B | ENGELBERG CENTER for
Health Care Reform
at BROOKINGS

Adopting Accountable Care
An Implementation Guide for Physician Practices

November 2014

Editors
Mark McClellan and Farzad Mostashari

Authors
James Colbert, S. Lawrence Kocot, Robert Brenner,
Mark Monterastelli, Joshua Seidman and Ross White

A resource developed by the ACO Learning Network
www.acolearningnetwork.org

TABLE OF CONTENTS

Part 1

Part 2

Authors

Editors

Mark McClellan
Director, Health Care Innovation and Value Initiative
Senior Fellow, The Brookings Institution

Farzad Mostashari
Chief Executive Officer
Aledade

Authors

James Colbert
Consultant, ACO Learning Network
Physician, Newton-Wellesley Hospital
Instructor in Medicine, Harvard Medical School

Robert Brenner
Chief Medical Officer
Summit Medical Group

S. Lawrence Kocot
Visiting Fellow, Economic Studies
The Brookings Institution

Mark Montarastelli
Entrepreneur in Residence, Office of the National
Coordinator for Health IT

Ross White
Senior Project Manager
Engelberg Center for Health Care Reform
The Brookings Institution

Joshua Seidman
Vice President
Center for Payment & Delivery Innovation
Avalere

About the Engelberg Center for Health Care Reform at Brookings
Established in 2007, the Engelberg Center for Health Care Reform at Brookings is dedicated to providing practical solutions to achieve high-quality, innovative, affordable health care. To achieve its mission, the Center conducts research, develops policy recommendations, and provides technical expertise to test and evaluate innovative health care solutions.

Acknowledgements

Executive Summary

Our nation's health care system continues to undergo significant transformation to address the quality and high cost of care. Accountable Care Organizations (ACOs) have become a substantial part of these efforts by realigning our current payment system to reward organizations that achieve high-value care. While the ACO concept continues to evolve, it can broadly be defined as: "a group of health care providers who accept shared accountability for the cost and quality of care delivered to a population of patients." **Physician-led** provider organizations are quickly becoming one of the biggest drivers of accountable care activity. Typically, these groups are not hospital affiliated and instead include one or more independent primary care physician groups or practice associations that have a large combined patient population. The physician members of these ACOs lean heavily toward primary care, but are increasingly including specialists. Unlike hospital-led ACOs which may offer primary care, specialty care, and acute care to their patients, many physician-led ACOs are limited to providing primary care, yet maintain responsibility for the total cost of each patient's care.

These physician-led ACOs can play an integral role in improving primary care and delivering high quality care coordination. Together these efforts have been effective in improving patient outcomes, reducing unnecessary hospitalizations and emergency room visits, and lowering costs. Successful population health management in these ACOs typically results in the provision of more primary care services (low cost care) and less acute care services (high cost care) in hospitals and other settings.

Because physician-led ACOs are often smaller organizations, they tend to be more flexible and nimble when it comes to adopting new practices and clinical transformation. However, these ACOs may have less advanced health IT systems, fewer resources and capital to invest in clinical and organizational transformation, and less experience with risk-based contracts.

Early results from the Medicare Shared Savings Program (MSSP) suggest that physician-led ACOs may actually have a leg up in terms of accountable care success. Out of the 49 MSSP participants that qualified for shared savings in their first performance year, a higher rate of physician-led ACOs earned shared savings compared to non-physician-led ACOs. While results are still being analyzed, these findings suggest that physician-led ACOs can play an important role in driving health care reform.

The purpose of this toolkit is to focus on the unique challenges and opportunities for physician-led ACOs. This work builds on the original **ACO Toolkit** developed by the **ACO Learning Network** in 2011 to help ACOs address technical, operational, and legal issues in ACO development and implementation. Likewise, the goal of this toolkit is to provide emerging physician-led ACOs with the knowledge and tools necessary to effectively address **four critical issues** in accountable care development and implementation: (1) identifying and managing high-risk patients; (2) developing high-value referral networks, (3) using event notifications, and (4) engaging patients.

