health services (including providers or health services not readily available in the patient's community, e.g., in a medically underserved area).
- Tracks referrals and test results, shares such information with patients, and ensures that patients receive appropriate follow-up care and help in understanding results and treatment recommendations.
- Ensures smooth transitions by assisting patients and families as the patient moves from one care setting to another, such as from hospital to home.
- Has systems in place that help prevent errors when multiple clinicians, hospitals, or other providers are caring for the same patient, such as medication reconciliation and shared medical records.
- Has systems in place to help patients with health insurance eligibility, coverage, and appeals or to refer patients to sources that can be of assistance.

In each of these, the team works with the patient and, when appropriate, the family and/or caregivers, to identify and meet patient needs.

Underpinning this principle is the notion of taking responsibility. For consumers, this means more than a "check the box" or half-hearted attempt to communicate with other providers. Rather, it implies a pro-active, ongoing and persistent effort to communicate and align the actions of care team members with the patient's own health goals. In national focus groups conducted by the Campaign for Better Care, patients and caregivers often expressed a desire to have a "go-to" person who helps them navigate the health system and ensure they get the care they need in a coordinated, holistic way.<sup>5</sup>

It is important to note that patients and families define the "care team" more broadly than the clinicians working in the primary care practice. Care team members also often include pharmacists, physical therapists, social workers, specialists and mental health providers, among others.

# The Experts Speak

*The care team composition is a direct reflection of the patient's health and life circumstances. It should go without saying that patients and their family caregivers view themselves as the central members of the team. This patient-centered view of the care team means care coordination must extend beyond our traditional, historic constructs to include all members of the care team as patients define it.*



In addition, patients need their care to be coordinated across settings and over time, which means access to and coordination with community resources, including home-based services. We can no longer afford to take a narrow view of health that is confined to the walls of medical practices and health care facilities. For many patients, achieving their health goals requires more than just medical treatment—it requires connection to and coordination with the culturally appropriate community resources they need to improve their health status. This may include social services, transportation, support groups and exercise programs. It often requires engaging the family, not just the individual patient.

<sup>5</sup> Bechtel, Christine and Ness, Debra: If You Build It, Will They Come? 10.1377/hlthaff.2010.0305; Health Affairs 29, NO. 5 (2010).

Those who react to these concepts as patients “wanting the moon” should think again. If the patient-centered medical home is to live up to its name, getting care coordination right—by doing it in a patient-centered way—is imperative. It is directly related to improving health outcomes and reducing costs. We must ensure that, in a medical home, doctors will talk to each other and to other care team members—and patients will be informed partners in making decisions about their care. This guide is a much needed resource that can help practices succeed in delivering on the promise of patient-centered care.

---

The National Partnership for Women & Families is a non-profit, non-partisan consumer advocacy group dedicated to promoting access to quality health care, fairness in the workplace and policies that help women and men meet the dual demands of work and family.

The Campaign for Better Care is working to ensure that the reformed health care system provides the comprehensive, coordinated, patient- and family-centered care that older adults and individuals with multiple health problems need. It is led by the National Partnership for Women & Families, Community Catalyst, The Leadership Conference on Civil and Human Rights, and the National Health Law Program—and funded by The Atlantic Philanthropies.



# A Medical Home Experience: The Patient's Role in Shared Decision Making and Team Communication

**Jove Graham, Ph.D.**  
**Thomas Graf, MD**  
**Walter F Stewart, Ph.D., M.P.H.**  
*Geisinger Health System, Danville, PA*

## Introduction

A majority of Medicare spending occurs among a minority of beneficiaries with multiple chronic health problems<sup>1</sup>. Evidence suggests that a coordinated approach to delivering care to these patients pays substantial dividends in quality and efficiency of health care<sup>2</sup>, and two key aspects of coordination are improved patient-centered shared decision making and team communication. We summarize our experience with these issues in the context of Geisinger's patient-centered medical home model. We briefly describe our experience, followed by a review of evidence relevant to these topics, and then we consider recommendations based on experience to date.

## Geisinger Experience

Geisinger Health System encompasses, and integrates strategies among, the Geisinger Health Plan (GHP), hospitals, and a diversity of provider services that include 38 practices of the Geisinger Clinic's Community Practice Service Line (CPSL). Geisinger's version of the patient-centered medical home, ProvenHealth Navigator (PHN), represents a partnership between CPSL and GHP to redesign primary care and to transition population management capabilities, including nurse case managers, from a centralized health plan model to a distributed practice-based model. PHN was deployed in multiple phases beginning in October 2006, and expanded to all Geisinger Clinic practices by October 2010. Additionally, non-Geisinger practices have been added and now comprise about 20 percent of the sites that are using the PHN model. Adoption of PHN both improved the quality of care and reduced overall health care costs for all of the patients through understanding the population by meaningful segments, determining health and wellness needs, and proactively providing care. PHN involves five core redesign components:

1. Patient-centered fundamental redesign of primary care services
2. Integrated population management at the site level
3. Improving access to high-value services

<sup>1</sup> Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? *J Health Soc Behav.* 1995;36:1-10.

<sup>2</sup> McDonald K, Sundaram V, Bravata D. Care Coordination. Vol 7 of: Shojania KG, McDonald KM, Wachter RM, Owens DK, eds. *Closing the quality gap: a critical analysis of quality improvement strategies.* Rockville, MD: Agency for Healthcare Research and Quality; 2007; AHRQ Publication No. 04(07)-0051-7.

<sup>3</sup> Gillfillan RJ, Tomcavage J, Rosenthal MB, et al. Value and the medical home: effects of transformed primary care. *Am J Manag Care.* 2010;16:607-614.

<sup>4</sup> Steele GD, Haynes JA, Davis DE, et al. How Geisinger's advanced medical home model argues the case for rapid-cycle innovation. *Health Affairs.* 2010;29:2047-53.

4. Monitoring of quality outcomes
5. A balanced value reimbursement model

The initial deployment of PHN to eleven clinics was evaluated using a pre-post observational study, details of which have been published elsewhere.<sup>3,4</sup> Using a pre-post design, evidence indicates that PHN has yielded multi-year reductions in hospital admissions and readmissions and an estimated 7 percent reduction in the overall cost of care. We specifically consider our approach to shared decision making and team care.

## The Patient's Role and Shared Decision-Making

When patients seek care, they can face a complex process over which they have relatively little perceived control. Actual patient-centered control is difficult to achieve as it requires that the patient is aware of and understands his or her own health problems, the options for dealing with these problems, the comparative risks, benefits, costs and consequences of relevant options, and the wherewithal to make rationale choices consistent with personal preferences.<sup>5</sup> In reality, patients are often passive recipients of information, where comprehension may vary substantially and is rarely verified. Involving patients in decisions about their own health care is generally regarded as good clinical practice in theory. In reality, the appropriate level of patient involvement is directly affected by level of risk,

strength of evidence, and complexity of the interventions, among other factors, and on the preferred approach to treatment decision-making<sup>6,7</sup> (i.e., paternalistic, informed and shared).

These different factors influence the amount of medical and personal information that flows from the clinician to the patient, and vice versa, and the quality of the communication itself. The quality of communication itself is mediated by a diversity of factors<sup>5,8</sup> including the types of information that must be exchanged for an informed decision, which itself may include the context and nature of the decision, uncertainty, desire for others' input, and patient preferences. Surgeons have been found to exchange more of this key information than primary care physicians, but patient uncertainty and understanding are the least frequently-discussed elements, regardless of decision complexity.<sup>9</sup> The fact that a patient's understanding is not discussed during an encounter does not necessarily mean that the patient does not understand. Several studies, however, have suggested that patients may come away with unrealistic expectations or fears about outcomes, often having more optimistic expectations than their physicians.<sup>10, 11, 12</sup> Improving patients' understanding of the risks and benefits of their care plans—including measures of uncertainty associated with various outcomes and the applicability of existing evidence to themselves as individuals—is thought to be critical to patient engagement, treatment adherence, and outcomes.

<sup>5</sup> Braddock CH, Fihn SD, Levinson W, Jonsen AR, Pearlman RA. How doctors and patients discuss routine clinical decisions: Informed decision making in the outpatient setting. *J Gen Intern Med.* 1997;12:339-45.

<sup>6</sup> Charles C, Gavni A, Whelan T. Shared decision-making in the medical encounter: What does it mean? (or, it takes at least two to tango). *Social Science and Medicine.* 1997;44:681-92.

<sup>7</sup> Charles C, Gavni A, Whelan T. Decision-making in the physician-patient encounter: Revisiting the shared treatment decision-making model. *Social Science and Medicine.* 1999;49:651-66.

<sup>8</sup> Braddock CH, Edwards KA, Hasenberg NM, Laidley TL, Levinson W. Informed decision making in outpatient practice: Time to get back to basics. *JAMA.* 1999;282:2313-20.

## Team Communication

Coordinating care for patients with chronic diseases is complex, involving numerous providers and care and communication processes. Disease management, case management, and Wagner's Chronic Care Model (CCM)<sup>13</sup> each offer an approach that attempts to transform how care is delivered, connected, and coordinated across independent care settings. The approaches to implementing these types of care processes are diverse and have defied efforts to develop a uniform definition. One literature review<sup>2</sup> identified 40 "distinct" definitions of care coordination and reflects the challenge associated with developing a common conceptual model. Nonetheless, interventions based around the concept of the medical home have been shown to be associated with higher quality and patient experience,<sup>14,15,16,17</sup> but only a small number of studies to date provide evidence about whether medical homes improve quality or yield health care cost savings. Two recent studies demonstrate both the challenges to practice transformation in primary care and the potential benefits in terms of patient and provider experience as well as preventable acute care utilization.<sup>18,19</sup>

An extensive number of systematic reviews<sup>2</sup> identify three common forms of care coordination intervention (multi-disciplinary teams, disease management and case management) which have most often been applied to patients with either congestive heart failure

(CHF) or diabetes. Interventions emphasizing **multi-disciplinary teams**, particularly specialty care teams, have demonstrated reduced mortality, hospitalization and re-hospitalizations.<sup>20,21</sup> Teams that used home-based interventions or telephone follow-up also substantially reduced all-cause and CHF-specific hospitalizations. Evidence of effectiveness of disease management is mixed and depends to some degree on the features of the intervention.<sup>22,23,24,25</sup> Compared to usual care, **disease management** programs for CHF reduced overall mortality, all-cause hospital admissions, and reduced CHF-specific admissions by over 40 percent, while nurse-only based interventions do not appear to reduce mortality. A minimal duration of intervention time (e.g., six months) is important to achieving effectiveness, and programs comprised of multiple key components accounted for most of the overall benefits (i.e., quality of life and cost savings) from disease management. Disease management for individuals with diabetes appeared to improve glycemic control where the most effective interventions involved pharmacists, patients and physicians.<sup>26,27</sup> Finally, **case management** typically involves a single person who is responsible for coordinating all care for a given patient.<sup>27,28</sup> The expectation is that integration and communication are likely to be more tightly managed with a case manager than they are for other models of care coordination. For CHF and diabetes, effective programs achieve outcomes on-par

<sup>9</sup> Braddock C, Hudak PL, Feldman JJ, Berecknyi S, Frankel RM, Levinson W. "Surgery is certainly one good option": Quality and time-efficiency of informed decision-making in surgery. *J Bone Joint Surg Am.* 2008;90:1830-38.

<sup>10</sup> Whittle J, Conigliaro J, Good CB, Kelley ME, Skanderson M. Understanding of the benefits of coronary revascularization procedures among patients who are offered such procedures. *Am Heart J.* 2007;154:662-8.

<sup>11</sup> Smith D, Loewenstein G, Jepson C, Jankovich A, Feldman H, Ubel P. Mispredicting and misremembering: Patients with renal failure overestimate improvements in quality of life after a kidney transplant. *Health Psychology.* 2008;27:653-8.



with disease management programs and usually involve either a physician with a nurse or case manager who closely monitors patient status, provides education and ensures regular contact.

While evidence suggests that care coordination improves outcomes, we note that most studies have been of relatively short duration (less than one year). Little is known about care coordination and multi-year impact on the cost and quality of care in the same inception cohort. In all cases, operational details on how components are integrated and deployed are critical for developing an integrated model for care coordination, understanding what components are essential and interchangeable, and adapting the model to a diversity of settings with comparable efficacy.

## Important Take-aways

With this local experience and literature evidence in mind, we conclude with the following important lessons learned.

## Building Team Communication

Effective and timely communication is critical to the performance of an effective medical home. This includes intra-team communication; communication between the medical home and neighboring facilities; and performance feedback on process, quality, and utilization. Intra-team communication needs to be focused on actionable information, grounded in patient preferences, and shared as

seamlessly as possible with all team members but with the responsible party clearly indicated. Electronic health records with automated connections to all team members can support this process. Communication between the medical home and the “medical neighborhood” (e.g., hospitals, skilled nursing facilities, home care agencies, specialty offices) is another key to facilitating success. Building specific relationships with key individuals and developing streamlined, automated systems is an important starting point. Finally, continuous improvement is only possible through regular, timely feedback on performance.

## Building shared decision-making into the visit workflow.

The most significant barrier to communication necessary for patient-centered shared decision-making is not unwillingness to communicate, but a shortage of time during a visit that is not designed to accommodate such interaction. It is paramount to proactively build such interaction into the visit rather than expect it to be added spontaneously on top of an already-busy schedule, with activities such as the following:

- Integrate the ability to capture patient-entered preferences in the exam room.
- Create automation that integrates this patient-entered data and preferences with physician and nurse workflows to maximize the ability for shared decision making to take place.

<sup>12</sup> Holmes-Rovner M, Price C, Rovner DR, et al. Men's theories about benign prostatic hyperplasia and prostate cancer following a benign prostatic hyperplasia decision aid. *J Gen Intern Med.* 2006;21:56-60.

<sup>13</sup> Wagner EH, Austin BT, Von Korff M. Organizing care for patients with chronic illness. *Milbank Q.* 1996;74:511-544.

<sup>14</sup> Grumbach K, Selby JV, Damborg C, et al. Resolving the gatekeeper conundrum: what patients value in primary care and referrals to specialists. *JAMA.* 1999;282:261-6.

<sup>15</sup> Bindman AB, Grumbach K, Osmond D. Preventable hospitalizations and access to health care. *JAMA.* 1995;274:305-11.

<sup>16</sup> Schoen C, Osborn R, Doty MM, Bishop M, Peugh J, Murukutla N. Toward higher-performance health systems: Adults' health care experiences in seven countries. *Health Affairs.* 2007;26:w717-w734.

<sup>17</sup> Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q.* 2005;83:457-502.

<sup>18</sup> Nutting PA, Miller WL, Crabtree BF, Jaen CR, Stewart EE, Stange KC. Initial lessons from the first national demonstration

<sup>19</sup> Reid RJ, Fishman PA, Yu O, et al. Patient-centered medical home demonstration: A prospective, quasi-experimental, before and after evaluation. *Am J Manag Care.* 2009;15:e71-87.

<sup>20</sup> Holland R, Battersby J, Harvey I, Lenaghan E, Smith J, Hay L. Systematic review of multidisciplinary interventions in heart failure. *Heart*. 2005;91:899-906.

<sup>21</sup> McAlister FA, Stewart S, Ferrua S, McMurray JJ. Multidisciplinary strategies for the management of heart failure patients at high risk for admission: A systematic review of randomized trials. *J Am Coll Cardiol*. 2004;44:810-9.

<sup>22</sup> Gohler A, Januzzi JL, Worrell SS, et al. A systematic meta-analysis of the efficacy and heterogeneity of disease management programs in congestive heart failure. *J Card Fail*. 2006;12:554-567.

<sup>23</sup> Roccaforte R, Demers C, Baldassarre F, Teo KK, Yusuf S. Effectiveness of comprehensive disease management programmes in improving clinical outcomes in heart failure patients. A meta-analysis. *Eur J Heart Fail*. 2005;7:1133-1144.

<sup>24</sup> Whellan DJ, Hasselblad V, Peterson E, O'Connor CM, Schulman KA. Metaanalysis and review of heart failure disease management randomized controlled clinical trials. *Am Heart J*. 2005;149:722-729.

<sup>25</sup> Yu DS, Thompson DR, Lee DT. Disease management programmes for older people with heart failure: Crucial characteristics which improve post-discharge outcomes. *Eur Heart J*. 2006;27:596-612.

<sup>26</sup> Knight K, Badamgarav E, Henning JM, et al. A systematic review of diabetes disease management programs. *Am J Manag Care*. 2005;11:242-250.

<sup>27</sup> Norris SL, Nichols PJ, Caspersen CJ, et al. The effectiveness of disease and case management for people with diabetes. A systematic review. *Am J Prev Med*. 2002;22:15-38.

<sup>28</sup> Windham BG, Bennett RG, Gottlieb S. Care management interventions for older patients with congestive heart failure. *Am J Manag Care*. 2003;9:447-59; 460-1.

- Design exam rooms to accommodate shared decision making by allowing shared viewing of pertinent information (e.g., ensure that computer monitors are large enough and visible from the patient's chair).
- Structure the visit flow to allow (and allow time for) active patient participation.
- Support all members of the team with shared decision making training, so that they consistently improve their ability to exchange relevant information with the patient.
- For patient communication that must take place outside of the office visit, be flexible in connecting with patients via whatever technology is most comfortable to them (e.g., telephone, email, smartphone, touchscreen).

## Conclusion

The medical home concept is widely supported as a means to coordinate care and improve patient outcomes, but the concept can be translated very differently in different settings and evidence is currently developing about how variation in the design or implementation influences its success.

Based on our local experience and literature, we emphasize that improving communication at multiple levels—within teams, across settings, and between provider and patient to encourage shared decision-making—are key elements that can be focused on and enhanced in any setting.

## Practical Population Health Management Tools in the Patient Centered Medical Home

**Jaan Sidorov, MD, MHSA**  
*Principal, Sidorov Health Solutions*

### Introduction

In response to the growing imperative of achieving the Triple Aim to

1. improve the experience of care,
2. improve the health of populations
3. reduce unnecessary costs<sup>1</sup>, many health care buyers, purchasers and providers have tapped into population health improvement (PHI).

This package of care interventions, which has been in use in many health care settings for over a decade, has three goals: Support the primary care clinicians' central role in the delivery of health care; help patients become responsibly active in their own care; and deliver coordinated programs in wellness, prevention, care coordination and case management.<sup>2</sup>

There is an emerging critical mass of evidence that demonstrates many of the elements that make up PHI's care program elements can achieve one or more of the Triple Aims.<sup>3,4,5</sup> According to the Care Continuum Alliance, specific elements include:

- population identification
- comprehensive needs assessments
- health promotion programs
- care management programs that assist patient self-management
- data management and
- analytic feedback loops that support the continuous evaluation of outcomes<sup>6</sup>

### PHI Tools that Support the PCMH

How can the multiple elements that make up PHI be distilled down to a practical set of tools to complement the elements of the patient-centered medical home and support provider practices as they launch successful care coordination programs?