This toolkit is a result of a collaborative effort by members of the **ACO Learning Network**. Members participated in twice-monthly conference calls and shared innovative ideas, technical challenges and lessons with each other. We also invited a number of guest experts to contribute their thoughts and ideas to inform the development of this resource. The toolkit includes examples and case studies to illustrate how various ACOs are approaching the implementation challenges they face in delivering high-value care. This executive summary provides key takeaways and recommendations from each chapter of the toolkit. While all lessons may not apply to all physician-led ACOs, they should serve as a guide or checklist of competencies that can prepare these organizations for success.

CHAPTER 1
Identifying and Managing High-Risk Patients

A cornerstone of successful accountable care is to identify patients who are not receiving optimal care, are overutilizing health resources, and as a result are contributing to excessive spending. By identifying those patients who are not currently well served by the health system and providing additional targeted resources (i.e., care coordination, social services, or care management), there is an opportunity to improve population health and achieve significant reductions in total spending. This chapter provides an overview of approaches to identify high-risk patients and strategies for implementing effective care management.

A. Identifying High-Risk Patients

1. **Define an intervention.** A key step is determining how you will intervene in the care of patients identified through a risk stratification process. If your goal is to perform intensive care management on the patients most likely to be admitted to the hospital for poorly managed chronic conditions, then analytics should be tailored to identify this population. If you hope to provide disease-specific telehealth, your identification process should be set up to flag these patients. This process can help determine the most promising care management tools for your ACO, and select the patients most likely to benefit.

2. **Use analytics tools that are most accessible.** If your population health vendor has set up an integrated predictive modeling platform that integrates all of your claims and EHR data, then use that tool. Look elsewhere if you don't have such a tool at your disposal or your vendor has over-promised and the integration is running behind schedule. Start with the data you have available and use a free risk-stratification method such as Hierarchical Condition Categories (HCC), Charlson, or the Chronic Condition Count. You can simplify efforts by creating a list of patients with multiple hospital admissions over the past six months.

3. **Combine your raw analytics with clinical intuition.** Providers have insights about their patients that cannot be ascertained by most analytic models. This includes gauging which patients do not show up for appointments, live alone, are unsteady on their feet, or have other psychosocial comorbidities. We recommend giving providers a list of patients generated electronically, and have them review the list based on their own knowledge of the patients.

4. **Take advantage of patient-reported data**. By asking patients to share personal information with their providers about their health care goals and disease-management challenges, a wealth of useful information can be obtained. ACOs can use established metrics such as the Patient Activation Measure (PAM), or they can create their own patient measures to track.

B. Care Management

1. **Invest in coordinated care transitions.** Creating a standardized workflow for smooth care transitions is essential to reducing hospital readmissions and can significantly reduce costs. Success of such a program will rely on the ability to receive notifications of patient discharges from hospitals and post-acute care facilities. Providers also benefit from a daily workflow that ensures patients are contacted within 1-2 days of discharge, medications are reconciled, referrals are tracked and patient education is completed.

2. **Use intensive care management thoughtfully.** Think carefully about how to select patients for intensive care management. Data show that such programs can have dramatic success, but they are also costly. Care managers are precious resources and must be deployed in such a way as to maximize their impact on the patients they manage. Choosing patients who already have strong support networks and dedicated caregivers may prevent you from realizing significant benefits from your intervention and from reaching the patients who need care management the most.

3. **Set up your care management to promote meaningful relationships.** Position your care managers such that they are able to develop relationships with the patients they are managing.

If their offices are embedded within a primary care practice, they can meet with patients during an already scheduled visit, and they can build strong relationships with primary care providers. If embedded care managers are not practical for your organization, consider having care managers conduct home visits, hospital visits or even post-acute facility visits. The stronger the bond between care manager and patient, the more likely the patient will be to contact the care manager when medical needs arise.

4. **Use information technology to promote care management success.** Very few electronic health record (EHR) systems are equipped to integrate care management. However, without IT integration, the hard work of a care manager may never result in meaningful impact. Consult with IT staff to develop a communication system that allows care managers to coordinate with other health providers including primary care, hospitalists, ED physicians, home health nurses, and others. If a patient is part of a care management program, this should be prominently displayed in the record to flag as a high-risk patient.

CHAPTER 2
Developing a High-Value Referral Network

Primary care services represent only 6 to 7 percent of total health care spending for any given patient, yet primary care physicians indirectly control or influence a much larger percentage of health care spending through decisions regarding referrals, diagnostic testing, home health care, and other ancillary health services. Physician-led ACOs will need to work beyond their own ACO to impact care throughout the care continuum, including specialty, inpatient, and post-acute care. This chapter describes strategies to improve relationships with clinical providers outside of your ACO.

1. Understand existing referral patterns. The first step in crafting a high-value referral network is to understand the current referral patterns of your ACO providers and how your ACO patients are utilizing resources. For example, do you know which providers outside of the ACO are caring for your ACO's patients? These data can be obtained through chart reviews, clinician surveys, claims analysis, or public use datasets. Once established, this information can inform more active management of referrals and improve care coordination.

2. Reduce unnecessary referrals. There is wide variation among primary care physicians regarding how often patients are referred to specialists. In a fee-for-service model there is no financial incentive to think twice before sending a patient to see a specialist for even minor medical issues. Sharing individual referral variation data with primary care physicians and establishing care protocols for common conditions can help reduce referrals for conditions that can be managed equally well by a primary care practice. Primary care physicians can also obtain the training to manage certain conditions that are often referred to specialists, including simple skin biopsies, diabetes or heart disease.

3. **Improve care coordination between primary care and specialists.** Inefficiencies in the health care system, such as lack of EHR interoperability, mean that a primary care physician often cannot receive information about a specialist referral unless the document is faxed. Similarly, specialists may not be aware of prior tests or diagnoses prior to the visit. As a result, many patients receive duplicate tests and other unnecessary services. Implementing the medical home neighbor model can help provide a framework for improved coordination of care and increased efficiency. Elements of this model include pre-consultation information exchange, co-management agreements, and shared expectations regarding communication between providers.

4. Avoid unnecessary facility fees. Medicare reimbursement rates for a screening colonoscopy or lumbar spine MRI are significantly higher in a hospital setting. Identifying imaging centers and endoscopy centers that are not affiliated with hospitals and do not charge a facility fee could facilitate significant cost savings.

5. Identify and partner with cost-effective specialists and other providers. While

challenging, identifying cost-effective providers can be achieved with the help of a robust analytics team who can gauge utilization and adherence to clinical guidelines by looking at claims data. If such analysis is beyond the capability of your practice, another option is to consult with primary care physicians. Finally, if your ACO has the potential to drive a significant amount of volume to preferred specialists, a preferred partnership may provide an incentive for the specialist to coordinate care, and to practice more cost-effectively without compromising quality of care.

6. Bring specialists into your ACO. A further strategy to control costs is to integrate specialists within your ACO and enable them to be accountable with you for the cost and quality of care. They will be able to participate in shared savings and may undertake stronger collaboration with primary care physicians. For high-demand specialists such as cardiology, psychiatry, dermatology and endocrinology, the specialist could be embedded within the primary care practice itself.

4. Build partnerships with long-term and post-acute care facilities. Long-term and post-acute care (LTPAC) facilities are significant drivers of health care spending. Yet, many physician-led outpatient provider groups have felt they do not control the LTPAC care their patients receive. However opportunities now exist for ACOs to form partnerships with these facilities to reduce hospital readmissions and ensure that transitions are better coordinated with primary care providers.

CHAPTER 3
Using Event Notifications

Since most physician-led ACOs operate independently of hospital systems, usually with separate health IT platforms, they must implement additional IT solutions to receive notice of acute events involving their patients. Real-time notification of patient events, such as emergency room visits or hospital admissions, can allow ACO staff to implement prompt follow-up and appropriate interventions, thus minimizing further complications. This chapter describes basic strategies and highlights examples of ACOs that are using technology to improve care coordination.

1. **Get your data house in order.** An advantage for many physician-led ACOs is having ready access to clinical data. Ensuring that you are making meaningful use of existing EHRs will provide the necessary foundation from which you can pull key elements of population health. Fundamental information about patient problems, medications, tests, demographics and vital signs are the building blocks from which all other data feeds can expand. Creating master patient indexes with care team relationships defined is also necessary.