Based on the published evidence as well as what is typically relied upon by insurers, businesses and government programs, they are:

1. health risk assessments
2. risk stratification
3. patient recruitment
4. care management
5. telemonitoring
6. data management
7. measurement services

Each is examined more fully below:

#### Health risk assessments (HRAs)

An HRA is any survey that estimates adverse outcomes for individuals using responses that are weighted and mathematically transformed into

<sup>1</sup> Berwick DM, Nolan TW, Whittington J: The triple aim: care, health, and cost. *Health Affairs* 2008;27(3):759-769.

<sup>2</sup> Care Continuum Alliance. *Advancing the Population Health Improvement Model*, available at [http://www.carecontinuum.org/phi\\_definition.asp](http://www.carecontinuum.org/phi_definition.asp), last accessed August 24, 2011.

<sup>3</sup> Felt-Lisk S, Higgin T: Exploring the promise and population health management programs to improve health. *Issue Brief, Mathematica Policy Research* August 2011, available at [http://www.mathematica-mpr.com/publications/PDFs/health/PHM\\_brief.pdf](http://www.mathematica-mpr.com/publications/PDFs/health/PHM_brief.pdf), last accessed August 24, 2011.

<sup>4</sup> Moskowitz D, Bodenheimer T: Moving from evidence-based medicine to evidence-based health. *J Gen Int Med* 2011;23(5):706-708.

numeric expressions of global or condition-specific risk. Most HRAs in use today are proprietary and used in worksite settings to complement health promotion programs.<sup>7,8</sup> Since the PCMH is accountable for the outcomes of its assigned group of patients, the HRA can identify persons who may benefit from early intervention.

### Risk Stratification

This health information technology uses multiple data inputs (including insurance claims, the electronic record and the HRA) to mathematically associate current health status with categories of future adverse outcomes. Also referred to as “predictive modeling,” it can further aid in the proactive identification of patients at risk who may be candidates for early outreach, care management intervention, expedited appointments with a physician or other coordination services available in the PCMH.<sup>9</sup>

### Patient Recruitment

Patient awareness of and engagement in the full suite of care coordination and management services of the PCMH may occur via word of mouth or one-on-one recruitment, but culturally appropriate, HIPAA-compliant and risk-stratified mass outreach using print, telephony and email can also assist in patient recruitment.<sup>10</sup> There are few studies on the success associated with the use of social media, but growing interest in the health care industry and consumers

in this area of communication suggests this will also be an important option in reaching out to health care consumers.<sup>11</sup>

### Care Management

This is the set of activities that assists patients and their support systems in managing medical conditions and related psychosocial problems more effectively in partnership with their providers, with the aims of improving patients’ functional health status, enhancing the coordination of care, eliminating the duplication of services and reducing the need for expensive medical services.<sup>12</sup> In the context of PHI, assisting patients emphasizes “shared decision making,” which provides unbiased information that allows health consumers to choose among treatment options based on their own values and preferences.<sup>13,14,15</sup> Provided in person as well as remotely, care management can be directly supported by the PCMH or provided under a shared services arrangement in which it is centrally administered, and funded and supplied to a cluster of PCMHs.<sup>16,17</sup>

### Telemonitoring

This can be thought of as bidirectional and electronically mediated delivery of health care over great distances, usually in the context of physiologic assessments with patient self-care feedback loops under the supervision of a trained health care provider. This field continues to grow in scope and sophistication which, in turn, further

<sup>5</sup> Wennberg D, Marr A, Lang L, O’Malley S, Bennett G: a randomized trial of a telephone care-management strategy. *New Engl J Med* 2010;363(13):1245-1255.

<sup>6</sup> Care Continuum Alliance. Advancing the Population Health Improvement Model, available at [http://www.carecontinuum.org/phi\\_definition.asp](http://www.carecontinuum.org/phi_definition.asp), last accessed August 24, 2011.

<sup>7</sup> The Healthier People Network Health Risk Appraisal Program. What is a health risk appraisal? Available at <http://www.thehealthierpeoplenetwork.org/id1.html>.

<sup>8</sup> Knight M, Stewart-Brown S, Fletcher L: Es

<sup>9</sup> Knight M, Stewart-Brown S, Fletcher L: Estimating health needs: the impact of a checklist of conditions and quality of life measurement on health information derived from community surveys *J Pub Health* 2001;23:179-186.

<sup>10</sup> Zhao Y, Haughton J, McMillan B: Identifying future high-cost cases through predictive modeling. *Disease Management & Health Outcomes* 2003;11(6):389-397(9).

increases the reach of the PCMH beyond its four walls and into its population.<sup>18,19</sup>

## Data management

In addition to the EHR, health information exchanges and patient registries form the backbone of a system's ability to track outcomes over time. Reconciling multiple data inputs (for example, clinical laboratory results, radiology studies and free text clinical notes), maintaining individual confidentiality and storing relevant information for later retrieval manipulation for observational studies at an individual, clinic or population level remains a significant challenge, but will be critically important in following patient outcomes and documenting the successes of the PCMH over time. Likewise, registries support patient reminders and alerts to help identify care gaps. As noted above, this provides an opportunity for outreach, but it is also an essential PHI tool.

## Measurement services

While reliance on best practices and evidence-based medicine forms the basis of the medical home, obtaining locally relevant measures that inform the details of clinical programming, priority setting and resource allocation will require significant data processing, analytic and statistical expertise. In addition to standard measurement, however, highly sophisticated PCMHs will be able to use this data infrastructure to conduct original research that further advances the science underlying this approach to care.

**Making the Tools a Reality**  
Each of the seven resources described above are not typically incorporated early in the transformation of a primary care clinic into a PCMH. Once the transformation is well underway, however, PCMHs may wish to deploy some or all of these for the care for their populations. Unfortunately, however, building an HRA, developing a predictive model, conducting a recruitment campaign, hiring additional care management personnel or investing in additional information technology resources may well be outside the technical and economic reach of a single PCMH.

## What other options are there?

1. First, there is no accepted industry consensus on which of the interventions should be adopted first or in what order. As a result, choosing which among the seven care approaches above will be a function of local judgment of which is most likely to advantage patients, in combination with resource availability and clinician interest.
2. PCMHs in geographic proximity may be able to pool resources, such as licensing an HRA for use, sharing in the hiring, training and use of one or more nurse care managers for a pool of patients with a chronic condition, or creating a local research consortium that jointly conducts locally relevant clinical investigations involving sub-populations of interest.

<sup>11</sup> Stacy JN, Schwartz SM, Ershoff D, Standifer Shreve M: Incorporating tailored interactive patient solutions using interactive voice response technology to improve statin adherence: Results of a randomized clinical trial in a managed care setting. *Population Health Management* 2009;12(5):241-254.

<sup>12</sup> Sidorov JE: Social media and population-based care management. *Population Health Management* 2010 13(4):175-176.

<sup>13</sup> Bodenheimer T, Berry-Millett R: Follow the money—, Controlling expenditures by improving care for patients needing costly services. *New Engl J Med* 2009;361(16):1521-1523.

<sup>14</sup> O'Connor AM, Llewellyn-Thomas HA and Flood AB: Modifying unwarranted variations in health care: Shared decision making using patient decision aids *Health Affairs*, no. (2004):doi: 10.1377/hlthaff. var.63.

<sup>15</sup> Stetson B, Schlundt D, Peyrot M et al: Monitoring in diabetes self-management: Issues and recommendations for improvement. *Population Health Management*. 2011, 14(4): 189-197.

<sup>16</sup> Health Dialog: Shared Decision Making, available at <http://www.healthdialog.com/Main/Personalhealthcoaching/Shared-Decision-Making>, last accessed August 27, 2011.

<sup>17</sup> Graf Thomas Creating a sustainable medical home: The Geisinger Experience. *Medical Home News* August 2101 2(8):1, 3,11.

<sup>18</sup> McCall N, Cromwell J, Urato C: Evaluation of Medicare care management for high cost beneficiaries (CMHCB) demonstration: Massachusetts General Hospital and Massachusetts General Physicians Organization (MGH) Final Results. Available at [http://www.cms.gov/reports/downloads/McCall\\_MGH\\_CMHCB\\_Final\\_2010.pdf](http://www.cms.gov/reports/downloads/McCall_MGH_CMHCB_Final_2010.pdf), last accessed Aug 26, 2011.

<sup>19</sup> Health Dialog: Shared Decision Making, available at <http://www.healthdialog.com/Main/Personalhealthcoaching/Shared-Decision-Making>, last accessed August 27, 2011.



3. Partnerships with organizations with access to one or more of the above interventions may be possible. For example, a newly developed HRA may need to be piloted, a local university statistics department may be interested in gaining experience in predictive modeling, an advanced nursing program may be willing to share curricular resources in exchange for on-site preceptorships, a granting agency may be able to offer funding support and a local insurer, with little additional effort, may be able to use the data it is tracking for outcomes analyses that are sorted by clinic and for a specific population or condition. Several state and national organizations also have services or other resources that may be available on a partnership or trial basis.
4. Finally, “buy” instead of build. While contracting with a population health improvement “service provider” or vendor would be daunting for an individual PCMH, several clinics within organized contractual arrangements, such

as an independent practice association, physician hospital organization or accountable care organization, may find it both cost-effective and expedient to import one of more of these services.

## Conclusion

The PCMH is a critically important building block in the effort to reform the U.S. health care system. To build on its successes, PCMHs will need to be able to proactively identify patients at special risk, recruit and enter them into care coordination programs that emphasize shared decision making and self-care. Data management and analytics will likewise be critically important to shape local care programming and document the follow-on successes. Fortunately, the components that comprise PHI are readily available to accomplish these goals. If adopted in the PCMH, they can further enhance the breadth of its services and support fulfillment of the Triple Aim in the primary care setting.

## Use of Information Systems to Support Coordination of Care

**James M Crawford, MD, Ph.D.,**  
*senior vice president, laboratory services,  
North Shore-LIJ Health System;  
professor and chair, Department of  
Pathology and Laboratory  
Medicine, Hofstra North Shore-LIJ  
School of Medicine Manhasset, N.Y.*

### Introduction

The patient-centered medical home centers on the delivery of patient-centered care by an ambulatory physician-led practice. Whether the practice is large or small, as measured by the number of physicians, the PCMH will include a team of health care professionals well beyond the physician alone, including care managers; nurses, nurse practitioners and/or physician assistants; patient educators; information services; and administration. This diversified team is intended to support not only direct health care for acute health events and chronic disease conditions, but also wellness and prevention, lifestyle management and education. A fundamental concept of the PCMH is that this same practice coordinates health care beyond the walls of the practice: referral to specialists providing ambulatory care; escalation of care through higher acuity settings, especially emergency rooms, urgent care centers, hospitals and post-hospitalization; and use of

ancillary services such as laboratory, imaging and pharmacy. The “medical home” practice must be able to track information from all of these providers, integrate these care episodes and data into an overall care plan and provide direction to both patient and other providers.

Enabling the medical home to serve both as proactive coordinator of health care provided at all sites, and reactive retriever of health information from all sources on every patient under care of the practice, requires a robust infrastructure for information management. Conversely, other sites providing care should also have access to the patient’s complete medical information, both to enable efficient and timely decision making and provision of services, and to minimize repetition of testing and procedures. There are three broad scenarios under which such data infrastructure must work: a regional health care environment in which there is neither provider nor information system integration; a wholly or partially integrated health system of which the PCMH practice is part; and/or a regional health care environment in which a functional Care Maintenance Organization (CMO) is operative for patients receiving care through the PCMH practice.

A fundamental requirement for such infrastructure, regardless of context, is data interoperability: the ability to pass data accurately and without corruption between information systems throughout the continuum of care. These include

<sup>1</sup> Shekelle PG, Morton SC, Keeler EB. Costs and Benefits of Health Information Technology. Evidence Report/Technology Assessment No. 132. (Prepared by the Southern California Evidence-based Practice Center under Contract No. 290-02-0003.) AHRQ Publication No. 06-E006, April 2006. Rockville, MD: Agency for Healthcare Research and Quality, April 2006.

the physician office-based (primary care or specialist) electronic health record (EHR); the EHR of inpatient facilities; information systems supporting emergency departments and pharmacy services (inpatient and community-based); and ancillary services, particularly laboratory and imaging. The barriers for effective interoperability include both the data interfaces between individual information systems and the standards by which data is to be passed across interfaces (termed “Standards and Interoperability,” or “S&I”). The success of such interoperability will determine the level of satisfaction, or frustration, in the information infrastructure of each health care provider down the line.

A further perspective is that of the patient and family. The contrast between a health system that effectively passes information between care sites and one that does not is immediately apparent to the patient. For a patient to have to repeat his or her demographic and health information at each new care delivery site borders on the unbelievable, when compared to almost any other information technology-oriented industry.

*While privacy and data security receive much of the blame for the sluggishness of the health profession to improve data interoperability, this blame may be misplaced.*

The legacy of our fragmented health care system is a galaxy of information systems which were not designed with interoperability in mind, since a lack of connectivity constitutes a market advantage for installation of a particular electronic product. As a result, the transition costs to attain interoperability are currently very high. These costs are measured not just monetarily; arguably time is the greatest issue, since the work capacity of our health information technology workforce is limited most by their available time. Concern also can be raised about the absence of economic incentives for data interoperability in a fee-for-service payment system that rewards volume more than efficiency, and in which retention of clinical data remains advantageous for steerage of business volume.

### Information at the Point of Care

Against this dysfunctional backdrop are compelling reasons for attaining information system integration for the assessment, planning and coordination of health care delivery.<sup>1</sup>

First is simply the availability of clinical information at the time of care delivery:

- **Provision of timely and complete clinical information to health care providers at the point of care:** primary care physicians and their practice teams (nurses, nurse practitioners, physician assistants, educators, care coordinators, administrative assistants,

information technology support); specialty physicians; emergency physicians (within hospital-based emergency departments, and in stand-alone urgent care centers); hospitalists and other providers within acute care facilities; health care providers at skilled nursing facilities and rehabilitation centers.

- **Availability of ancillary clinical information at the point of care:** imaging; laboratory and pathology; medications.
- **Availability of key clinical information at the pharmacy:** contra-indications for medications; patient use of pharmacy-associated “minute-clinics”; availability and use of direct-to-consumer laboratory tests obtained at retail pharmacies.
- **Medication reconciliation during care transitions:** Medication errors during transitions of care are reported to occur about one-third of the time.<sup>2</sup> Beyond the resultant poor compliance in patients following prescribed medication regimes, there is real potential for harm.
- **Report-out of clinical data following an episode of care:** The four items above speak to health care providers being able to access clinical information at the point of care. Just as important is for those same providers to communicate the necessary clinical information on a given patient back to the electronic health record after providing care.

This discussion is not addressing the actual sources of clinical data, but they are many, including: EHRs, whether ambulatory or hospital-based; emergency department information systems (EDIS)<sup>3</sup>; laboratory information systems (LIS); picture archiving and communication systems (PACS); and a proposed pharmacist/pharmacy provider EHR (PP-EHR).<sup>4</sup> Beyond connectivity that needs to be achieved between these information systems, there is opportunity for passage of data through health information exchanges (HIEs). For the time being, these exchanges tend to operate under a “pull” paradigm, in which a provider seeks available clinical information through the HIE on an as-needed basis. It remains to be seen whether HIEs become their own resident source of clinical data prospectively, with the potential for: (a) the “push” of data towards destination providers, especially the primary care provider serving as the medical home; and (b) serving as the databases for quality improvement and reporting, public health activities and clinical research.<sup>5</sup>

## Initiation of, and Adherence to, Care Plans

The above items enable health care providers to integrate their activities into an overall continuum-of-care for any given patient. However, these functionalities do not themselves constitute care coordination. Quite simply, there has to be a care plan, under which all clinical activities are hopefully coordinated.<sup>6</sup> Put

<sup>2</sup> Gleason KM, McDaniel MR, Feinglass, et al. Results of the Medications at Transitions and Clinical Handoffs (MATCH) Study: An analysis of medication reconciliation errors and risk factors at hospital admission. *J Gen Intern Med* 2010; 25: 441-447.

<sup>3</sup> Landman AB, Bernstein SL, Hsiao AL, Desai RA. Emergency department information system adoption in the United States. *Acad Emerg Med* 2010; 17: 536-544.

<sup>4</sup> Spiro, Rachelle. The Patient-centered Medical Home: HIT-enablement of Medication-Related Care Coordination. Webinar given May 12, 2011; accessed at <http://www.pcpcc.net/webinar/hit-enablement-medication-related-care-coordination>, on September 5, 2011.

<sup>5</sup> Grossman JM, Kushner KL, November EA. Creating sustainable local health information exchanges: can barriers to stakeholder participation be overcome? *Res Briefs* 2008 Feb; (2): 1-12.

differently, any health care provider should be able to understand what the overall care objectives are for a given patient, up to and including advanced directives. The idealized script has the primary care physician having all clinical information for a given patient, and designing a personalized care plan for that patient. As long as the patient is being seen by that physician, adherence to this care plan is presumably straightforward. The challenge begins when other health care providers get involved. There are two key permutations:

- **Access to an established care plan:** A care plan established by the primary care physician should be available to health care providers involved in intercurrent events such as emergency department visits and hospital admissions. This becomes increasingly important with each added co-morbidity.<sup>7</sup> The “neighborhood” of health care providers should then be able to communicate and consult with the primary care physician and/or her/his practice, especially in making adjustments and changes to the care plan.
- **Design of a care plan in response to intercurrent events:** Since a primary care practice will not be the point of care for all health needs, it is critical that other health care providers be able to initiate acute care, and then direct information on that episode of care

back to the primary care practice for institution of a care plan. Examples include follow up after an emergency department visit or hospital discharge, and integration of care provided by a specialist into the overall care provided by the primary care physician.

- **Patient engagement:** The health care system ignores patients with their own care plans at its peril. Regardless of whether patients have electronic access to their care plans and their own clinical data or not, a care plan has a much higher chance of success if the patient actually knows what that plan is.<sup>8</sup> Although patient engagement through this mechanism is not guaranteed, a robust electronic patient health record (PHR) or patient portal provides a high level of connectivity for the patient. Patient engagement with such portals is more likely if, in addition to generic educational information pertinent to their disease conditions, the portals contain individualized information including access to appointment scheduling, laboratory and imaging reports, medical notes, and lists of medicines.<sup>9</sup> Importantly, the portal should not constitute a substitute for access to the personal physician, both face-to-face and through email.<sup>10</sup> Even more traditional forms of communication, including printed care plans and medication reconciliation sheets, are key opportunities to educate patients and help them manage

<sup>6</sup> Marchibroda JM. The impact of health information technology on collaborative chronic care management. *J Manag Care Pharm* 2008; 14(Suppl S-a): S3-S11.