2. **Leverage existing relationships.** Take advantage of state-wide or regional health information exchange (HIE) capabilities where they exist. However, if sufficient HIE infrastructure does not exist, an ACO can begin working with local hospitals and long-term and post-acute care (LTPAC) facilities to get notification data, such as ADT feeds. Many ACOs already have strong relationships with hospitals and LTPAC providers based on their historical admitting, rounding, teaching and collaboration. For many physician-led ACOs, one or two hospitals may constitute a majority of the acute events for their attributed patients. Building care management processes and protocols can lay groundwork for more comprehensive event notification management in the future.

3. **Build notification processes into the existing clinical workflow.** Utilizing existing workflows can ensure that the right ACO staff member gets to the right patient in the most efficient manner. Successful workflows will allow clinical staff the opportunity to act in real time as patients experience acute events.

4. **Utilize decision support rules.** The application of decision support rules helps direct notifications to the right person in your organization and can automate some of the initial decision-making. Rules can ensure that care managers and providers receive the most important notifications in real time while less urgent alerts can be batched and sent daily.

5. **Ensure that notification alerts lead to clinical intervention.** Receipt of an event notification should trigger an intervention or response. Examples include scheduling an appointment, arranging transportation or setting up a home visit. The event notification system should bring to the provider all the information needed to effectively carry out such an intervention. Ideally, the ACO will set up protocols outlining who will receive the notification, what possible actions they should perform, and how to deal with special circumstances.

CHAPTER 4
Engaging Patients

Patient engagement within an ACO occurs at many levels. First, there is patient engagement in self-management of their current health status and caring for any medical conditions. Second, is the engagement of patients and their families in partnership with their providers and other professionals within the ACO. Ultimately, patients, families, and community members must be engaged and aligned with the overall practices and goals of the health organization and the ACO. In this chapter we discuss approaches to strengthening ACO engagement with patients, families, and their communities.

1. **Invest in outreach methods that reach all patients, not just the complex.** The shared savings model typically incentivizes a significant amount of energy and resources for the most complex patients. However, ACOs should not ignore the large numbers of patients who require little to no care management and are generally in good health. Building a connection with these patients can improve patient satisfaction and increase retention while using health care resources wisely.

2. **Determine each patient's preferred method of communication.** Understanding how patients want to receive information (i.e., phone, mail, email, text) is the first step in ensuring that important messages can be delivered in a timely and user-friendly mode in both directions.

3. **Schedule beneficiaries for a Medicare wellness visit.** These billable visits are without cost to patients and allow the ACO to collect health risk assessment information from patients that can allow them to receive more targeted care. In addition, the visit can help the ACO meet quality measures on prevention, medication usage and management of specific chronic diseases. The Medicare wellness visit also has the side benefit of providing the ACO with a billable visit that is reimbursed by Medicare.

4. **Connect with patients while they are hospitalized or in a skilled nursing facility.** Even though primary treatment decisions for these patients are made by a hospitalist or SNF physician, patients want to hear from their primary care practice when they are inpatients. A brief phone call or drop-in visit can reassure patients that their provider is engaged and aware of their medical condition. At the same time, these check-ins can also help to facilitate transitional care support and avoid unnecessary hospital costs.

5. **Work collaboratively with patients to achieve their care goals:** Patient engagement that builds an environment of participatory medicine provides an opportunity to foster partnership between patients, families and clinicians. Providers can use tools such as shared decision-making, patient-activation measures, and behavioral science techniques to increase patient engagement in their own health goals.

6. **Get patients involved in ACO decision-making.** Allow patients an opportunity to have their voices heard through participation in quality improvement initiatives, focus groups, and patient advisory councils. Be sure to provide patients multiple channels for voicing their opinions, with comment boxes in the clinic, and an email inbox devoted specifically to patient and family concerns.

Part 1

INTRODUCTION

Physician Practices and their Critical Role in the Accountable Care Movement

Mark McClellan, Farzad Mostashari

For decades, the deep and pervasive fragmentation of the U.S. health care system continues to cause significant gaps in health care quality, outcomes, and spending. The system's lack of coordination and efficiency, as well as its lopsided financial structure (i.e., a volume-based, fee-for-service payment system) consistently results in unnecessary and avoidable care. Indeed, nearly 40 percent of emergency department visits and 10 to 17 percent of inpatient hospitalization costs are preventable.[1] However, there is growing evidence that many clinical innovations and payment reforms will help address these issues, leading to significant quality improvements and cost reductions.