<sup>7</sup> Unertl KM, Weinger MB, Johnson KB, Lorenzi NM. Describing and modeling workflow and information flow in chronic disease care. *J Am Med Inform Assoc* 2009; 16: 826-836.

<sup>8</sup> Young AS, Chaney E, Shoai R, et al. Information technology to support improved care for chronic illness. *J Gen Intern Med* 2007; 22(Suppl 3): 425-430.

<sup>9</sup> Ross SE, Haverhals LM, Main DS, et al. Adoption and use of an online patient portal for diabetes (Diabetes-STAR). *AMIA Annu Symp Proc* 2006: 1080.

<sup>10</sup> Zickmund SL, Hess R, Bryce CL, et al. Interest in the use of computerized patient portals: Role of the Provider-Patient relationship. *J Gen Intern Med* 2007; 23(Suppl 1): 20-26.

their own conditions. On this last point, educational content (electronic or printed), self-help, self-assessment and behavioral modification tools may be valuable adjuncts to successful execution of a Care Plan.<sup>11</sup>

## Care Management

However, it is not sufficient for a primary care physician to be able to design a care plan, and other health care providers to know what that plan is and to contribute to its modification. Execution of care plans becomes more difficult with each added patient in the primary care practice's registry. This leads to the third information systems requirement: population management through Care Management informatics.

- **Stratification of the patient registry by care plan algorithms:**

*The processes of stratifying patients by their diseases, and by their health care needs, are commutative. The latter stratification is the operative one: what do patients need, and when?*

This includes the routine for well-managed patients: outpatient visits; laboratory testing; screening tests; prevention and wellness programming; and lifestyle education and engagement.

This also includes triggers for escalation of intervention: missed delivery of routine health care; lack of compliance to health care regimes (including medications);

identification of new issues through screening and indicated health care encounters; and critical values identified through laboratory testing. The primary care practice-based electronic health record system must be able to monitor and track all inbound patient data streams, provide alerts to the primary care clinician when appropriate, and trigger escalation of care intervention.

- **Design of care plans:** To the extent that there is a broad menu of health care programming provided through the primary care practice, through affiliated specialist physicians, and through ancillary and community resources, the primary care practice should be able to design care plans for every patient, suited to their unique needs. This involves not only selecting what programming is appropriate for each patient, but in what chronological order that programming should be delivered. Again, outbound recommendations need to be matched with inbound data from program encounters and patient outcomes to ensure that the care plan is being successfully executed. Even better is being able to document, across the entire population being managed by the primary care practice, that health care outcomes are improving measurably.

<sup>11</sup> Leveille SG, Huang A, Tsai SB, et al. Health coaching via an internet portal for primary care patients with chronic conditions: A randomized controlled trial. *Med Care* 2009; 47: 41-47.

<sup>12</sup> De Wet C, Bowie P. Screening electronic patient records to detect preventable harm: a trigger tool for primary care. *Qual Prim Care* 2011; 19: 115-125.

<sup>13</sup> Olsen L, Aisner D, McGinnis JM, Editors. *The Learning Healthcare System: Workshop Summary (IOM Roundtable on Evidence-Based Medicine)*. ISBN 0-309-10687-7, 2007, National Academies Press, available at <http://www.nap.edu/catalog/11903.html>. Accessed October 17, 2010.



## The Learning Health Care System

This leads to the last element of information system support of care management programming: analysis of one's own data.

- **The best data is your own:**

While local health care delivery is supposed to be guided by the evidence base of published original research, the evidence base can only inform the initial design of the local clinical pathways. Ultimately, the primary care practice, and the entire neighborhood of health care providers, are accountable for the data emanating from their own practices. The concept of “The Learning Health Care System,” as advanced by the Institute of Medicine,<sup>13</sup> rests on the premise that local successes and failures are what should ultimately guide the design and redesign of health care systems. It is precisely the

care plans designed for individual patients and the success with which those many care plans are executed, that will determine whether a coordinated health care delivery system can actually achieve anticipated goals. Analysis of the data emanating from one's own practice is the fundamental mechanism for determining whether one's strategies for delivery of coordinated care are actually working. Although not discussed here, health care costs, both from claims data and from the local direct costs of care delivery, should also inform care plan design and delivery.



## Improving Transitions of Care: Evidence-based models and effective implementation practices

**Jane Brock, MD, MSPH**  
Chief Medical Officer, Integrating Care  
for Communities & Populations  
National Coordinating Center,  
Colorado Foundation for Medical Care

### Introduction

Improving transitional care is a top priority for enhancing patient safety, achieving optimal outcomes and controlling health care costs. Knowledge of and effectiveness in promoting transitional care improvement is essential for medical homes to fulfill their functions as providers of comprehensive and coordinated care.<sup>1</sup> The American Geriatrics Society defines transitional care as “a set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations or different levels of care within the same location.”<sup>2</sup>

*The concept of transitional care includes efforts to arrange necessary services or assist patients and families in arranging them (care coordination), and efforts to ensure continuity of care plans and clinical information among disparate providers (care continuity).*

This chapter will address transitions that begin with hospital discharge, because that is where the science of transitional care is most developed and the area in which we have useful measures of transitional care quality. It is also the type of transition that is the focus of several provisions in the Affordable Care Act (ACA).<sup>3</sup> Medical homes have a substantial opportunity to contribute to the science of transitional care improvement through developing much-needed models for quality transitions from the outpatient setting to the hospital. This brief overview will provide a springboard for motivated practices to develop, test and publish the next generation of outpatient-based transitional care improvement models.

### Measures

Transitional care and hospital readmissions are not exactly the same topic, but the concepts have become inextricably entwined through quality improvement and reform initiatives. This is in part because there is only one National Quality Foundation (NQF)-endorsed measure of transitional care quality

<sup>1</sup> [http://pcmh.ahrq.gov/portal/server.pt/community/pcmh\\_\\_home/1483/what\\_is\\_pcmh\\_](http://pcmh.ahrq.gov/portal/server.pt/community/pcmh__home/1483/what_is_pcmh_)

<sup>2</sup> Coleman EA, Boult CE on behalf of the American Geriatrics Society Health Care Systems Committee. Improving the Quality of Transitional Care for Persons with Complex Care Needs. *Journal of the American Geriatrics Society*. 2003;51(4):556-557. Available at: <http://www.caretransitions.org/documents/Improving%20the%20quality%20-%20JAGS.pdf>

<sup>3</sup> [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:h3590enr.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h3590enr.txt.pdf)

<sup>4</sup> <https://www.cms.gov/sharedsavingsprogram/>

<sup>5</sup> <https://www.cms.gov/demoprojectsevalrpts/md/itemdetail.asp?itemid=CMS1239313>

that has not been required (until now) by the Medicare program, causing most transitional care improvement efforts to rely on measures of hospital readmission. The Care Transitions Measure (CTM<sup>®</sup>) is a 15-item or three-item patient survey of self-care preparation and confidence that correlates with readmission risk (www.caretransitions.org). Several new programs contained in the ACA use 30-day hospital readmission rates and the CTM as performance measures.<sup>4,5</sup>

### Evidence-based models

The following three models have the most evidence of effectiveness in reducing hospital readmissions among patients discharged to home:

- The Care Transitions Intervention<sup>®</sup> (CTI<sup>®</sup>) is the only model for which there is randomized controlled trial (RCT) level evidence of effectiveness using 30-day hospital readmission rates as the measure of success.<sup>6</sup> It is a patient self-management capacity-building intervention which is delivered through transitions coaches. Coaches use tools such as goal-setting and personal health records, and support clients in learning effective techniques to ensure that their needs are met during the transition period. Coaches do not deliver medical care, but support patient skills that enhance productive interactions with medical care providers. The success of this intervention relies on development of self-reliance,

so to be effective coaches do not schedule follow-up visits, nor take on the role of communicating with the outpatient team on behalf of their clients. Extensive experience with this model, however, indicates that coaches' patients are more likely to follow up with outpatient providers as advised by hospital discharge documentation. The intervention consists of five contacts between client and coach: one in the hospital before discharge, one during a home visit, and three follow-up phone calls. The intervention is complete within 28 days. Coached patients with complex medical needs are significantly less likely to experience a readmission for any cause within 30 days (0.52, 95%CI = 0.28-0.96), 90 days (0.43, 95%CI = 0.25-0.72) or for the same condition within 180 days (0.57, 95%CI = 0.36-0.92) of hospital discharge.<sup>7</sup>

- The Transitional Care Nursing Model (TCN) also has RCT level evidence of significant reductions in hospital readmissions 24 weeks after discharge for all cause readmissions (37.1 % vs. 20.3 %; P<.001)<sup>8</sup> and 52 weeks after discharge for heart failure (104 vs. 162, P=.047).<sup>9</sup> The model uses a transitional care nurse (TCN) as the primary coordinator of care to assure care consistency across the entire episode of acute illness. The intervention includes an in-hospital assessment, patient and family preparation, and development of an individualized, evidence-based plan of care by

<sup>6</sup> www.caretransitions.org

<sup>7</sup> Coleman EA, Smith JD, Frank JC, Min S, Parry C, Kramer AM. Preparing Patients and Caregivers to Participate in Care Delivered Across Settings: The Care Transitions Intervention. *Journal of the American Geriatrics Society*. 2004;52(11):1817-1825.

<sup>8</sup> Naylor, M.D., et al. (1999). Comprehensive Discharge Planning and Home Follow-Up of Hospitalized Elders: A Randomized Controlled Trial. *JAMA: Journal of the American Medical Association*, 281(7), 613-620

<sup>9</sup> Naylor, MD, et al. (2004). Transitional Care of Older Adults Hospitalized with Heart Failure: A Randomized Clinical Trial. *Journal of the American Geriatrics Society*, 52(5), 675-684.

the TCN and a multi-disciplinary hospital team. The team develops plans in conjunction with family members and outpatient providers as appropriate. After discharge, the TCN regularly visits patients at home, and provides ongoing telephone support through an average of two months post-discharge, and accompanies patients to first follow-up visits. In contrast to the CTI, the TCN is a medical care model, and directly incorporates outpatient providers into the intervention.

- The Re-Engineered Discharge (RED) demonstrated a significant reduction in a combined endpoint of hospital readmission or emergency room visit within 30 days of hospital discharge in a RCT (0.314 vs. 0.451 visit per person per month; incidence rate ratio 0.695 [95% CI, 0.515 to 0.937];  $P = 0.009$ ).<sup>10</sup> RED is an 11-component intervention<sup>11</sup> to standardize discharge processes, discharge teaching, post-discharge service arrangement, scheduling of follow-up appointments, communication with outpatient providers, and follow-up telephone calls to discharged patients within several days of discharge. The intervention is delivered by dedicated nurse discharge advocates, supported by a teaching computer that uses teaching materials developed from guidelines, and customized to the patients' needs.

Many other models exist, of course. One that has garnered significant attention is Project BOOST, a comprehensive hospital discharge intervention package developed by the Society for Hospital Medicine that supports hospitalists in collecting data on hospital discharge process quality<sup>12</sup> and leading improvement initiatives. It directly addresses communication failures between inpatient and outpatient providers, which have been shown to be related to poor coordination,<sup>13</sup> but results of the BOOST model have not been published.

Two other evidence-based models worth mentioning but that are not directly applicable to outpatient practitioners are the InterAct model,<sup>14</sup> for reducing early readmissions for patients discharged to nursing homes,<sup>15</sup> and the Best Practices Intervention Package<sup>16</sup> for transitional care, which contains a set of improvement strategies for home health agencies to reduce early readmissions among their patients.<sup>17</sup>

## Strategies for improving handover management

All three successful multidimensional models described above address the need to improve communication among providers, although none of them tested communication interventions as a standalone intervention. The CTI accomplishes communication through enabling patients themselves to be effective

<sup>10</sup> Jack BW et al. A reengineered hospital discharge program to decrease rehospitalization: a randomized trial. *Ann Intern Med.* 2009 Feb 3;150(3):178-87.

<sup>11</sup> <http://www.bu.edu/fammed/projectred/components.html>

<sup>12</sup> [http://www.hospitalmedicine.org/ResourceRoomRedesign/RR\\_CareTransitions/CT\\_Home.cfm](http://www.hospitalmedicine.org/ResourceRoomRedesign/RR_CareTransitions/CT_Home.cfm)

<sup>13</sup> Arora VM et al. Hospitalist Handoffs: a systematic review and task force recommendations. *J Hosp Med.* 2009 Sep;4(7):433-40.

<sup>14</sup> <http://interact2.net/>

<sup>15</sup> Ouslander JG et al. Intervention to reduce hospitalizations from nursing homes: evaluation of the Interact II Collaborative Quality Improvement project. *J Am Geriatr Soc.* 2011 Apr;59(4):745-53.

<sup>16</sup> [http://www.homehealthquality.org/hh/ed\\_resources/interventionpackages/tcc.aspx](http://www.homehealthquality.org/hh/ed_resources/interventionpackages/tcc.aspx)

information conduits with the assistance of personal health records; the TCN model uses a consistent provider to accompany patients across the transition; and RED standardizes the content and format of expected communication, and includes data collection on this feature.

Under the Care Transitions Theme, a CMS-funded quality improvement initiative in which 14 communities worked to reduce population readmission rates for Medicare beneficiaries,<sup>18</sup> teams found that the actual structure of handover communication was less important than the fact that a standard process was developed, deployed and measured among sending and receiving providers. Examples of strategies and tools used in the Theme can be found in the toolkit at <http://www.cfm.org/caretransitions/toolkit.htm>.

A motivated, patient-centered primary care practice could take one or more of the following action steps to improve transitional care:

1. Form a “receiver’s workgroup” of primary care practices. Meet twice to:
  - a. Standardize communication expectations from hospitals/hospitalists
  - b. Invite hospitalists and hospital discharge planners to participate in the discussion

2. Review existing discharge documents from all hospitals that admit the practice’s patients to
  - a. Find the common and disparate features
  - b. Decide which features relating to transitional care are best suited to the practice
  - c. Meet with hospital quality staff and/or administration and suggest modifications; if appropriate, consider working on standardizing handover expectations
3. Call the discharging hospitalist when a recently discharged patient presents for a follow-up visit to give feedback on the quality and nature of information received—positive and negative. Leave feedback in a message if necessary.
4. Capture the CTM when patients present for hospital follow-up visits and discuss common issues with hospital discharge planners.

*This material was prepared by CFMC (PM-4010-071 CO 2011, the National Coordinating Center for Integrating Care for Populations and Communities Aim, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services.*

<sup>17</sup> Schade et al. Impact of a national campaign on hospital readmissions in home care patients. *Int J Qual Health Care*. 2009 Jun;21(3):176-82.

<sup>18</sup> [www.cfm.org/caretransitions](http://www.cfm.org/caretransitions)

## Care Coordination Measurement: Guidance on Setting up Systems to Monitor Performance in Medical Homes

**Melinda Abrams**  
**Georgette Lawlor**  
*The Commonwealth Fund*

### Introduction

Care coordination is a core activity of a patient-centered medical home. Through multi-disciplinary care teams, medical homes are responsible for coordinating care with patients, across the care team within a primary care practice and among professionals in other settings. Routine performance measurement and reporting about the effectiveness and quality of care coordination is critical to understand if patients' needs are being met. Performance data can provide useful feedback on a discrete quality improvement initiative or help establish the practice's eligibility for an external reward, such as medical home recognition or a financial bonus. In this essay, we seek to provide guidance to health care organizations and primary care practices interested in setting up a monitoring system that regularly collects, reports and

responds to information about the quality of care coordination. Seven key changes are summarized below.

### 1. Work with broad stakeholder group to reach consensus on measures.

Ongoing monitoring of any care coordination improvement effort is essential to assess change. For the participants to believe in and act on the results, a broad group of stakeholders needs to be engaged in the design of the intervention from the beginning, including the selection of measures used to observe both positive and negative effects. The stakeholder group should include representation from every level of the organization: executive leadership, clinical teams, front-desk staff and patients. Anyone who will play a role in collecting, interpreting, reporting or responding to the care coordination data has a stake in the measurement, and should be represented on the committee. Although it might be more expedient to hire a consultant to select the latest and most technically sophisticated measures, a group consensus process that reviews, debates and ultimately buys into a core set of measures is critical to ensure that the findings are trusted and actionable. Data collection for any quality improvement activity, including care coordination efforts, requires time on behalf of staff, whether clinical or clerical. Another benefit of working with a broad stakeholder group to help select the measures is to increase



# The Experts Speak

understanding and acceptance of the additional work needed to collect the data.<sup>1</sup>

## 2. Clarify purpose of measurement: quality improvement, accountability, evaluation?

Be clear about the purpose of assessing your care coordination activities, because different objectives will lead to different data collection strategies, reporting requirements and follow-up. Is the primary goal to improve care coordination in the medical home? To obtain medical home recognition or some financial reward? Or, is the primary goal to participate in an evaluation where results are compared across multiple sites? The objectives need not be mutually exclusive, but transparency about the primary purpose—and target audience—will drive key decisions about measure selection, data collection and reporting.<sup>2</sup> Below is a brief summary of three measurement objectives and the implications for the medical home site:

- **Quality improvement.** The goal is to produce information that the primary care practice can use to test and tweak new office systems or processes to improve care coordination. The target audience tends to be the leadership and staff working at the practice. A hallmark of quality improvement measurement is the frequency (e.g., once a week or once a month). Although using nationally

recognized measures is strongly encouraged (see below), sites can slightly modify measures for quality improvement to better fit the culture or needs of the practice. The trade-off is that results will not be comparable to other practices. Therefore, once the care coordination measures are selected, remaining consistent is critical in order to ensure fair comparisons within a practice over time. In quality improvement projects, sample sizes can be small since the goal is to get a “quick read” on the impact of an intervention.

- **Accountability or benchmarking.** For many primary care practices, a core objective of assessing the quality of care coordination is to earn an incentive, such as medical home recognition or a pay-for-performance bonus. The primary audience for the data tends to be the national organization (e.g., NCQA, Bridges to Excellence) or payer (e.g., commercial health plan, Medicaid) which use the information to determine if the primary care site meets or exceeds the external criteria. While there is some flexibility built into these programs, such as a range of measures from which to choose (e.g., practices can meet three of seven requirements to “pass” the “referral tracking and follow-up” element under the care coordination standard in NCQA’s 2011 PCMH program), the menu of measures and data collection methods is limited

<sup>1</sup> O’Malley AS, Tynan A, Cohen GR, et al. Coordination of care by primary care practices: strategies, lessons, and implications. Res Briefs. 2009;(12):1-16. Washington, DC: Center for Studying Health System Change, 2009b.

<sup>2</sup> 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 Contract No. HHS2902009000191 T02). AHRQ Publication No. 11-0064. Rockville, MD: Agency for Healthcare Research and Quality. June 2011.

and pre-determined to facilitate comparability across sites. Information tends to be collected and reported once a year at most, falling far short of routine reporting needed for quality improvement initiatives.

- **Evaluation.** Most medical home efforts across the country are part of pilot-tests that will rely on evaluation results to decide if the model should be sustained or spread. However, participating in an evaluation often carries additional responsibilities, and constraints, for the primary care organization. In order to compare changes in quality and cost over time between intervention and comparison groups, participating sites must use identical data collection methods (including sampling techniques, data, definitions) and care coordination measures. The rigor required often increases the administration burden on the practices (e.g., training on how to collect the data consistently), which is why selecting a small, core group of outcome measures (identified with the stakeholder group) helps to limit the time commitment. The significant advantage of participating in an external evaluation is that the target audience likely includes key policymakers, payers and clinicians who have substantial influence over the program's future.

### 3. Use standardized measures.

Whenever possible, use validated, standardized measures to assess health care quality, and care coordination initiatives are no exception. The benefits are clear. With standardization, fair comparisons can be made between practices about the quality of referrals, follow-up care, care transitions and other, key components of care coordination. The results can also be used to compare the practice's performance to national benchmarks. Finally, reliance on existing, validated measures will help save organizations time (and resources) they would otherwise spend on developing their own.

The field of care coordination measurement is still evolving. The Agency for Healthcare Research and Quality (AHRQ) and the National Quality Forum (NQF) recently produced useful frameworks to help organizations select care coordination quality measures (see Chart to page 43). These resources show there is no dearth of metrics from which to choose; however, consistent and widespread adoption of common measures remains a stretch goal.

Select measures that matter. The results need to be aligned with the organization's objectives and the intervention being tested. For example, measures will vary if

## Resources to Help Organizations Select Care Coordination Measures

### AHRQ's Care Coordination Measures Atlas

A framework for care coordination measurement, documenting and mapping more than 60 existing measures to key care coordination activities and different perspectives of key stakeholders.

### National Quality Forum's National Priorities Partnership

Measures aimed to (1) improve care and achieve quality by facilitating and carefully considering feedback from all patients regarding coordination of their care, (2) improve communication around medication information, (3) work to reduce 30-day readmission rates, and (4) work to reduce preventable ED visits by 50 percent. Highlighted measures focus on coordination in specific areas of clinical care, such as cardiac rehabilitation, stroke and cancer, as well as transitions from inpatient to other settings.

### NCQA Care Coordination Measures

In its 2011 PCMH standards, NCQA incorporated a number of process measures that indicate care coordination. This table summarizes the process measures, or elements, from the NCQA PCMH standards.

### The MacColl Institute for Healthcare Innovation, Group Health Research Institute's Care Coordination Questions from Validated Instruments

In the attached table, MacColl Institute for Healthcare Innovation compares care coordination questions from validated patient experience surveys. The table is an appendix to a larger implementation guide to improve care coordination in medical homes.

## Tips for Data Reporting and Data Reports to Drive Quality Improvement

### > Ensure all staff members understand the metrics for success.

- Review the aim of the PCMH and the current progress and results at every improvement team meeting.
- Collect stories from patients about how the shift to a PCMH affects their self-efficacy and well-being.
- Actively engage practice leadership by regularly sharing results of the improvement effort and by highlighting key learnings and barriers that require leadership intervention. Leaders who are engaged in PCMH implementation will lend their support, provide resources and ensure that the various areas of the practice collaborate, communicate and cooperate.

### > Select a visible or easily accessible location for data and update it often

Source: Adapted from The Safety Net Medical Home Initiative. Van Borkulo N, Coleman K. Quality Improvement Strategy Implementation Guide, Part 1: Choosing and Using a QI Framework. 1st ed. Phillips K and Burton T, eds. Qualis Health and the MacColl Institute for Healthcare Innovation at the Group Health Research Institute; August 2011.

<sup>3</sup> Ibid.

<sup>4</sup> Brown, Edgman-Levitan. Health Affairs. May 2010.

<sup>5</sup> [https://www.cahps.ahrq.gov/content/products/CG/PROD\\_CG\\_PCMH.asp?p=1021&s=213](https://www.cahps.ahrq.gov/content/products/CG/PROD_CG_PCMH.asp?p=1021&s=213)

<sup>6</sup> [https://www.cahps.ahrq.gov/content/products/pdf/PCMH\\_Brochure\\_Fact\\_Sheet\\_Final09-22-10compliant\\_.pdf](https://www.cahps.ahrq.gov/content/products/pdf/PCMH_Brochure_Fact_Sheet_Final09-22-10compliant_.pdf)

the organization has zeroed in on improving timeliness of referral to specialty care (e.g., number of days to follow-up visit, number of days for primary care provider to receive notes or results from visit or test) versus transitions to primary care following hospital discharge (e.g., existence of written discharge instructions, number of days to follow-up primary care appointment).

As others have mentioned, care coordination is a multi-faceted concept with multiple dimensions (e.g., referrals, consultations, transitions).

*Organizations and practices need to strike a delicate balance between selecting a comprehensive set of structure, process and outcome measures to assess quality while avoiding excessive amounts of information and burdening practice staff.<sup>3</sup> The best guidance for a practice is to examine the latest standardized measures available and choose those that best fit your site, your goals and your partners outside of practice (i.e., “the medical neighborhood”).*

## 4. Incorporate patient feedback in assessing quality of care coordination.

*A medical home cannot call itself patient- and family-centered if it does not actively engage patients, including obtaining feedback to evaluate the consumer’s experience with care coordination.*

In addition to its inherent value as an independent domain of quality, positive patient experience is associated with improved clinical outcomes, increased medication adherence, reduced medical malpractice risk and increased physician loyalty and retention.<sup>4</sup>

In the past 10 years, the science and methods of assessing patients’ experience through patient surveys has advanced tremendously. In May 2011, AHRQ released for public comment a new survey, “CAHPS Patient-Centered Medical Home Survey” (PCMH CAHPS).<sup>5</sup> The instrument builds on the core clinician-group survey and adds key domains, including care coordination. Specifically, the survey assesses care provided outside of the primary care practice as well as asks about care provided by the entire primary care team, not just the primary care clinician.<sup>6</sup> Beginning in early

Spring 2012, NCQA intends to offer additional points as part of its PCMH recognition program to practices that use the PCMH CAHPS survey. Practices will receive distinction for collecting and reporting the results to NCQA; however, the survey results will not be publicly reported.

While patient surveys are a systematic and reliable way to obtain feedback from patients, they are by no means the only method to do so. Organizations and primary care sites have a number of options to obtain valuable information about how to improve care coordination, including focus groups, in-depth interviews, comment cards and practice walk-throughs. Many sites are establishing “patient advisory councils,” which can provide a routine check-in on new initiatives as well as a forum to brainstorm new ideas. However, identifying and recruiting patients for quality improvement, and sustaining their participation, requires planning, skill and ongoing management. Useful tips on how to engage patients and families in quality improvement can be found in an AHRQ-sponsored paper published in June 2010.<sup>7</sup>

## 5. Develop a tracking system that facilitates ongoing monitoring of performance.

To effectively coordinate care for patients, medical homes need to implement protocols that systematize referrals, consultations, feedback, transitions and co-management. This

often requires setting up tracking systems, drafting written procedures and using information technology to help reduce ambiguity about who is responsible for which task. Written standards for recording and transferring information about common patients also need to be established between primary care practices and their medical neighborhood—the providers in the community with whom they work, such as specialists, hospitals, therapists and nursing homes.<sup>8</sup>

To assess practice performance on care coordination, primary care sites need to set up methods and procedures that build on the underlying referral/transition tracking system. Ideally, the data collection is part of everyday work and the indicators are easily generated. Three strategies can help facilitate a monitoring system to collect, report and generate performance data about care coordination between multiple providers:

- **Information technology.** A tracking or referral system can be paper-based, but one that is a function of an e-referral system or electronic medical record (EMR), or developed on readily available software (such as Excel), is far easier to use, modify and sustain. Ideally, all providers (primary care, specialists, hospital, community) should have advanced information systems and access to patient information. In addition

<sup>7</sup> Scholle SH, Torda P, Peikes D, Han E, Genevro J. Engaging Patients and Families in the Medical Home. (Prepared by Mathematica Policy Research under Contract No. HHS290200900019I T02.) AHRQ Publication No. 10-0083-EF. Rockville, MD: Agency for Healthcare Research and Quality. June 2010.

<sup>8</sup> O'Malley AS, Cohen GR, Grossman JM. Electronic medical records and communication with patients and other clinicians: are we talking less? Issue Brief Cent Stud Health Syst Change. 2010;(131): 1-4. Washington, DC: Center for Studying Health System Change, 2010.

to measuring receipt of information, timeliness and quality of feedback should also be examined. Finally, patients are entitled to be informed of all coordination activities. In fact, care coordination activities will be easier if they are partners in the decisions and the flow of information (for why they were referred and why it's so important to report back to your medical home).

- **Care coordination agreements.** The American College of Physician recommends care coordination agreements (CCAs)—written documents that outline expectations and responsibilities between two providers—to facilitate coordination of patient care. Preliminary evidence indicates that CCAs can improve communication between clinicians, timeliness of specialty referrals and planning of hospital discharge.<sup>9,10</sup> From a monitoring perspective, CCAs offer an opportunity to enumerate data sharing responsibilities and expectations.
- **Shared resources,** such as care coordinators who support multiple small and medium-sized practices can facilitate standardized data collection. Models exist in North Carolina, Vermont and Rhode Island and have been found to improve quality and reduce unnecessary hospitalizations.<sup>11</sup> The central care coordinator can use a common form to standardize data efforts.

## 6. Build and nurture relationships with providers outside of your medical home—the “medical neighborhood”—to facilitate data sharing, monitoring and improvement.

What makes measurement and assessment of care coordination so difficult? The information needed is often not available at the primary care site. For example, monitoring changes in avoidable hospital admissions or unnecessary emergency department visits is data that is collected and housed at the hospital.

In the suggestion above, we emphasize the need for standardized processes to collect and generate indicators of care coordination in a timely fashion. What's even more important, however, is building and maintaining good relationships among the primary care and referring providers in a community. The success of the technical system depends on the strength of the interpersonal relationships between the individual clinicians and organizations. Without familiarity, common goals and shared objectives, the administrative transfer of information will not occur or be sustained. Ongoing use of the broad stakeholder group, as well as joint review of performance data, can help foster a community of continuous quality improvement among multiple providers.

<sup>9</sup> 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.

<sup>10</sup> O'Malley AS, Tynan A, Cohen GR, et al. Coordination of care by primary care practices: strategies, lessons, and implications. Res Briefs. 2009;(12):1-16. Washington, DC: Center for Studying Health System Change, 2009b.

<sup>11</sup> Abrams MK, Schor EL, and Schoenbaum SC, "How Physician Practices Could Share Personnel and Resources to Support Medical Homes," Health Affairs, June 2010 29(6):1194-99.



## **7. Use the data to improve care coordination. Share results at the practice and care-team levels.**

Care coordination measures and data will not drive change. How the organizations use and respond to the data can. All organizations working on improving care coordination need to set up a process to regularly review the performance data, brainstorm solutions and test those ideas through quality improvement efforts. What will ultimately produce improved care coordination are the changes that occur in response to the information. Table 2 presents suggestions for how to effectively share information with clinicians and staff.

The culture between providers needs to be conducive to and reward collaboration. Care coordination is predicated on the belief that providers will work together. To do so, they must understand each other's roles. Also, they need to trust the communication systems.

## **Conclusion**

Improving care coordination within and among health care settings is a critical step to achieving high performance in the U.S. health care system. Care coordination performance information is a tool to help quantify weaknesses and stimulate improvement. Tracking systems that enable routine data collection; standardization of measures; involvement of patients and staff and systematic processes to respond to poor performance will bring us one step closer to achieving better-coordinated, higher-value care for all patients.



# Section II

## **Practices in the Spotlight**

The papers in the previous section, written by leading thinkers, offer valuable insights into the theory and published practice of care coordination in the medical home.

In this section, we focus more heavily on the practice element. How does the team function on a day-to-day basis? How do members use health IT to coordinate care? How are they handling transitions across care settings?

This is an exciting time for care coordination pioneers. Care coordination is still evolving, and practices are still putting processes into place and building teams. Many of the practices profiled have not measured the value of care coordination over an extended period; some have only recently begun formal efforts at measuring. The following case studies focus on transformation, not outcomes.

They yield valuable insights into effective practices. In selecting from among the 242 responses received from our survey of primary care practices, we paid particular attention to those that achieved Level 3 NCQA recognition, those with dedicated care coordinators and those with protocols in place to ensure care coordination. The goal of the case examples is to offer an overview of what is being tested in the trenches and give promising examples of practices and innovations being used today to coordinate care. These are evolving programs at varying stages of development.

The examples are representative of a range of practice types to offer a breadth of experience. They are voiced by the program leaders themselves to spotlight what is top-of-mind for those who are on the ground, blazing the trail. These case examples are designed to offer details of those select elements that may be most enlightening to other practices eager to improve care coordination within the context of the medical home. They illustrate key elements of care coordination and, we hope, answer questions important to primary care practices. Perhaps you can see your own practice in these early adopters; we hope their journeys will provide guidance as you chart your course.<sup>1</sup>

Each of the practices profiled is unique, and many of their successes and lessons are context-specific. Nevertheless, some overarching themes emerged.

We have identified seven:

## **A practice cannot coordinate care and improve care transitions in a vacuum.**

Care coordination is an essential component of truly patient-centered care, but it does not stand alone; it requires an overall approach that includes a trusted relationship with a primary care provider, effective use of health IT across communities, and a whole-patient approach to care. As Mary K. Stull, RN, Ph.D., vice president and COO of the Physician Practice Division, Elmhurst Memorial Healthcare, pointed out, care coordination, done right, is integrated, not modular.

*“You can’t pull one element out and have it work properly.”*

In the practices profiled, access played a particularly significant role. From open scheduling and expanded hours to dedicated short “sick visits” and patient portals, practices are reducing barriers to access for their patients and helping them receive the care they need, when they need it—ideally, through their primary care provider. St. Elizabeth Physicians offers a good example of providing access

through multiple channels. Without such access, care coordination efforts fail, because patients will not receive the care they need or will go outside the practice—perhaps ending up in the emergency department.

## **Case managers or coaches/navigators/care coordinators enhance care coordination within the practice and across care transitions.**

In the practices profiled, the use of dedicated coaches, nurse case managers or care coordinators are particularly important for patients with chronic conditions or who have recently been discharged from a hospital. All patients benefit from appropriate coordination, but those with complex health needs benefit the most. Effective care coordination involves the ability to meet the care coordination needs of all patients through appropriate assessment, and efficient care coordination directs more intensive and personalized services to those with the greatest needs. Bon Secours shows how an organization can use nurse case managers to help patients navigate transitions and empower them to manage their chronic conditions. Sometimes, the patient must interact with remotely based coaches/navigators/case managers. In those cases, the onsite team must deliver a consistent message about the role of the case manager, and the case managers must, at each encounter, present themselves as part of the team. Patients are more open to working with a coach or |care

coordinator who is identified and acts as a member of the primary care practice team.

## **Standardization and flexibility are both important.**

Consistency across practices is an essential component of care coordination in several of the practices we interviewed. Protocols support consistency, and some of the practices interviewed use standing orders. Bon Secours offers a particularly good model for this: Robert J. Fortini, PNP, vice president, chief clinical officer, places tremendous emphasis on decreasing variability and increasing standardization. However, several practices, including St. Elizabeth, emphasized the value of flexibility, of adapting successful approaches to the culture of the practice, the patients and the community.

## **Coordination is not limited to the practice or even the health system.**

The primary care practice functions as “dispatcher” to get a patient from point A to point B along a continuum of care. For the patients—and their families—the promise of care coordination is that someone coordinating the patient’s care, across care settings, across diseases and across the community. In the Allegiance Health depression program, the coach coordinates with area federally qualified health centers and the United Way to connect patients to the care they need. Elmhurst Clinic coordinates

<sup>1</sup> Space did not permit us to offer profiles of all 15 sites selected to be in this report. However, you will find contact information for each site and, as with all PCPCC publications, you are encouraged to reach out to your colleagues to seek further insight.

# Practices in the Spotlight

with several local nursing homes for patients discharged from Elmhurst Memorial Hospital, and team members can connect patients to community resources, and provide access to home health, social services, diabetes education and hospice.

## **Goals must be patient-driven, attainable and frequently reinforced—and considered within the context of the community.**

Team members help patients identify realistic goals, and they reinforce those goals in various ways. Allegiance Health, for instance, trains the entire team in motivational interviewing. This empowers each team member, in his or her own capacity, to reinforce self-management techniques and help the patient work toward goals. These successful practices devote the time and the resources to developing a personalized health plan with the patient and ensuring the entire team helps support that plan.

## **Maximizing use of non-physician team members supports care coordination.**

It is important to define roles and responsibilities for each team member responsible for the care coordination process. Once roles are defined, use of non-physician team members frees each member to work at the top of

his or her license. Team members have specific roles, functions and assigned accountabilities, from medication management to taking patient histories, but they also share the responsibility for delivering patient-centered care. Some organizations, including Southwestern Vermont Health Care, cross-train team members; some select particular skills, such as motivational interviewing, for all-team training. Each team member—onsite or off—reinforces self-management techniques and helps the patient work toward goals.

## **Success depends on leadership, buy-in and a plan.**

Several of the organizations interviewed emphasized the value not only of executive leadership and staff buy-in, but of having a plan at the outset. As Jennifer Fels, RN, MS, director, Southwestern Vermont Medical Center, put it, “Make sure your project is well thought out and that you have leadership support.” Agreement on a project outline before moving forward avoids challenges later. Team-based, coordinated care requires a coordinated approach to implementation and execution.

To supplement the case studies, we have included survey results from the six spotlighted practices as well as the survey results from nine additional practices, to offer a greater breadth of information in addition to the depth provided in the case examples.

# Case Example

## Case Example 1

**Jennifer Fels, RN, MS**  
**Director**

**Kori DeLuca, RN**  
**Clinical Integration Coordinator**

**Southwestern Vermont**  
**Medical Center**  
**(802) 440-4047**  
**Bennington, Vt.**  
**walje@phin.org**

### Recognition

Recognized by NCQA as  
a PPC-PCMH (Level 3)

### About

Southwestern Vermont Health Care (SVHC) serves more than 55,000 people in Vermont, eastern Rensselaer County in New York and northern Berkshire County in Massachusetts. The multi-specialty practice includes two primary care campuses, Northshire and Deerfield Valley. It also includes a 99-bed community hospital (Southwest Vermont Medical Center, or SVMC), a nursing facility, Visiting Nurse Association (VNA), hospice care and a regional cancer center.