One such strategy has been the emergence of **Accountable Care Organizations** (ACOs). While the ACO concept continues to evolve, it can be defined broadly as a group of health care providers who come together to accept shared accountability for the cost and quality of care delivered to a population of patients. This model is well-recognized for moving health providers away from fee-for-service, and offers a promising alternative payment and delivery model that rewards high-value care. Put simply, if ACOs are able to successfully reduce costs below a set financial benchmark and achieve a minimum threshold of quality performance, they can share in the savings. A growing number of ACOs are also taking on "downside" financial accountability.

Proliferation of the ACO Model

Consensus for the ACO model has been building in both the public and private payer space since they were first included in the Affordable Care Act (ACA). There are now over 360 Medicare ACOs in 47 states and DC, in addition to 17 states that have implemented accountable care-type arrangements for Medicaid or state employee health programs. In the private sector there are well over 250 ACOs, many of which are run by the nation's largest commercial payers, who are experimenting with payment alternatives that extend beyond the traditional shared savings model.[2]

A key driver of ACO growth has been the **Medicare Shared Savings Program (MSSP)**; an ACO initiative outlined in the ACA, and overseen by the Center for Medicare and Medicaid Services (CMS). The program offers organizations the opportunity to manage defined patient populations by assuming risk in a shared savings model.[3] Early results show that roughly half of ACOs have been able to reduce spending relative to their benchmark and about a quarter have reduced spending enough to earn shared savings. Surprisingly, of the 52 MSSP participants beginning in 2012 or 2013 that qualified for shared savings and satisfactorily reported on their quality measures, more than half were physician-led organizations.

The CMS Innovation Center also launched the **Pioneer ACO Program**, an initiative designed for organizations more experienced with a population-based approach, but that also requires taking on a higher level of risk.[4] Earlier this year CMS released first year financial and quality performance results for 220 MSSP and 32 Pioneer participants. Nearly all ACOs in both programs were able to achieve quality improvement, however a higher percentage of participants in the Pioneer program have been able to attain shared savings relative to MSSP participants. These results suggest that some ACOs can succeed in improving quality and reducing costs, but also suggest that more work is needed.[5,6]

Overall, we believe that further progress for the ACO movement will require continued evaluation of performance data and anecdotal evidence, which can help inform a broader understanding of critical success factors and opportunities to bring effective models to scale.

The Emergence of Physician-Led ACOs

A notable trend is the rapid growth of physician-led ACOs, which now constitute over half of all MSSP participants; these organizations different significantly from their hospital-led or integrated health system counterparts. For example, **physician-led ACOs** are comprised of one or more independent primary care physician groups or practice association and are often engaged in a single ACO arrangement (most often MSSP or a commercial health plan). On average, they provide care to fewer patients, ranging from 5,000 to 20,000 attributed lives. They are primary care-dominant, but are also increasingly engaging with specialists and other providers. Unlike larger ACOs where the institution provides a full range of services, physician-led ACOs may *only* provide primary care to their patients. However, in the MSSP attribution model, which is based on where patients predominantly receive primary care, these ACOs are responsible for the cost and quality of all patient care, both within the ACO and with providers outside of the ACO network.

Well-recognized as the foundation for excellent patient care, primary care is critical to improving outcomes, reducing unnecessary hospitalizations and ED visits, and lowering costs. Physician-led ACOs often have the advantage as the more adept primary care provider, when compared to hospitals and other organizations that specialize in acute, emergency and specialty care. Further, while financial incentives are designed to reward providers for reducing readmissions, this creates the problem of "demand destruction" for larger hospital-led ACOs. Specifically, income is moved away from their most profitable line of business (inpatient care) to a less profitable line of business (outpatient / primary care). Physician-led ACOs, unlike hospital-led ACOs, are not forced into this financial tradeoff and can more easily focus their efforts on primary care.