There are seven medical home primary care practices in Bennington. Two are hospital employed and five are independent providers. The

physician hospital organization (PHO), United Health Alliance (UHA) manages the Vermont Blueprint for Health initiative in Bennington.

SVHC's team-based, care coordination efforts predate its medical home status. They formally began in 2006, when SVHC became one of the two pilots participating in Vermont's Blueprint for Health. It followed Wagner's Chronic Care Model and used Dartmouth's clinical microsystems approach, a quality-improvement model designed especially for primary care practices. It achieved NCQA medical home status in 2011.

### Success Elements

#### Hospital Cooperation

Several developments on the hospital side have contributed to successful care coordination efforts. In 2008, SVMC completed the transition to fully electronic medication administration, making it able to communicate electronically with the practice's EHR. In addition, SVMC is a pilot site for Project BOOST (Better Outcomes for Older Adults through Safe Transitions), a Society of Hospital Medicine initiative to improve transitions and reduce readmission rates.

The BOOST approach involves the hospital pharmacist, who provides bedside consultations for patients on certain medications such as

# Practices in the Spotlight

anticoagulants, those new to insulin and anyone taking seven or more prescriptions.

BOOST also changed the way the hospital discharged patients, said Jennifer Fels, RN, MS, director, SVMC. The hospital makes post-discharge follow-up calls and ensures the patient has an appointment within 72 hours of discharge. The hospitalist's discharge information is sent electronically to the primary care practice, which also receives a phone call about the discharge. This cooperation has improved care transitions and handoffs across all areas of the continuum of care, agreed Fels and Kori DeLuca, RN, SVMC's clinical integration coordinator.

In addition, patients, on discharge, receive a packet with their records, discharge medication reconciliation and photos of their hospitalist and primary care physician, as well as all their discharge instructions.

## Nurse Case Manager

Along those same lines, the use of an RN case manager in the primary care setting has enhanced coordination and continuity of care. The case manager follows up for the practice after a patient is discharged from the hospital or emergency department, and during transitions to and from home health care. When a patient is admitted to the emergency department or the hospital, the

practice receives an electronic flag, and the case manager follows up.

*"We've medicalized so many things, but transitions are not medical events," Fels said. "It's about the team working together. It's a person event."*

The case manager also keeps others in the practice aware of what needs to be done for the patient, both through conversation and by making notes in the electronic record. It gets granular, said DeLuca. The case manager may leave a note such as "Please make sure the patient brings her sister Sarah to the follow-up appointment."

*The case manager uses the registry to identify and contact patients in need of follow up. "When a patient disappears, our obligation doesn't," Fels said.*

## Assessment and Self-Management

Each planned visit includes an assessment of the patient's needs and goals. The nurse or medical assistant will not only go through a clinical checklist; he or she will delve into what's going on in the patient's life and, if necessary, make VNA referrals. "At intake, it's often a matter of finding out what's going on at



home,” DeLuca said. She estimates about half the VNA referrals come through the nursing assessment.

Each medical home primary care practice has a behavioral health specialist through a contract with the local community behavioral health service. There is no charge to the patients for this additional service. In addition, the medical home practices are recruiting a social worker, nutritionist and diabetes educator to engage patients in better self-management.

In two offices, a nurse educator is part of the team. If the physician decides the patient needs additional education, he or she just checks off that box on the EHR. The nurse educator comes in after the exam and works with the patient on self-management goals, medication compliance and any other issues that need to be addressed.

During both sick and planned visits, patients receive reminders about any test or visit they need. It’s all part of a protocol embedded in the EHR. If a patient comes in with a broken arm and is overdue for a colonoscopy, the EHR will generate an alert and a team member will put in an order—and perhaps even make an appointment. If she needs a tetanus shot, “she’ll get it in the other arm,” said DeLuca.

## Healthier Living Workshops

In addition to working with the patient to develop an individualized proactive care plan, SVHC offers a Healthier Living Workshop, facilitated by staff with expertise in goal-setting. Patients meet with a leader to discuss self-management, including how to set and meet health goals. Physicians or nurses may refer patients, but patients can attend the workshops without a referral. Referrals are tracked in the EHR, but there’s no other formal communication between the workshop and the EHR.

The workshop is not a group visit. Rather, it’s a six-to-eight session seminar that includes a workbook, a CD and a variety of tools patients can use. Patient response has been positive; most have attended the entire seminar. Support for the program comes through the state as part of the Blueprint effort.

## Motivational Interviewing

“Motivational interviewing has been a real eye-opener. It changed the way the practice teams interact with patients...and with the world,” DeLuca said. Everyone in the practice is trained in the technique. Anyone can interact with the patient: The team member at the front desk can say “How are you doing with quitting

# Practices in the Spotlight

smoking, Bill?” This increases the number of conversations patients have about their goals.

## Team Work

Each primary care practice affiliated with SVHC approaches team work differently. The primary care team can include a physician, LPN, RN, RN case manager, front office staff, medical assistant, behavioral health specialist, patient coordinator and a referral coordinator. Staff is cross trained. Some offices employ medical assistants who function as care coordinators: They perform various tasks, from taking vitals to covering the front desk. It’s a role that several medical assistants are trained to fill. Some also have a triage RN who can answer phones, and patient questions in real time. “That’s hugely important in reducing emergency room use,” said Fels.

## Testing and Assessing

“We test things in small pilots before we spread them,” Fels said. Rollouts are gradual, and everything is tested and tweaked. For this to succeed, the team must be willing to measure and make adjustments. The team is willing and they have executive support.

It’s part of a larger philosophy of quality improvement: Plan-Do-Study-Act. The “plan” aspect is as important as the rest, DeLuca said. A practice

has to take time at the beginning to decide how it wants to make changes, how it wants to proceed with transformation. “Make sure your project is well thought out and that you have leadership support,” she said. The initial pilots may be small, but eventually the changes are expected to have a significant impact on the practice. One key to success is that a project outline was agreed upon, signed and approved before the practice moved forward.

## Community Connections

All Blueprint practices participate in monthly community health team meetings that include representatives from Medicaid, home health, housing agencies, substance abuse programs, various other community groups and service providers, and consumers. In addition, Vermont also has a 211 service that connects callers to community services.

# Case Example

## Case Example 2

**Robert J Fortini, PNP, Vice President,  
Chief Clinical Officer  
Robert\_Fortini@BSHSI.org**

**Bon Secours Virginia  
Medical Group  
Richmond, Va.**

### Recognition

Recognized by NCQA as a  
PPC-PCMH (Level 3)

### About

Bon Secours Virginia Medical Group (BSVMG) comprises more than 335 primary care and specialty practitioners. Its 45 physician primary care practices serve more than 300,000 patients.

Its medical home initiative, the BSVMG Advanced Medical Home Project, began in June 2010

BSVMG is part of Bon Secours Health System, a \$2.9 billion not-for-profit Catholic health system that owns, manages or joint ventures 18 acute-care hospitals, one psychiatric hospital, five nursing care facilities, four assisted living facilities and 14 home care and hospice programs.

## Success Elements

### Standardization

Uniformity across the system is crucial for an expanding organization, said Robert J. Fortini, vice president and chief clinical officer for BSVMG, and clinical standardization is at the heart of his philosophy. “Like most hospital systems, [BSVMG] is employing independent physician practices at a rapid, aggressive rate,” he explained. “When you do that, you rapidly acquire a lot of variability of practice—everything from workflow to equipment and tools.”

As part of a complete practice redesign, he embraced a coordinated approach to system-wide practices and protocols surrounding patient care. His goal: Decrease variability and improve efficiency. Everything from skills competencies, job descriptions, policies and procedures, to biomedical equipment and medical supplies is under scrutiny for standardization to sustain consistency in care delivery and leverage economies of scale.

### Team Work

Part of the overall system redesign is development of care teams that include doctors, nurses and embedded case managers. Each member has a role, and Fortini expects each team to function

# Practices in the Spotlight

seamlessly. In fact, after the teams are formed, they do a workflow rehearsal to make sure all teams are performing care uniformly. They hold daily team meetings to go over the schedule and prepare for the patient. They review standard and disease-specific rooming protocols, medical refill by protocol, patient result follow up, point of care testing, patient portal activation and the after-visit summary review with patient.

Consistency of message to the patient is essential. For example, BSVMG has a teach-back protocol for chronic heart failure that relates to medications and symptoms to monitor. That same approach is used during the appointment, by the navigator and by the home health professional.

There is a daily team meeting to review the schedule and prepare for patients in advance of arrival. The group has standard and disease-specific rooming protocols, as well as protocols for other activities, including medication refill, point-of-care testing, test result follow up and a post-visit summary for each patient visit.

The industrial revolution was based on division of labor: different people doing different tasks to achieve a larger goal. The same concept should apply to the medical office, Fortini said. Each individual on the team

uses his or her skill set, working to maximum level of competency and license, to achieve better care for patients.

## Navigators

The system uses three types of professionals to perform care coordination functions. The first is the LPN panel manager who participates in population management using registries. Virtual care navigators are centrally located RNs who also use registry information to conduct telephonic visits, primarily for those with chronic disease, and for post-discharge follow up.

The third model is the embedded case manager, or nurse navigator, who is part of the primary care team. They do everything the virtual navigator does, and they see patients in the practice. The concept is modeled on the Geisinger ProvenHealth Navigator™ program, but customized to meet the unique needs of BSVMG's own population.

The navigators are RNs who are either board-certified case managers or actively working toward certification. They help navigate patients through the system and across transitions of care. They also focus on patient activities

such as diabetes self-management and medication adherence. They meet with the patient, simplify the message and—significantly—rehearse the message to make sure the patient grasps it.

Each embedded nurse navigator is equipped with a direct phone line and text-enabled beeper for ease of access by patients in need. A confused patient can call the number and reach his or her own case manager. “The same nurse who taught them on Monday is available on Tuesday,” Fortini said.

“We probably don’t give that [level of access] to every patient. We use a severity index to plot out different levels of management,” he added.

The nurse navigators are also available to other members of the primary care team, the hospital discharge planner and even the managed care organization’s case managers. They attend all hospital-based case management meetings and work closely with hospital case managers.

Fortini would like to see even greater integration and coordination. There are plans for BSVMG to work more closely with the managed care organization’s case management program, to better coordinate health and wellness services with the embedded nurse navigator. “I

see no reason why a Cigna case manager shouldn’t have access to our electronic medical record,” he said. It would reduce redundancy and create a more effective message for the patient.

### **Coordinated Medication Management**

RNs and LPN/LVNs have the primary responsibility to teach medication management, and for patients being discharged from the hospital, the nurse navigator becomes involved. The navigator reviews the discharge report, contacts the patient by phone and reviews the issues raised at discharge, from how to take the prescribed medication to watching for side effects. The navigator also schedules a follow-up visit within five to seven days of discharge.

Thanks to this rigorous follow-up, BSVMG has seen its readmission rate drop. Over a six-month period, more than 3,000 patients were engaged and 1,000 follow ups were scheduled. The 30-day readmission rate is now just 1.7 percent. Fortini attributed that to the follow-up protocol.

### **One Patient, One Record**

The “one patient, one record” approach has been critical to care coordination. BSVMG has gone live with the fully integrated EHR product at all of its primary care sites and many of its specialty sites.

# Practices in the Spotlight

Patients also have access to an electronic Web-based patient portal. It supports care management and allows for two-way communication over the Web. More than 10,000 patients actively participate. It offers access to past medical history, current problems, family history, medications and immunizations. The patient portal has been embraced by patients, Fortini reported. In the first 12 months, 7 percent of patients were using it. It has about 25,000 active users and is adding about 200 patients a day.

Normal lab results are available immediately. Abnormal results are released immediately to the physician, and 48 hours later to the patient. The portal includes educational information and a flow sheet monitoring blood pressure and other measures. Patients can request an appointment, send a message to the physician and find instructions on their medications.

## Population Health Tools

Using an automated population health management approach allows clinicians to identify patients with gaps in care, improve capacity for physicians to see more patients, increase patient access and positively engage patients to improve their compliance with their care plans. Automated population health tools, from disease registries to automated telephone reminders,

give the team greater access to each patient at multiple levels, and give the patient greater access to the team. Patients can call and speak with the same navigator. They can use the patient portal. They can schedule appointments when it's convenient.

Soon the program will add its own take on group visits. In September, BSVMG Virginia Medical Group was scheduled to hold its first "Diabetes Day." For an entire day, four physicians planned to see only individuals with diabetes. Patients visit the physician and then a podiatrist, and participate in group sessions with an educator and a registered dietician.



# Case Example

## Case Example 3

**Jennifer Houttekier, RN, BSN**  
**Clinical Excellence Manager**  
[jennifer.houttekier@allegiancehealth.org](mailto:jennifer.houttekier@allegiancehealth.org)

**Allegiance Health, Medical Practice Management**  
**Allegiance Depression Management Program**  
**Jackson, MI**

### Recognition

Recognized by NCQA PPC-PCMH (Level 3). Participating in BCBSM PGIP PCMH

### About

Allegiance Health Medical Practice Management comprises 14 PCP-employed practices that are part of Allegiance Health. The primary care practices serve 50,272 patients.

Since July 2010, Allegiance Health Medical Practice Management has collaborated with the University of Michigan Health System on a depression management project. It is part of a research project led by Dr. Michael Klinkman of UMHS as the principal investigator, and it will continue as an ongoing program for Allegiance.

Thirty patients are in the depression program, and Allegiance will actively recruit until it reaches 300 patients per coach. It now employs one health

coach with plans to hire a second.

The Allegiance Depression Management Program, based on the Wagner Chronic Care Model, seeks, among other things, to improve depression care in community practices by assessing the effectiveness of depression disease management in community primary care practices. Participants complete an initial screening along with one-, three- and six-month follow-up sessions, while maintaining normal care with the primary care provider.

The health coach, a licensed medical social worker, contacts participants by telephone to complete follow-up, monitor core clinical outcomes and provide one-on-one support. The coach feeds all results back to the primary care physician. Between office visits, patients participate in regular follow-up calls with a coach, who monitors how well the patient is responding to treatment and provides feedback to the patient's primary care doctor. The coach answers the patient's questions and provides support, education and self-management skills in areas such as diet, exercise and sleep.

UMHS hopes to demonstrate the program can be successful outside an educational community. Patients are being surveyed throughout the program, but UMHS has not begun to assess the results.

Allegiance hopes to replicate the model for all chronic diseases. It's a prototype, but it's not a pilot, said Jennifer Houttekier, RN, BSN, the program's clinical excellence manager. "We are starting on a small scale to study results to make sure we are successful," she explained. "With a few adjustments, you could take out 'depression' and plug in 'diabetes.'" Clinical aspects would change, but the self-management format is interchangeable.

## Success Elements

### Personalized Care, Ready Access

Patient/coach interaction happens via email, patient portal or phone. With depression, this is an advantage, she said: The stigma of having to deal with behavioral health goes away. The coach makes contact at the time and date that work best for the patient.

During a regular office visit, a clinician may not have enough time to uncover the underlying reasons for non-adherence to a plan of care. Most patients with chronic conditions tend to have underlying behavioral issues that affect the condition itself, or erect barriers to following the clinician's instructions. The coach can leverage time and the skill set to discover the barriers. Patients often tell physicians what they want to hear, but they are more likely to confide in a social worker, Houttekier

said. Identifying and addressing the barriers are simple but essential steps.

### The Voice of the Practice

The Allegiance Depression Management Program coaches are Allegiance employees and members of the team, with access to the EHR. However, because the coach works in multiple practices, she is not part of the team the patient sees on site each visit. This potential disconnect makes it doubly important for the coach to identify herself as a representative of the primary care practice—and for the practice to communicate that she is part of the team. The goal is to make the patient comfortable with the coach and view her not as an outsider, but as part of the care team.

*Keeping lines of communication fluid across all health services is the only way to successfully care for the patient across the health care continuum, Houttekier said.*

The coach can provide the primary care physician with information about the patient that he or she would not otherwise know. Through the EHR, telephone and occasional on-site meetings, the physician and the rest of the care team keep the coach apprised of clinical changes.

Because they are working jointly, it is important to ensure the patient receives a consistent message.

Houttekier offered a hypothetical example: The coach helps the patient set an achievable goal, such as setting aside time each day to work in the garden. That becomes part of the record, and during an office visit the physician or staff can ask the patient about gardening. This not only reinforces the goal, but it also gives the patient confidence the team is truly her team.

It affects clinical issues, too. The coach has access to the EHR and can see which medication the patient has been prescribed, so she can follow up with the patient about whether they are taking their medications as prescribed. The coach can probe more deeply, identify the issues and then communicate them to primary care physician.

### **Team-Based Approach**

Each practice has its own team-based care coordination process. For patients in the depression program, the coach manages care coordination, working as part of the primary care team. The teams generally comprise an MA, the office staff, mid-level providers and the physician. Each practice conducts

daily office huddles. The coach, who is considered part of the team, visits each practice regularly and remains in touch with team via the EHR and phone. The EHR community care record is available to the entire team, including the coach. Likewise, the coach's notes from each call are scanned into the system and are available to the rest of the team.

For this approach to work optimally, each member of the team needs to be functioning at the top of his or her license. And they need to be trained to identify barriers to health that can be supported outside the office. Teaching motivational interviewing skills to the entire staff has been very useful in reinforcing the care plan, Houttekier said. Each team member, in his or her own capacity, can help reinforce self-management techniques and help the patient work on goals.

Finally, because the initiative is designed to fit into the routine workflow of primary care physicians, they do not “feel piled on,” she said. Rather, the program aligns with their workflows and supports them—rather than asking for more of their time.

### **Community Connections**

The coach connects patients to community resources as needed. The coach spends time with the local

federally qualified health centers so she can direct patients there for extended services. The coach connects patients with broader community services through United Way and other organizations, aligning resources with population needs. The coach knows what's available to each practice location and understands what fits the culture of the practice and the community, Houttekier said.

## Coordinated Medication Management

The physician and the mid-level practitioners have the primary responsibility to teach medication management and adjustment. For the patients in the depression program, the coach reviews the medications with the patient and confirms they are taking them as prescribed. She reviews medications in the community medical record and then calls the patients to discuss the regimen. As noted earlier, she can identify challenges to compliance and has the time to uncover the underlying behavioral issues leading a patient to, for instance, skip doses or take a half dose. She reports this to the physician, who can make adjustments. "Everyone is talking to one another," Houttekier said, "and the patient feels well supported."

## Case Example 4

**Donald R. Lurye, MD,  
MMM, CPE  
Chief Executive Officer  
Elmhurst Clinic, LLC  
dlurye@emhc.org**

**Mary K. Stull, RN,  
PhD, VP/COO  
Physician Practice Division,  
Elmhurst Memorial Healthcare  
Elmhurst, Ill.**

## Recognition

Recognized by NCQA as a PPC-PCMH (different sites have achieved different levels).

Participation in Blue Cross and Blue Shield of Illinois (BCBSIL) medical home pilot

## About

Elmhurst Clinic, LLC, is a seven-site multi-specialty physician group affiliated with an independent health system through a professional services agreement. It has been developing a medical home over several years and began in earnest in September 2009. Staffing includes 85 physicians and nurse practitioners; its seven primary care practices are served by 15 physicians and one nurse practitioner in family medicine, 11

physicians and one nurse practitioner in pediatrics, and 10 physicians in internal medicine.

## Success Elements

### Collegial, Team-Based Care

“Physicians of my era were taught to be heroes...to be autonomous,” said Donald R. Lurye, MD, MMM, CPE, Elmhurst Clinic’s CEO. Actual practice isn’t like that. “The era of ‘practicing alone together’ is over.”

Maximizing use of non-physician members of the health care team is another of the most important elements supporting care coordination. “Physicians cannot do everything on their own. Care delivery is too complex and there is too much information for one professional to manage,” Lurye said.

For some organizations, that would require a cultural change. But for the most part, it was already part of the Elmhurst culture; in fact, the collegial atmosphere attracted Lurye to Elmhurst. And it set the stage for transformation: Beginning with the implementation of the EHR in 2005, clinicians agreed on critical practice issues, such as how to document, how to check patients in and how to prepare patients for the visits, he said.

The team includes a physician, nurse practitioner, RN and a certified medical office assistant

(who is trained in many in-office responsibilities). The nurse practitioner works with the difficult, chronically ill and non-compliant patients. The ideal is for each to work at the top of his or her license, and Elmhurst is still working toward that; Mary K. Stull, RN, PhD, VP/COO, Physician Practice Division, Elmhurst Memorial Healthcare, expects it to become the norm over the next three years.

### Access As A Key To Coordination

Expanded access, especially in primary care, has been part of the organization for years, predating its move to the medical home model, Lurye said. Elmhurst offers after-hours and weekend access—and patients who can see their primary care provider at a convenient time are less likely to go to an unaffiliated clinic or the emergency department.

### Facilitate Care Transitions Across Care Settings

Elmhurst Clinic coordinates with several local nursing homes for patients discharged from Elmhurst Memorial Hospital. An Elmhurst Clinic physician will accept the patient, which keeps the patient coordinated with the primary care physician. Those physicians have access to the health record.

Team members can connect patients to community resources, and provide access to home health,

social services, diabetes education and hospice services. Taking care of patient transitions isn't a discrete effort, Stull noted. Care coordination, done right, is integrated, not modular. "You can't pull one element out and have it work properly," she said.

## Proper And Thorough Use Of Technology

The EHR with Web-based technology enables centralized care coordination and helps care teams improve the health of their population. It also supports the PCMH and sets the stage for Meaningful Use, Lurye said.

The EHR supports information sharing across office sites and beyond; clinicians can access the EHR system anywhere there is an Internet connection. Ready access makes it easy for hospitalists to view records and make and transmit discharge notes; it enhances continuity of care for physicians who are off-site, and allows the system to track labs, diagnostics and referrals to completion. It also allows Elmhurst to identify and track high-risk patients.

The system supports health literacy issues. Physicians make notes in the electronic record, where they are translated into plain English. They then have the option to print out a care plan.

Elmhurst provides some patient portal functions, including refill and appointment requests and patient

education. The patient-facing technology is not as robust as leadership would like, and it will soon get an upgrade.

Team work, technology and personalized care are the three elements that make Elmhurst's program successful, said Stull. "It's often thought that technology is depersonalizing care. I don't believe that," she said. Used correctly, it's not a barrier to interaction. Rather, it enhances the interaction.

Lurye used the newer paperless facilities as an example. The rooms are designed to allow both the clinician and the patient to see the computer screen; the design fosters interaction. The technology must support personalized care, regardless of the size of the organization, both Lurye and Stull said.

An EHR is enormously important to care coordination, but only if you use its capabilities correctly, Lurye and Stull said. Health care organizations must use the EHR to facilitate changes in how they accomplish their work, and they need to customize it to work for them. That philosophy informed the development of Elmhurst's health IT systems: If IT is to truly support primary care, the physicians, other clinicians and staff need be part of the process, Lurye said. Health IT deployment should be led by those who understand patient flow and care.



## Telephonic Reminders

Elmhurst has found automated phone reminders, tied to evidence-based protocols, particularly useful in bringing in patients due or overdue for a visit. Stull estimated that, system wide, the phone reminders have generated up to 2,500 visits monthly. Currently, there are about 30 telephone protocols in place covering all the clinic's specialties.

Patients have learned to expect the follow-up calls, said Lurye. "It's the new normal." The key, said Stull, is to make clear the reminder call is coming from the primary care doctor, not an alien third party. That's reinforced during the visits, and now patients attribute the calls to the doctor. They realize the doctor knows about the call and cares about the patient's health. It has improved compliance and enhanced patient confidence.

## Standing Orders And Protocols

Elmhurst has already instituted standing orders in its Coumadin Clinic and will soon do so across the organization for diabetes, followed by other chronic illnesses.

Adopting protocols for use in office practice "maximizes the value of each encounter, moving it from merely reactive to proactive," Lurye said. "We can say 'We understand you hurt your ankle, but we are overdue for this lab test.'"

Protocols aren't just for medical issues, he added. For a provider organization to start developing mature leadership, it must move away from a personality-governed structure and move to one based on standards and policy. "That's not to say we should be overly bureaucratic," he said. Rather, it's about striving for consistent, even-handed application of policy and standards, regardless of who happens to be the leader.

## Case Example

### Case Example 5

**Amy Mullins, MD**  
amullinsmd@netscape.net

**Trinity Clinic Whitehouse**  
903-839-2585  
Whitehouse, Texas

### Recognition

Recognized by NCQA as  
a PPC-PCMH (Level 3)

### About

Trinity Clinic is an integrated health system, with more than 280 physicians and mid-level providers representing 38 specialties in 36 clinic locations serving east Texas. It launched its formal medical home effort in 2006.

Trinity Clinic Whitehouse is one of 16 primary care sites. A family practice with three physicians and one nurse practitioner, it serves approximately 5,100 patients.

### Success Elements

#### Team Work

Amy Mullins, MD, a physician at Trinity Clinic Whitehouse, attributes Trinity's success, especially in her practice, to communication, team work and trust. Anyone who works in her office is a member of the team, she said. It doesn't start in the exam

room; it starts at the front desk. Trinity's teams include an RN nurse navigator, who handles inpatient transitions and complex outpatients; a medical assistant who often handles care coordination and home health; and the physician. Some practices employ an LVN as well. The team communicates via the EHR and through daily huddles.

#### Nurse Navigators

The nurse navigator is notified when a patient is admitted. The navigator assesses the patient's needs and helps with discharge planning—this includes confirming the patient has medications and any needed home health services at discharge. If the primary care physician uses a hospitalist service, the navigator handles that aspect of the transition. She follows up by phone with the patients once they are home to make sure medication is being taken correctly and that the patient is aware of the follow-up visit to the primary care physician. The navigator enters a report about each contact into the EHR.

*For the patients assigned to her, the navigator helps with medication management, reviewing the medications with the patient and ensuring they understand how to take them. For instance, a navigator, after talking*

*to a patient, found the patient taking her antidepressants on an as-needed basis, rather than as prescribed. The interaction with the nurse navigator helped put the patient back on course. Moving forward, Mullins said, she hopes to see the efforts broaden. “I would like to make sure that more of our high risk patients have a connection with our nurse navigator.”*

For patients to benefit, they have to trust the nurse navigator and accept her as part of the primary care team. That remains a challenge, Mullins said. Patients can be suspicious and may think the case manager is working for a drug company or the insurer. “We have to reinforce how she is part of our team.” During office visits, team members mention the case manager by name; for instance: “Tasha from our office will be calling you in a few days to follow up.”

### **Patient-Directed Goal Setting**

At each visit, the medical assistant or LVN specifically asks the patient the goal for the visit. Frequently, the patients have goals that aren’t immediately obvious to the team. Likewise, care plans are individualized. The primary care physician works with the patient and discusses what the patient wants to achieve—and what they are capable of achieving.

Mullins offers an example: A patient who needed to increase his level of exercise didn’t have time for a formal regimen. However, each day, he carried bags of feed to a tractor to take to a deer stand. Together, he and the navigator decided he would park his tractor a little farther away, so he had to carry the bags a few yards farther. It was a realistic goal he could work on. Rather than imposing goals he wouldn’t or couldn’t meet, the care plan let him work exercise into his daily activities.

### **Quick Sick Visits**

One of the most successful programs to improve access and coordination provides for “five-minute” sick visits during lunch hour or at the end of the day. The visits are currently limited to upper respiratory complaints; more complicated conditions would not be appropriate in the limited time frame. The patient comes in and is triaged by a nurse who completes the EHR template. If necessary, the staff can conduct a rapid strep or flu test. The physician reviews the history and any appropriate data, then conducts a physical exam. The entire process takes 20 minutes.

These “stacked” appointments allow patients to get checked out quickly at a relatively convenient time; they are intended to reduce emergency room visits.

# Practices in the Spotlight

The practice also offers nurse visits, which are especially helpful for patients with recurring problems. For example, a patient who suspects a urinary tract infection may call and ask for an antibiotic. He or she is asked to come by the office with a urine sample. The patient drops it off, briefly talks to the nurse, and leaves. The practice can then look at the sample and decide whether and how to treat.

*Convenient treatment keeps people out of the emergency department and puts them back in the medical home, “where we know them, where we have their records,” Mullins said.*

## E-visits and Live Access

As with the Quick Sick Visits and the UTI nurse visits, e-visits are limited to conditions that, for Trinity, are best suited to them. In the case of Trinity Whitehouse, e-visits are generally used for depression follow-up, hypertension follow-up and upper respiratory issues. Insurance doesn't cover these, so patients pay \$30 (comparable to a copay), which is charged to a credit card. E-visits have proven especially helpful for patients without insurance or mental health coverage who are unable to come for an in-person visit. It also benefits those with scheduling challenges.

Access is essential to care coordination, and the practice is designed to maximize access. In addition, the practice has a policy that during office hours, a person, not a recording, always answers the phone at the front desk. “Phone access is as important as physical access. Patients want to be able to talk to someone,” Mullins said.

## Personalized Updates

Patients complete a personalized pre-visit planning sheet at the start of each visit. They can check medications they are still taking and cross out those they aren't. This helps keep the list current and can provide the launching pad for a conversation about their medications.

The sheet also lists the preventive services for which they are due. Patients can note if they received the services elsewhere, and the practice can then obtain those records.

## Identification and Intervention

One of the most important things a medical home can do is promote coordinated care, using health IT to identify high risk patients, Mullins said. Trinity's system has a risk score for certain patients, and those with a high score receive a call from their case manager. Physicians can also identify patients who may need extra help. For instance, if the physician suspects a patient doesn't really

understand the instructions on how to take a medication, she may flag the patient for follow up by the navigator.

The patient registry connects to Trinity's EHR to pull data, run reports and HEDIS benchmark for various conditions—coronary artery disease and diabetes, for instance. It also flags those with lifestyle issues, such as smoking. It lets the team manage populations and assess how well they are doing it. “You think you are doing a good job and then you see the numbers,” Mullins said. That drives improvement; physicians are motivated by healthy competition, she said. “They want to be the best.”

### Assessing Patient Experience/ Satisfaction

While the practice uses technology to assess how well it meets the standard metrics, it also uses more formal metrics—chronic disease management benchmarks, HEDIS quality measures and readmission rates among them. The practices place particular emphasis on patient surveys. The use of surveys isn't a system-wide initiative, but it is an integral part of the practice. “We do surveys constantly, and we design them in house,” Mullins said. The entire team is involved in promoting the surveys which provide useful data, and they offer an opportunity for patients to provide feedback.

# Case Example 6

**G. Denise Page, RN, CPC**  
**Director of Quality and Compliance**  
**denise.page@stelizabeth.com**

**St. Elizabeth Physicians**  
**(859) 344-3711**  
**Crestview Hills, KY 41017**

## Recognition

One practice recognized by NCQA as a PPC-PCMH (Level 3)  
Others in process of NCQA PPC-PCMH recognition

## About

St. Elizabeth Physicians is the multi-specialty physician organization of St. Elizabeth Healthcare. With approximately 200 doctors, 50 mid-level providers and more than 1,000 employees, St. Elizabeth Physicians serves northern Kentucky, greater Cincinnati and Indiana. St. Elizabeth Physicians—Williamstown is Kentucky's first medical home (Level 3), and is providing the model for the other St. Elizabeth primary care practices to adopt.

Williamstown has three physicians, each of whom serves a patient panel of approximately 2,100. The system has 24 primary care practices. Ten more offices are scheduled to adopt the model in 2011, with 17 moving to it in 2012.

## Success Elements

### Flexibility and Pacing

The Williamstown clinic is essentially the pilot for the other St. Elizabeth primary care practices. Not only is it a prototype, it's a laboratory. Team members—and the physician group in general—are willing to test approaches, use what works and adjust what doesn't. "It is a work in progress," said G. Denise Page, RN, CPC, director of quality and compliance for St. Elizabeth Physicians. As other sites begin to make the medical home transition, they will adapt Williamstown's successes in a way that fits their culture and workflows. For instance, in a smaller practice with a small staff, such as Williamstown, the team is much more loosely structured. But as larger practices have followed suit, they have found a more formalized team approach works best.

Each practice is rolling out innovations gradually. The pattern worked for Williamstown, allowing the team to assess the impact on care coordination and make appropriate adjustments. Roll it all out at once, she said, and it's hard to tell which intervention is making the difference in outcomes.

For this to work, said Page, a practice has to take time at the beginning, decide what conditions or programs

it wants to focus on first, and put everything in writing. Only then it is ready to move forward.

### Chronic Disease Focus

Along those same lines, the Williamstown practice is gradually rolling out chronic disease programs, beginning with diabetes. In addition to monitoring and developing care plans, the practice is coordinating with an adjacent St. Elizabeth's hospital to conduct classes. Based on patient feedback, it expanded the program dramatically, and is preparing to conduct group visits.

The team works with the patient to develop a diabetes care plan and identify goals. What once were just notes on a piece of paper have now become part of the EHR.

Patients get a printout that shows the goals they set and how close they are to meeting them as part of the post-visit summary.

Next, the practice will take on COPD and asthma. The model will be roughly the same for each program, and include an individualized and proactive care plan—a customized template populated with the patient's own data.

### Care Coordinator

In the practice, a medical assistant functions as the care coordinator. The hospital, which is connected to the



practice's EHR, notifies the practice of discharges from the emergency department and the hospital. The coordinator tracks the discharges, makes follow-up calls to the patients, and follows up on discharges made to nursing homes and home health agencies. Sometimes she finds gaps in the process. When that happens she communicates with the different entities to bridge the gaps. For instance, the coordinator has found missed connections in both hospital and emergency department discharges. Implementing the follow-up protocol identified potential mistakes before they happened.

The coordinator also calls patients to remind them of scheduled (or overdue) visits and tests. Page said she has seen a direct link between the increased effort to notify patients and the patients getting the care they need.

### **Intake Protocols**

When the patient comes in, the team member at the front desk verifies basic information including address, demographics and current medications. Once the changes are entered, the medical assistant looks at the record, identifies outstanding health maintenance issues and asks the patient about them. The goal is to deal with them right away—a tetanus shot may be given in-office, while a mammogram will be scheduled. The

medical assistants have standard orders they follow, which allows them to order the appropriate tests or vaccinations without talking to the physicians.

### **Access Through Multiple Channels**

Patients who call a medical assistant generally receive return calls in 13 to 20 minutes (the goal is 24 hours). Physicians return calls by the end of the day. The practice had open scheduling even before it became a medical home; in the last year, appointments went from 53 to 62 percent same-day availability. Because of improvement in managing chronic conditions, the practice has fewer critical calls from those patients.

The Williamstown site opens early and is open on Saturday and during lunchtime some weekdays. The system has two urgent care centers that serve all practices; its EHR system is accessible to physicians so they can monitor urgent care encounters.

Through the patient portal, patients can request appointments, order refills, or send email to providers. Patients can also see lab results, view details from past visits and access education materials. The portal has proven very popular among those who use it, but only about 10-15 percent of patients

current use it. The issue has less to do with patient buy-in than with access to computers, Page said—many of the practice’s patients don’t have them.

## Coordinated Medication Management

The medical assistant handles medication verification, and the physician handles education and adjustment. The physician can flag those patients who need follow-up care. Although the physician can pull up populations of patients that may need monitoring or follow up, flagging those records must be done manually—for now. The goal, Page said, is to fully automate that task in the next few years.

## Patient Engagement

Being patient-centered means knowing what needs to happen. Through the medical home process, the practice has become more aware of patient needs and delved more deeply into why they may not be following instructions or meeting their goals. It’s still early in the process, but Page reports positive response from patients. No formal metrics are in place but she’s seen improvement in blood pressure controls. Patients have also started coming in with care plans to show how much progress they have made. “The care plan has gone a long way to helping patients,”

she said. The very process of sitting down with patients, soliciting their insights and setting goals has made a difference in how they approach their health. The practice continues to engage them with educational opportunities, paper resources and—for those who have access—online resources.

## Moving Forward

### More Technology

The practice—and the group—is moving toward greater automation. Page wants to reach a point when the information flows to her routinely and she doesn’t have to think about it. Greater health IT coordination within the system is also underway: Primary care providers have moved, and specialists are moving, toward integrated EHRs. Three specialty practices are connected to the St. Elizabeth system and another five will be added in the next few months.

# Section III

## Selected Survey Responses

This section includes the raw responses to 15 of the surveys Health2 Resources received in response to the call for exemplary practices in care coordination. Because of the multiple choice format, the responses are not detailed. However, they yield important insights into how practices of different sizes and types coordinate care in the patient-centered medical home. (Note: Questions with no response were deleted.)

**Jennifer Houttekier, RN, BSN**

*Clinical Excellence Manager*

jennifer.houttekier@allegiancehealth.org

Allegiance Health, Medical Practice Management  
Jackson, MI 49201  
(517) 817-7533

**Q: Type of organization**

14 primary care physician employed practices that are part of the Health System, Allegiance Health.