Because of their small size, many physician-led ACOs can be characterized as more nimble and flexible than hospital-based ACOs. Their smaller and less bureaucratic operation can make for quick decisions about launching quality improvement initiatives or adopting new clinical processes and technologies. Physician-led ACOs are also in a position to create more efficient networks by coordinating referral patterns with specialists, hospitals, diagnostic, and post-acute services. Moreover, the savings from preventing even a few admissions or procedures through improved care coordination can amount to a relatively large impact on smaller physician practice revenues.[7]

While physician-led ACOs may experience several advantages, they also face significant challenges. First, most lack the infrastructure and support of their larger counterparts, which may inhibit their ability to hire necessary staff and providers, purchase new health IT systems, secure technical assistance or develop patient outreach strategies. Oftentimes, smaller ACOs are unable to recruit an adequate support staff to manage the operational demands of ACO transformation or a clinical staff that is experienced in population-based care management.[8] We also know that many ACO challenges—across all provider types—can be attributed to imperfect program policies and regulations, such as the attribution process, benchmarks, and competing and redundant quality measures.[9, 10]

One common theme we have observed (and admire) among physician-led ACOs is their commitment to building strong relationships with providers and health care organizations in their communities. Overall, despite differences in size, location, and other characteristics, we find that most physician-led ACOs have a commitment to empowering clinicians and ensuring that change begins on the inside with appropriate organizational support.

What to Expect from this Toolkit

The goal of this toolkit is to provide resources and advice for practices that are diving into the complex world of accountable care. Many of the strategies and lessons discussed here capture shared learning experiences and insights from members of the Brookings ACO Learning Network and dozens of other organizations. The

toolkit is organized to focus on four critical implementation issues: (1) identifying and managing high-risk patients (2) developing high-value referral networks (3) using event notifications and (4) engaging patients.

Methodology

The information in these chapters was gathered through a literature review and, more importantly, from the collective experiences of ACO Learning Network members and other implementation experts. Much of this work was conducted through our Physician-Led ACO Innovation Exchange over the past year, which engaged our members and the broader accountable care community in conversations about the challenges and opportunities for these organizations.

Toolkit Overview

Finally, while physician-led ACOs have notable promise, we acknowledge that their path is not an easy one. With experience beginning to accumulate, however, there are lessons and insights that can help physician-led ACOs succeed and thrive. It is our hope that this resource provides physician-led ACOs with the practical knowledge and strategies necessary to address key challenges and chart a path toward success by improving care and lowering costs. In addition to the chapters corresponding to the four major implementation issues listed above, the toolkit also includes case studies (**Appendix A**) that highlight how ACOs are meeting the challenges and opportunities of being a physician-led ACO, as well as additional resources to learn more about these critical topics (**Appendix B**) and a glossary of key terms (**Appendix C**). Below is an overview of the chapters in this toolkit.

CHAPTER 1: IDENTIFYING AND MANAGING HIGH-RISK PATIENTS

This chapter includes discussion of analyzing claims and clinical data, use of risk-stratification algorithms and selecting which patients would most benefit from care management approaches. We also discuss team-based care strategies, such as the role of care managers, appropriate training, and the role of health IT for population health management.

CHAPTER 2: DEVELOPING HIGH-VALUE REFERRAL NETWORKS

This chapter discusses how ACOs can collaborate with specialists and other providers who are not formal members of the ACO. We provide an overview of developing care coordination agreements with specialists and outline expectations for communication and disease co-management. We also highlight approaches for effectively engaging with post-acute care providers and identifying specialists who are more likely to deliver high-value care.

CHAPTER 3: USING EVENT NOTIFICATIONS

This chapter emphasizes the role of data as a critical tool for managing patient populations. We discuss ways that ACOs can set up automated notification systems to receive real-time alerts when patients are admitted and discharged from the hospital or transferred to a post-acute or long-term care facility. In addition, we provide an overview of care coordination interventions that can be set up to respond upon receipt of such notifications.

CHAPTER 4: ENGAGING PATIENTS

Our final chapter addresses key competencies for ACOs on how best to engage patients and their families in accountable care. This chapter covers strategies for educating patients about accountable care, as well as partnering with patients for improved medical decision making and management of chronic disease. Additionally, the chapter discusses ways to strengthen the connections between patients and ACOs and opportunities to involve patients in ACO governance and decision-making.

CHAPTER 1

Identifying and Managing High-Risk Patients

James Colbert, Robert Brenner

In order to achieve the dual goals of accountable care—improving patient health and reducing health care costs—an ACO must be able to identify patients that are not receiving the care they need, or patients that may be using health services in the wrong setting (e.g. the hospital or emergency room). By identifying those patients and using effective strategies, such as care coordination, team-based care, disease management and providing necessary social services, there are significant opportunities to improve health and reduce unnecessary costs. In this chapter, we'll provide readers with an overview of approaches to population health management that support such strategies.

I.   The Role of Population Health Management

Population health is defined as the health outcomes of a group of individuals, including the distribution of such outcomes within the group.[11] A population health approach requires collaboration across a broad range of stakeholders – patients, providers, health plans, employers, government, the private sector and the local community – to strengthen care delivery and improve the well-being of individuals and families. While our current system is designed to respond to the acute needs of individual patients, it must transition to one that anticipates and shapes patterns of care for populations, while also addressing the environmental and social determinants of health.

Recognizing opportunities for improvement in care delivery, many clinicians and providers are adopting **population health management** (PHM) tools and strategies to support care delivery and care management goals. PHM is defined as a set of interventions designed to maintain and improve people's health across the full continuum of care—from low-risk, healthy individuals to high-risk individuals with one or more chronic conditions.[12] Unfortunately, unlike cancer therapeutics or heart disease care, for which treatment decisions are guided by thousands of peer-reviewed studies, the population health discipline, in its nascence, lacks the same level of rigor. Thus, recommendations on how best to manage the health of patients within an ACO must draw heavily on anecdotal and case study experiences.

Understanding High-Risk Patients

There are many types of high-cost patients. Some patients are admitted to the hospital more than a dozen times in a year, but never use the ED; and vice versa. These patients may benefit from care management, but depending on health status, demographics and social supports, the most effective intervention will be different in each case. Determining how to create the appropriate tiers of risk, and determining how to appropriately classify these patients, is an important step in the risk-stratification process.

Well-documented and highly-regarded for his work in this area, is Dr. Jeffrey Brenner of the Camden Coalition of Healthcare Providers in Camden, New Jersey. First highlighted by Atul Gawande in a popular *New Yorker* article,[13] the article described Brenner's efforts to target the most complex, highest utilizers in the Camden community; an approach he called "hot spotting."[3] Dr. Brenner often compares improving care for high utilizers with cancer treatment. For example, just like we classify cancer patients by organ, histology, and tumor markers, and then select targeted cancer therapy, we should do the same with "hot-spotters." Rather than simply seeking out the most expensive health care utilizers and offering them a standard care management solution, an ACO must look beyond costs to understand why certain patients are high users, and then implement targeted interventions.

Types of Patients

Imagine all of the patients in your ACO are stacked up in a pyramid with the costliest patients at the top and the least costly patients at the base. One of your tasks will include deciding how to target various patient populations based on their needs.

Figure 1: The Patient Utilization Pyramid

TIER 1 - HIGH COST, OVERUTILIZERS

MULTIPLE CHRONIC CONDITIONS

AT-RISK

"EVERYONE ELSE"
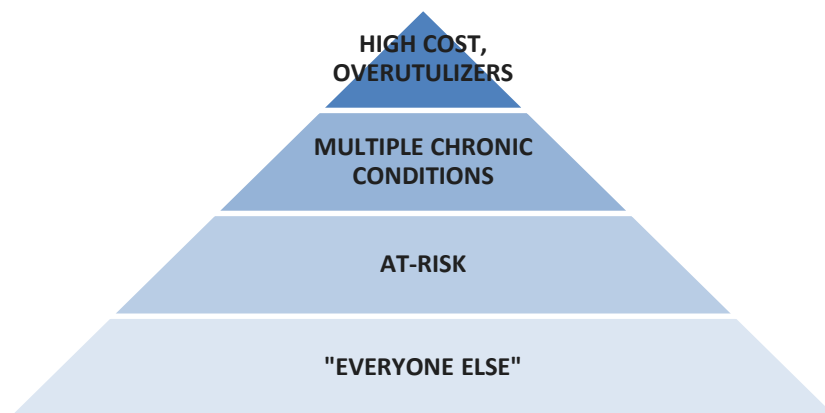
TIER 1 - HIGH COST, OVERUTILIZERS: Overall, the top 1 percent of patients account for about 20 percent of total costs, and the top 5 percent of patients account for 50 percent of total health spending.[14] Thus, there are many opportunities to use stratification and prediction methods to identify those costly patients, and then intervene through care management or care coordination. Research has shown that care management can reduce health costs for this population, mainly through reducing ED visits and hospitalizations.[15]