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA PPC-PCMH (Level 3)  
BCBSM PGIP PCMH

**Q: If your program has a name, please tell us the name (e.g., Guided Care Program):**

Allegiance Depression Management Program

**Q: What year and month did your team-based care coordination program begin?**

July 2010

**Q: How many patients are enrolled in your program?**

1–100

**Q: How many physician practice sites are involved in your program?**

2-5 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

- The University of Michigan Health System (UMHS)

**Q: Please provide a brief description of this program using a list format.**

- Allegiance Health (AH) Medical Practice Management (MPM) department has partnered with UMHS since July 2010.
- Dr. Michael Klinkman from UMHS is the principal investigator.
- The goal is to improve depression care in community practices by assessing the effectiveness of depression disease management in community primary care practices and assessing the impact of financial incentives on uptake of depression disease management in community primary care practices.

# Questions and Answers

- Using the Chronic Care Model, the program is designed to fit into the routine workflow of primary care physicians
- Primary outcomes will be performed on newly diagnosed patients as well as those with chronic depression.
- The health coach (LMSW) contacts participants by telephone to complete follow-up, monitor core clinical outcomes, while feeding all results back to the primary care physician as per the clinical protocol.
- Participants complete an initial screening along with a one, three, and six-month follow-up as stated per protocol while still maintaining normal care with their primary care physician.

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

University of Michigan, Dr. Michael Klinkman

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

It has been a successful program at the UMHS for over six years. The program interacts with patients via phone allowing the health coach to be centrally located to cover multiple locations and practices across our own health system. This saves costs and time while providing the guiding, one-on-one care that helps guide our patients using self-management techniques. The health coaches always identify themselves as representatives from the primary care practice that is working in collaboration with their provider. This helps the patient feel satisfied with the service while providing an added layer of a resource to primary care on a population of patients that often slips through the cracks.

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Medical assistants, physicians, NP, PA

**Q: Does your practice/organization use a team approach to care coordination?**

Yes. The health coach works with the patient on behalf of the primary care physician and office. Communication is the key to provide the physician with knowledge and insight on information on the patient that may not have otherwise been known. All of the communication happens via our EHR. The health coach also is able to provide information on community resources and help with linkage/connecting with other health services. Keeping the fluid lines of communication between all health services lines is the only way to successfully care for the patient across the health care continuum.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Licensed Social Worker

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Connect patient to community resources
- Align resources with population needs

**Q: Who is involved in the care coordination team for your practice?**

- Licensed Social Worker

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services? Check all that apply:**

- Open scheduling
- Expanded hours

**Q: Do you share the care coordination function with other practices?**

Yes

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

- Physician
- RN

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- HEDIS quality measures
- Patient experience/satisfaction vis-à-vis care coordination
- Patient self-management care plan goals met/ not met
- Patient experience/satisfaction



**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes. We use HCAPS patient satisfaction surveys. Patients are randomly selected for feedback on their interactions with the practice and if they were able to participate in their own care. These surveys are studied and evaluated monthly to determine the action plan and opportunities for improvement.

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement
- Home monitoring (glucose levels, bp, weight, etc.)

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Home monitoring (glucose levels, bp, weight, etc.)

# Survey Responses

**Robert J. Fortini, PNP**  
VP, Chief Clinical Officer  
Robert\_Fortini@BSHSI.org

Bon Secours Virginia Medical Group  
Richmond, VA 23226  
(804) 281 0264

**Q: Type of organization**

Physician primary care practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3)

**Q: If your program has a name, please tell us the name (e.g., Guided Care Program):**

BSVMG Advanced Medical Home Project

**Q: What year and month did your team-based care coordination program begin?**

June 2010

**Q: How many patients are enrolled in your program?**

101-300

**Q: How many physician practice sites are involved in your program?**

6-15 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

We use outside specialty partners for virtual and embedded care management, case management, and an automated outreach to patients for chronic care management.

**Q: Please provide a brief description of this program using a list format.**

We have taken a systematic approach to improving quality, increasing capacity and improving patient compliance. The project has the following three basic components. We expect these changes to result in a significant improvement in patient outcomes and the quality of care delivered.

- **EMR implementation**—The “One Patient, One Record” mantra is critical to the success of many of the medical home processes. We have been engaged in an aggressive rollout and have successfully gone live with the fully integrated product at all of our primary care sites and several specialty practices in Richmond. Rollout continues with Hampton Roads Cardiology in January 2012

# Questions and Answers

- **Clinical Standardization**—This is a coordinated approach to system-wide practices and protocols surrounding patient care. The objective is to reduce variability and improve efficiency. Everything from skills competencies, job descriptions, policies and procedures to biomedical equipment and medical supplies is being scrutinized and standardized in order to sustain consistency in care delivery and leverage economies of scale.
- **Delivery System Redesign**—This specifically focuses on building a team approach to patient care. We have embraced the medical home model and have utilized the principles of embedded panel management and case management in this effort. This reengineering is done in 3 phases:
  - Practice assessment and planning—Bricks and mortar review, staffing and team formation, equipment and training of staff, assessing baseline metrics.
  - Basic Workflow rehearsal—Daily team meeting to review schedule and prepare for patient in advance of arrival, standard and disease-specific rooming protocols, medical refill by protocol, patient result follow up, point of care testing, patient portal activation, after visit summary review with patient.
  - Advanced Care Navigation—Proactive outreach to patients using automated population health management solution from that automatically identifies and reaches out to patients to make sure that they all receive appropriate preventive and chronic disease care. We are also using a combination of patient specific telephonic interventions by embedded Case and Panel Managers. Also: Use of an electronic web-based patient portal for care management.

We now have over 10,000 active patients and can support two way communications via the web. This gives patients a new avenue of access to care.

- **Case Management**—we are using embedded case managers called “care navigators” each equipped with a direct phone line and text enabled beeper for ease of access by patients in need as well as by others in the medical community that are interested in coordinating individual patient care. This includes case managers and discharge planners in the hospital as well as our Insurance partner’s case managers.

Some of the specific activities our care navigators are responsible for include:

- Facilitating patient navigation through our own health care system
- Care coordination across transitions of care
- Patient education like diabetes self-management and medication adherence.

## **Q: Did your practice/organization participate in any of the following care coordination training programs?**

Geisinger Advanced Primary Care Program

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- We have embraced the medical home model and have utilized the principles of embedded panel management and case management in this effort. Using an automated population health management approach to:
  - Identify patients with gaps in care;
  - Improve capacity for physicians to see more patients more thoroughly and improve access to care for patients;
  - Positively engage patients to improve their compliance with their medical plans. I would also like to add that our team of nine clinicians and four physician champions have been invaluable in the success of this project.

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- RN

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. Our delivery system redesign specifically focuses on building a team approach to patient care. We have embraced the medical home model and have utilized the principles of embedded panel management and case management in this effort. This includes: practice assessment and planning, basic workflow rehearsal and advanced care navigation, such as a combination of patient outreach by embedded case and panel managers. We are also using embedded case managers called “care navigators,” each equipped with a direct phone line and text enabled beeper for ease of access by patients in need as well as by others in the medical community that are interested in coordinating individual patient care. This includes case managers and discharge planners in the hospital as well as our Insurance partner’s case managers.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

LPN/ LVN

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources
- Align resources with population needs

**Q: Who is involved in the care coordination team for your practice?**

- Patient Navigator
- Nurse Practitioner
- Physician Assistant
- Physician

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Electronic scheduling
- Personal health record
- Patient portal
- Email access to provider
- Electronic appointments
- Shared medical appointments

**Q: Do you share the care coordination function with other practices?**

Yes



# Survey Responses

**Q: If shared, please describe how care coordination occurs (what entity pays for this function, how are referrals made, etc.).**

We use outside specialty partners for virtual and embedded care management, case management, and an automated outreach to patients for chronic care management.

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

- RN
- LPN/LVN

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- HEDIS quality measures
- Patient experience/satisfaction vis-à-vis care coordination
- Patient self-management care plan goals met/ not met
- Admission rate
- Readmission rates
- Emergency Room visits
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care? If yes, please briefly list the measures you track.**

Yes. We expect these changes to result in a significant improvement in patient outcomes and the quality of care delivered. Some of the metrics we are following include:

Operational:

- Patient Wait time
- Patient satisfaction
- “No-show” rate
- MD productivity
- Re-admission rate
- Quality of documentation—(using NCQA measurement tool)

Clinical—Diabetes care:

- Percentage of patients with an A1c<7 o BP < 130/80

# Questions and Answers

- Microalbumin measured annually
- LDL < 100 CHF Core Measures
- LV Function
- ACE/ARB use or Smoking Cessation

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. Care is individualized—Nurse navigator works with patients via telephonic assessment and counseling as well as face-to-face appointments.

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement
- Home monitoring (glucose levels, bp, weight, etc.)

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Home monitoring (glucose levels, bp, weight, etc.)



**Holly Allen**

*Care Coordinator*

Chapel Hill Pediatrics & Adolescents, PA

Chapel Hill, NC 27514

(919) 942-4173

**Q: Type of organization**

Physician primary care practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3)

**Q: If your program has a name, please tell us the name (e.g., Guided Care Program)**

Care Coordination

**Q: What year and month did your team-based care coordination program begin?**

2003

**Q: How many patients are enrolled in your program?**

1,001 or more

**Q: How many physician practice sites are involved in your program?**

2-5 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

None

**Q: Please provide a brief description of this program using a list format.**

*Our Children with Special Healthcare Needs (CSHCN) are identified as “those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition that has lasted or is expected to last at least 12 months and who might require health and related services for a type or amount beyond that required by children generally..”*

**We:**

- Work with our pediatricians to identify a child's needs...understanding our children's needs are the first step in our care coordination process.
- Assist in finding services, making specialty appointments, or obtaining special equipment.
- Work to plan office visits for maximal efficiency to address and anticipate our children's needs.
- Create links for family education, funding services, and family support services.

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

NICHQ Medical Home Learning Collaborative

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Having two care coordinators who believe in what we do, care deeply for our patients and have an extensive knowledge of our community's resources.
- Having a group of physicians who value care coordination and find it an essential part of their practice (and use our services).
- Our patients find that our care coordination services are extremely valuable and needed in order to navigate through the medical health care system on behalf of their children.

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Physician

**Q: Does your practice/organization use a team approach to care coordination?**

Yes

**Q: If yes, please briefly describe the process.**

- MD sends request for a patient to be added to the registry and/or orders a referral, etc...
- Care coordinator registers the patient as CSHCN and/or completes the referral request, etc.
- Records and information are always followed up on by the care coordinator and submitted back to the MD
- The MD assesses the patient and accordingly assigns a complexity score based on the child's diagnosis



# Survey Responses

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Care Coordinators

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources
- Align resources with population needs

**Q: Who is involved in the care coordination team for your practice?**

- Physician
- RN
- Care Coordinators and front desk staff

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Electronic scheduling
- Personal health record
- Patient portal
- Electronic appointments
- Use of community health worker or peers

**Q: Do you share the care coordination function with other practices?**

No

**Q: If shared, please describe how care coordination occurs (what entity pays for this function, how are referrals made, etc.).**

Heavily involved with teaching model of care coordination to other practices

# Questions and Answers

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

- Physician
- RN

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- Patient experience/satisfaction vis-à-vis care coordination
- Patient self-management care plan goals met/ not met
- Emergency Room visits
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

Yes

**Q: If yes, please briefly list the measures you track.**

- Referrals
- ER visits
- Patient satisfaction

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. Surveys, collaborative care planning and general conversation

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.

**Julie Plante**  
*Care Coordinator*  
carecoordinator@hotmail.com

Comprehensive Pediatric Care, P.C.  
Williston, ND 58801  
(701) 572-7732

**Q: Type of organization**

Physician primary care practice

**Q: Is your organization recognized as a patient-centered medical home?**

In process of NCQA PPC-PCMH recognition

**Q: What year and month did your team-based care coordination program begin?**

March 2008

**Q: How many patients are enrolled in your program?**

1,001 or more

**Q: How many physician practice sites are involved in your program?**

Single site

**Q: Please provide a brief description of this program using a list format.**

- 24/7 accessibility to physician
- Education and encouraged involvement of parent in child's health care needs
- Referral to appropriate health care specialist if indicated
- Verification and review of referral findings with appropriate clinical follow-up

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

None

# Survey Responses

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Communicating with parents concerning out-of-clinic appointments
- Obtaining out-of-clinic reports/recommendations for follow-up care.
- Coordinating with physician and parent the recommendations. Having 24/7 accessibility to physician and staff

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Physician

**Q: Does your practice/organization use a team approach to care coordination?**

Yes

**Q: If yes, please briefly describe the process.**

- Support staff makes appointments and requests medical history,
- Nurses assist physician and educate parents,
- Care coordinator coordinates outside appointments with follow-up of referral findings,
- Physician does follow-up.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Physician

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources
- Align resources with population needs



# Questions and Answers

**Q: Who is involved in the care coordination team for your practice?**

- Nurse Practitioner
- Physician
- RN
- Care coordinator, support staff

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Electronic scheduling
- Personal health record
- Patient portal
- Email access to provider
- Electronic appointments
- Shared medical appointments
- Use of community health worker or peers

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Patient self-management care plan goals met/ not met
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. Involve parents in making appointments and follow-up care

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

No

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Performance measurement
- Patient education
- Patient self-management
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for continuous quality improvement
- Home monitoring (glucose levels, bp, weight, etc.)

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Home monitoring (glucose levels, bp, weight, etc.)

**Lisa Plotnik, MD**  
lisa.plotnik@hitchcock.org

Dartmouth Hitchcock Manchester  
Manchester, NH 03104  
(603) 695-2690

**Q: Type of organization**

Multi-specialty practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH  
(Level 3)

**Q: What year and month did your team-based care coordination program begin?**

July 2008

**Q: How many patients are enrolled in your program?**

101-300

**Q: How many physician practice sites are involved in your program?**

Single site

**Q: Please provide a brief description of this program using a list format.**

- Our care coordinator contacts any patient who was discharged from the hospital; they also help facilitate any home services or evaluations that might be needed.
- Also we have a family support worker who can help with advocating within the school system for when patients need modification to the IEP/504 plan related to their health/mental health issues.

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Empathy
- Organization
- Support from our organization to provide care coordinators

# Survey Responses

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- RN

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. The provider works closely with the care coordinator and patient/family to assess the needs and make changes to the treatment plan as needed

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

RN

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources

**Q: Who is involved in the care coordination team for your practice?**

RN

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

No

**Q: Do you offer to your patients any of the following services?**

- Expanded hours
- Electronic scheduling
- Personal health record
- Patient portal
- Email access to provider

# Questions and Answers

**Q: Do you share the care coordination function with other practices?**

Yes

**Q: If shared, please describe how care coordination occurs (what entity pays for this function, how are referrals made, etc.).**

The care coordinator works between two departments so still paid for by the same organization

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

Physician

**Q: What measures are you tracking to evaluate your care coordination efforts?**

Readmission rates

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. They have to be [in on] the final agreement with the treatment plan

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

No

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Care coordination with other members of the care team within the practice
- Tracking and reporting for pay-for-performance
- Home monitoring (glucose levels, bp, weight, etc.)

**Donald R. Lurye, MD, MMM, CPE**  
*Chief Executive Officer*  
dlurye@emhc.org

Elmhurst Clinic, LLC  
Elmhurst, IL 60126  
(630) 993-9686

**Q: Type of organization**

Multi-specialty physician group affiliated with an independent health system through a professional services agreement

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH

**Q: What year and month did your team-based care coordination program begin?**

It has been developing over several years. We began in earnest in Sept. 2009.

**Q: How many patients are enrolled in your program?**

1,001 or more

**Q: How many physician practice sites are involved in your program?**

6-15 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

We are working with an organization specializing in population health management that helps us extend the reach of the provider and care team outside of the office, while engaging patients towards improved longitudinal health outcomes. Through a set of comprehensive support tools and services, this helps us better manage quality and proactively improve care.

**Q: Please provide a brief description of this program using a list format.**

- Expanded access
- Information sharing across office sites and in hospital via an EMR
- Limited patient portal activities
- Development of chronic care management protocols
- Automated telephonic reminders for existing appointments and medically necessary overdue care tied to evidence-based protocols
- Nurse practitioner case management of challenging chronically ill patients
- Tracking of diabetic process and outcome quality measures by physician
- Participation in BCBS medical home pilot

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

Consultancy from TransforMED

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- 24/7 availability of our EMR from any internet-capable computer
- Maximizing use of non-physician members of the health care team
- Having physicians engage directly with patients to enable population management and the medical home

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Everyone is “in,” but the NP identifies those in need of individual attention

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. We contact patients in a proactive manner as described above. We are aiming to create standing orders for our chronic disease patients such that non-physician staff can act on missing elements of necessary care ahead of a planned visit. We are able to track labs, diagnostics and referrals to completion. Our hospitalists have access to our EMR and we position primary care physicians at key nursing homes in our area.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Physician

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources





# Survey Responses

**Q: Who is involved in the care coordination team for your practice?**

- Nurse Practitioner
- Other (CMOA)

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Patient portal

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- HEDIS quality measures
- Patient experience/satisfaction vis-à-vis care coordination
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

# Questions and Answers

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other members of the care team within the practice
- Tracking and reporting for continuous quality improvement

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

Enhanced access for appointments, email visits, etc.

**Katherine M. Brieger**  
Chief Operations Officer  
kbrieger@hrhcare.org

Hudson River HealthCare  
(914) 734-8739  
Peekskill, NY 10566

**Q: Type of organization**

FQHC/Safety Net Provider

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH  
(Level 3)

**Q: What year and month did your team-based care coordination program begin?**

We started using Patient Care Partners (navigators) almost 20 years ago but added a care manager RN last year.

**Q: How many patients are enrolled in your program?**

We have 65,000 patients in our system of care; each one will have a Patient Care Partner on their team. There are 140 current patients assigned to the RN care manager.

**Q: How many physician practice sites are involved in your program?**

16-25 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

THINC-RHIO and two other FQHCs

**Q: Please provide a brief description of this program using a list format.**

- This program has been a part of the team-based care at HRHC for many years.
- We have used Patient Care Partners to help in referral management for about 20 years.
- Last year we added an RN care manger to the care of about 140 patients with diabetes in two of our practice sites.
- We have a CDE/NP who has been working as the director of care management for about 10 years.

- She has been working with the care manager to provide intense management of patients with diabetes.
- These are high-risk patients with hemoglobin of 9+ and some are homeless.

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

Johns Hopkins Guided Care Program

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- The use of the transdisciplinary team (dietitian, patient care partner, behavioral health, dentist, outreach worker, RN, CDE)
- The coordination of care requires many levels of staff—the comprehensive approach, which is sensitive to language, culture and literacy, is critical to making care coordination a success in our program.
- Intensive training for all members of the team on how to work together

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- RN
- Licensed Social Worker
- LPN/ LVN
- Other—Patient. We allow patients to be assigned to our program by either self-referral, provider referral or referral by another team member/use of registry.

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. We have a transdisciplinary care team approach. We train our staff on the importance of the whole care team approach.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Other—Patient Care Partner and/or RN care manager

# Survey Responses

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources
- Align resources with population needs
- Connect patients to specialists

**Q: Who is involved in the care coordination team for your practice?**

- Patient Navigator
- Licensed Social Worker
- Nurse Practitioner
- Physician Assistant
- Physician
- RN
- Licensed Dietician
- Other—Outreach Worker; CASAC

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Shared medical appointments
- Use of community health worker or peers

**Q: Do you share the care coordination function with other practices?**

No

# Questions and Answers

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- Patient experience/satisfaction vis-à-vis care coordination
- Patient self-management care plan goals met/ not met
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care? If yes, please briefly list the measures you track.**

Yes. Health outcomes—lipid profile, hemoglobin A1C.

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes

**Q: If yes, please briefly list the ways in which you do this.**

- We use patient self-management tools
- Evaluation and use of a flash drive with patient information
- Focus groups
- 51% of our BOD are users of our services and self-management programs

**Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education

- Patient self-management
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management



**Mark Foster, MD**  
impeds@msn.com

Hudson Valley Primary Care  
Wappinger's Falls, NY 12590  
(845) 298-7022

**Q: Type of organization**

Physician primary care practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3)

**Q: What year and month did your team-based care coordination program begin?**

June 2011

**Q: How many patients are enrolled in your program?**

1-100

**Q: How many physician practice sites are involved in your program?**

6-15 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

THINC, Taconic IPA

**Q: Please provide a brief description of this program using a list format.**

Embedded care coordinator in office

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

- Johns Hopkins Guided Care Program
- Geisinger Advanced Primary Care Program

# Survey Responses

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

Quality of care coordinator team approach with office staff and physician

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- RN

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. Each provider has a team of secretary and nurse who are responsible for providing the care needed and consult with care coordinator

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

- LPN/ LVN
- Secretary

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources

**Q: Who is involved in the care coordination team for your practice?**

- Nurse Practitioner
- Physician
- RN

# Questions and Answers

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Personal health record
- Patient portal
- Email access to provider
- Electronic appointments

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- Patient experience/satisfaction vis-à-vis care coordination
- Patient self-management care plan goals met/ not met
- Admission rate
- Emergency Room visits
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

Yes

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

No

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Performance measurement
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.

**Nancy Swigonski, MD**  
nswigons@iupui.edu

Indiana University School of Medicine  
Indianapolis, IN 46202  
(317) 278-0552

**Q: Type of organization**

FQHC/Safety Net Provider

**Q: Is your organization recognized as a patient-centered medical home?**

Other (please specify)—, Part of medical home learning collaborative

**Q: What year and month did your team-based care coordination program begin?**

2001-2007

**Q: How many patients are enrolled in your program?**

301-500

**Q: How many physician practice sites are involved in your program?**

Single site

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

About Special Kids (ASK)—P2P organization local school special education director

**Q: Please provide a brief description of this program using a list format.**

Parent liaison trained in education law, health care financing and community resources worked with pediatricians and families

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

None

# Survey Responses

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Parent involvement
- Grant funding
- Reaching out to community—education and resources

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- RN
- Licensed Social Worker
- LPN/ LVN
- Medical Assistant (MA)
- Parent

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. Physician, parent liaison, staff, family and community

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Other—Parent liaison

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

None currently—lost funding; did assess needs/goals; transitions; needs; community resources

**Q: Who is involved in the care coordination team for your practice?**

Other—Parent liaison

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

Use of community health worker or peers

# Questions and Answers

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

Process measures number of contacts

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. Family to family helped write/plan grant parent as parent liaison

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

No

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

**Brooke Salzman MD**

brooke.salzman@jefferson.edu

Jefferson Family Medicine Associates  
Philadelphia, PA 19107  
(215) 955-0648

**Q: Type of organization**

Physician primary care practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH  
(Level 3)

**Q: What year and month did your team-based care coordination program begin?**

May 2008

**Q: How many patients are enrolled in your program?**

1,001 or more

**Q: How many physician practice sites are involved in your program?**

Single site

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

Embedded mental health with Delaware County Professional Services embedded within the primary care practice

**Q: Please provide a brief description of this program using a list format.**

*We have incorporated different approaches and tools into the practice to improve performance as a PCMH. For instance, we have embedded a clinical pharmacist into the practice to help patients manage, adhere to, and/or optimize medication management. We have embedded mental health services into the practice. We have a diabetes group visit program that meets weekly in the practice which is facilitated by a certified diabetes health educator. We have a quality coordinator who operates a transitional care program for hospitalized patients. We have developed advance access scheduling and "Care Now" to enhance access to the practice. We have an EMR that generates provider performance reports.*



**Q: Did your practice/organization participate in any of the following care coordination training programs?**

Other—Southeastern Pennsylvania Chronic Care Initiative

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Breaking down a large practice into smaller clinical care teams.
- Transitional care program s/p hospitalization
- Electronic medical records

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- Care manager

**Q: Does your practice/organization use a team approach to care coordination?**

Yes

**Q: If yes, please briefly describe the process.**

- Monthly team meetings
- Medical assistants involved in patient care

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

RN

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Connect patient to community resources



# Survey Responses

**Q: Who is involved in the care coordination team for your practice?**

- Pharmacist
- Licensed Social Worker
- Physician
- RN

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Electronic scheduling
- Shared medical appointments
- Use of community health worker or peers

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- HEDIS quality measures
- Readmission rates
- Emergency Room visits
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care? If yes, please briefly list the measures you track.**

Yes. Readmission rates

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes

# Questions and Answers

**Q: If yes, please briefly list the ways in which you do this.**

- Action plans
- Shared decision-making

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education
- Patient self-management
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement

**Dr. Samuel Crow**

*Medical Director, Center for Innovative Care*  
samuel.crow@mercy.net

Sisters of Mercy Health System  
St. John's East Kearney Family Medicine  
Springfield, MO 65803  
(417) 863-9190

**Q: Type of organization**

Integrated health system

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3). Our first five clinics are now Level 3

**Q: If your program has a name, please tell us the name (e.g., Guided Care Program):**

PCMH Pilot program

**Q: What year and month did your team-based care coordination program begin?**

April 2010

**Q: How many patients are enrolled in your program?**

1,001 or more

**Q: How many physician practice sites are involved in your program?**

2-5 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

Sister of Mercy Health System ("Mercy") is a large integrated health care system headquartered in St. Louis, Missouri, but with clinics and hospitals in Kansas, Arkansas, and Oklahoma as well.

**Please provide a brief description of this program using a list format.**

- Pilot program for medical homes
- Incentives for physicians to participate in the pilots
- Embedded RN case managers in each of the pilots

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

None

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

Dedicated embedded RN case manager with appropriate training. This is expensive, but fundamental to get NCQA certification and be able to have a well-functioning medical home.

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Physician

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. Classic arrangement as defined by the PCPCC and operational definition throughout the industry.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Physician

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources
- Align resources with population needs

**Who is involved in the care coordination team for your practice?**

- Pharmacist
- Nurse Practitioner



# Survey Responses

- Physician Assistant
- Physician
- RN
- Other–Dedicated Case Manager

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Electronic scheduling
- Personal health record
- Patient portal
- Email access to provider
- Electronic appointments
- Use of community health worker or peers

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- Patient experience/satisfaction vis-à-vis care coordination
- Patient self-management care plan goals met/ not met
- Admission rate
- Readmission rates
- Emergency Room visits
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care? If yes, please briefly list the measures you track.**

Yes. We [use an outside vendor to track patient satisfaction] and routine metrics.

# Questions and Answers

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes. Focus groups

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other members of the care team within the practice
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement
- Home monitoring (glucose levels, bp, weight, etc.)

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Home monitoring (glucose levels, bp, weight, etc.)
- Patient portal via EMR

**Jennifer Fels, RN, MS**  
walje@phon.org

Southwestern Vermont Medical Center  
100 Hospital Drive  
Bennington, VT 05201  
(802) 440-4047

**Q: Type of organization**

Multi-specialty practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3)

**Q: If your program has a name, please tell us the name**

Medical Home

**Q: What year and month did your team-based care coordination program begin?**

4 years ago

**Q: How many patients are enrolled in your program?**

1,001 or more

**Q: How many physician practice sites are involved in your program?**

2-5 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

PHO

**Q: Please provide a brief description of this program using a list format.**

The PHO is the lead organization in managing the Vermont Blueprint For Health in the Bennington service area.

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

Other—Project BOOST Chronic Care Model Clinical Microsystems



**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

Care Transitions and handoffs across all areas of the continuum of care

**Q: Who in your organization/practice assigns patients to the care coordination program?**

- Physician
- RN

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. Clinical Microsystem processes

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

RN

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources
- Align resources with population needs

**Q: Who is involved in the care coordination team for your practice?**

- Physician
- RN
- Behavioral Health Specialist



# Survey Responses

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Expanded hours
- Electronic scheduling
- Personal health record
- Use of community health worker or peers
- Behavioral health

**Q: Do you share the care coordination function with other practices?**

Yes

**Q: If shared, please describe how care coordination occurs (what entity pays for this function, how are referrals made, etc.).**

Care coordination is paid for by third party payers through the program: Vermont Blueprint for Health RN case managers find patients based on risk assessment, notification of hospital admission or emergency department visit, registry reports and referral.

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

- Physician
- RN

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- Patient self-management care plan goals met/ not met
- Admission rate
- Readmission rates
- Emergency Room visits
- Patient experience/satisfaction

# Questions and Answers

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

Yes

**Q: If yes, please briefly list the measures you track.**

- Hospital admission rate
- ED visit rate
- Patient satisfaction

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. Teachback, motivational interviewing and goal setting

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Patient self-management
- Care coordination with other members of the care team within the practice
- Tracking and reporting for continuous quality improvement

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient self-management
- Home monitoring (glucose levels, bp, weight, etc.)

## Denise Page

Director of Quality and Compliance  
denise.page@stelizabeth.com

St. Elizabeth Physicians  
Crestview Hills, KY 41017  
(859) 344-3711

### **Q: Type of organization**

Integrated health system

### **Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3). In process of NCQA PPC-PCMH recognition

### **Q: What year and month did your team-based care coordination program begin?**

March 2010

### **Q: How many patients are enrolled in your program?**

1,001 or more

### **Q: How many physician practice sites are involved in your program?**

Single site

### **Q: Please provide a brief description of this program using a list format.**

- We have one office that has achieved PCMH level 3
- We have 10 more offices set to apply this year 17 more in 2012

### **Q: Did your practice/organization participate in any of the following care coordination training programs?**

Demonstration or pilot-sponsored learning program

### **Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Being patient-centered
- Having a driven staff and providers to spearhead the program
- Recognizing the transformation and rewarding for it.

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Physician

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. The front office assistant will begin the process by handing the patient a sheet to verify their medications, insurance, etc. The medical assistant will take the patient back and provide (by protocols) any health maintenance needs that exist and also address any chronic issues that are due. Then the physician will see the patient.

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Medical assistant

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions as patient needs change
- Connect patient to community resources

**Q: Who is involved in the care coordination team for your practice?**

Physician

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Personal health record
- Patient portal
- Email access to provider

# Survey Responses

**Q: Do you share the care coordination function with other practices?**

No

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- HEDIS quality measures
- Patient experience/satisfaction vis-à-vis care coordination
- Admission rate
- Readmission rates
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes

**Q: If yes, please briefly list the ways in which you do this.**

- Involving patient in goal setting
- Offering diabetic classes
- Working toward group visits

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

# Questions and Answers

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Clinical decision support
- Performance measurement
- Patient education
- Patient self-management
- Enhanced access for appointments, email visits, etc.
- Care coordination with other providers outside the practice
- Tracking and reporting for pay-for-performance
- Tracking and reporting for continuous quality improvement
- Home monitoring (glucose levels, bp, weight, etc.)

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management
- Home monitoring (glucose levels, bp, weight, etc.)

Amy Mullins, MD  
amullinsmd@netscape.net

Trinity Clinic Whitehouse  
Whitehouse, Texas 75791  
(903) 839-2585

**Q: Type of organization**

Integrated health system

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH  
(Level 3)

**Q: What year and month did your team-based care coordination program begin?**

2006 (With Transformed)

**Q: How many patients are enrolled in your program?**

1001 or more

**Q: How many physician practice sites are involved in your program?**

2-5 sites

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

We have nurse navigators that we are employing to help with more chronic patients. They go beyond what our nurses can do in the office. They become a bridge between the hospital and the office and will hopefully help with reducing readmissions.

**Q: Please provide a brief description of this program using a list format.**

- Get alerts of “group” patients who are admitted to the hospital
- Assess needs of those patients while admitted and helps with discharge planning
- Ensures that patient has medications and home health services needed at discharge
- Communicates back to primary care physician discharge plan (if primary care physician is using hospitalist service)
- Follows up with patient once they are home with multiple phone calls to make sure medication is being taken correctly and that patients are aware of primary care physician follow up visit



**Q: Did your practice/organization participate in any of the following care coordination training programs?**

- Insurance company-sponsored learning program
- Demonstration or pilot-sponsored learning program

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Physician buy-in
- Good team members
- Patient acceptance of new team members

**Q: Who in your organization/practice assigns patients to the care coordination program?**

Physician

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. Everyone who is a member of our practice is a part of our team!

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

Medical assistant

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions as patient needs change
- Connect patient to community resources

**Q: Who is involved in the care coordination team for your practice?**

- Patient Navigator
- Physician
- Other—medical assistant



# Survey Responses

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Electronic scheduling
- Patient portal
- Email access to provider
- Electronic appointments
- Quick Sick Visits over the lunch hour. Nurse visits for UTIs

**Q: Do you share the care coordination function with other practices?**

Yes

**Q: If shared, please describe how care coordination occurs (what entity pays for this function, how are referrals made, etc.).**

Our health system pays for this.

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

Physician

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- HEDIS quality measures
- Readmission rates
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning? If yes, please briefly list the ways in which you do this.**

Yes. In the office I try to involve patients in their care plan as much as possible. Shared decision making is essential to a patient's success.

# Questions and Answers

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

No

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

No

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Performance measurement
- Patient education
- Enhanced access for appointments, email visits, etc.

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Enhanced access for appointments, email visits, etc.

**R. Scott Hammond, MD, FAAFP**  
shammond@evcohs.com

Westminster Medical Clinic  
Westminster, Colo. 80031  
(303) 428-7449

**Q: Type of organization**

Physician primary care practice

**Q: Is your organization recognized as a patient-centered medical home?**

Recognized by NCQA as a PPC-PCMH (Level 3)

**Q: What year and month did your team-based care coordination program begin?**

January 2010

**Q: How many patients are enrolled in your program?**

1,001 or more. We provide comprehensive care coordination for all our 6,000 patients as the need arises. Case management is limited to post-hospital patients, multi-morbid patients and those with special needs.

**Q: How many physician practice sites are involved in your program?**

Single site

**Q: If there are organizations other than physician practices involved in your project, please list the type of organization.**

- Colorado Medical Society
- Centura Health Systems
- University of Colorado, School of Public Health

**Q: Please provide a brief description of this program using a list format.**

- Developed a care coordination job description and policy
- Developed a primary care physician-specialty compact aligned with ACP principles
- Invited specialists to be Medical Neighbors
- Developed a facilitation guide and tool box for specialists to transform to the medical neighborhood
- Measured adherence to the compact and improvement.
- Give continuous feedback on adequacy of bi-directional medical information

- Developed a neighborhood of 17 specialty practices and a hospital
- Added case management activities for high-risk patients.

**Q: Did your practice/organization participate in any of the following care coordination training programs?**

None

**Q: Care coordination is an important aspect of patient care. Please tell us briefly what you consider to be the three most important factors contributing to the success of your care coordination program.**

- Care coordination protocol
- Primary care physician-specialty compact
- Transition care record (core elements of medical information primary care physician to specialist and specialist to primary care physician)

**Who in your organization/practice assigns patients to the care coordination program?**

Physician

**Q: Does your practice/organization use a team approach to care coordination? If yes, please briefly describe the process.**

Yes. We were able to develop and expand the roles of our staff to accommodate new coordination duties through standing orders and protocols. We linked a care coordinator/case manager to the teamlet model proposed by Thomas Bodenheimer, MD. We divided our efforts into internal and external care coordination. For internal care coordination, we focus on post-hospital patients, patients with four or more chronic diseases and patients with special needs. Any medical provider can refer such a patient to the RN case manager. Our medical assistants do much of the care coordination as outlined in the provider's care plan.

*For external care coordination, we built a medical neighborhood by developing a compact (agreement) with our main hospital and specialists that outlined mutual responsibility and accountability in great detail. Our referral specialist ensures all information is sent to specialists prior to the visit and our RN and medical assistant ensure medical records are sent to the emergency department or hospital in a timely manner.*

# Survey Responses

**Q: What member of your team has the most contact with patients for care coordination and follow-up?**

RN

**Q: Please tell us which of the following care coordination activities are currently offered to patients through your program.**

- Assess patient needs and goals
- Develop individualized and proactive care plan
- Facilitate care transitions across care settings
- Facilitate care transitions as patient needs change
- Connect patient to community resources

**Q: Who is involved in the care coordination team for your practice?**

- Physician assistant
- Physician
- RN
- Medical assistant

**Q: Does each team member have a defined role and responsibility within the context of care coordination and transitions to care?**

Yes

**Q: Do you offer to your patients any of the following services?**

- Open scheduling
- Expanded hours
- Patient portal
- Email access to provider
- Shared medical appointments
- Use of community health worker or peers

**Q: Do you share the care coordination function with other practices?**

No

**Q: Who has the primary responsibility to teach medication management and adjustment to your patients?**

Physician, PA and RN

**Q: What measures are you tracking to evaluate your care coordination efforts?**

- Chronic disease management benchmarks
- Patient experience/satisfaction

**Q: Have you established a continuous quality improvement process for care coordination and transitions to care?**

No

**Q: Do you involve patients in your care coordination program in care decision-making, feedback and planning?**

Yes

**Q: Do you generate patient experience data at the practice level on an ongoing basis?**

Yes

**Q: Can patient experience data from your patients be analyzed separately based on chronic conditions?**

Yes

**Q: Do you use information technology as a tool to support your care coordination programs functions?**

- Patient registry to identify and track patients
- Clinical decision support
- Performance measurement
- Patient education

**Q: Do you use information technology as a tool to support consumer engagement with the care coordination program?**

- Patient education
- Patient self-management







©2011 Patient-Centered Primary Care Collaborative  
This document was supported with  
unrestricted grants from Merck and Phytel.