TIER 2 - MULTIPLE CHRONIC DISEASES: Many of the patients who fall between 5 to 20 percent of total costs have multiple chronic diseases, and may have trouble with medication adherence or effectively managing their condition. Intervening with these patients can help prevent exacerbation of symptoms and illness. Many tools can be used to group these patients according to chronic conditions and risk level, and then dedicate appropriate care management resources as necessary. For example, you may choose to connect diabetics with elevated HbA1c levels with a diabetes educator, pharmacist and nutritionist; or connect a heart failure patient with an advanced practice nurse who can provide ongoing monitoring.

TIER 3 - AT-RISK PATIENTS: These patients may have one chronic condition that is generally well-controlled; active team-based primary care can help provide necessary support to reduce their chances of moving upwards on the cost pyramid.

TIER 4 - EVERYONE ELSE: These patients are typically healthy with few acute medical needs. They rarely seek medical care, but engaging them via patient education, wellness visits, and an online patient portal can ensure that they receive all necessary preventive care to remain healthy.

II.   Using Data for Population Health Management

The health care industry is increasingly using predictive analytics and sophisticated algorithms to support better care delivery and population health management.[16] However, we recognize that data should not be the only source for enhancing patient care, as data are often messy, rarely interoperable and do not capture important anecdotal information. Furthermore, health status is more often influenced by non-medical factors or "social determinants" such as employment, education, and stress at home. Even with highly effective predictive models, providers are left with the challenge of determining how to best intervene.

Successful population health management begins with collecting and interpreting meaningful and interpretable data. For example, creating a centralized data repository for an ACO can enable standardization of clinical processes, quality reporting, and analytic queries, but selecting which data fields to include in such a database can be challenging, and requires planning from the start. In particular, an ACO should consider the types of analytic tools it plans to use to identify high-risk patients, from which a database can be designed (**see Box A: Questions to Consider**).

A significant challenge that many ACOs face is a lack of clinical informatics staff or infrastructure to build and manage complex databases, which often leads to 'building' or 'buying' a team of clinical informatics staff. There are benefits to both, as in-house analysts can customize templates and reports using "out of the box" data warehousing and analytic tools. Yet, these positions are typically difficult to recruit and command high salaries. Alternatively, an ACO can outsource data analysis to a population health vendor that will assume responsibility for integrating multiple data sources and producing patient reports.

BOX A: QUESTIONS TO CONSIDER
Formulating a Population Health Management Strategy

PATIENT STRATIFICATION AND SEGMENTATION
- How can I segment my costliest patients to better understand their needs?
- What analytic models exist for risk-stratification and what are the advantages and disadvantages of each?
- What should I consider when hiring a vendor for risk-stratification and analytics?
- How do I choose which data to use as input into my risk-stratification algorithm? EHR, claims, physician judgment, patient-reported measures? How do these methods compare?

CARE MANAGEMENT
- What care management models exist, and how do I choose which is best suited to the needs of my organization?
- What IT system do I use for keeping track of patients getting care management?
- How many patients should each care manager have in his/her panel?
- Who should I hire for a care manager? RN, social worker, medical assistant, pharmacist?
- Where should my care managers be located? In the clinic or in a central location?
- What type of relationship should care managers have with providers?
- How do I measure the success of my care management strategy in real time? What data and outcomes can I collect on an ongoing basis that can be used for process improvement?

It should be acknowledged that the cost of implementing a population health management program is substantial, and ACOs must weigh the costs of interventions with the potential for cost savings. Creating a budget with estimated costs for personnel, technology, and other investments is a critical first step in determining priorities and feasibility of your population health management initiative. A sample budget is provided in **Appendix A.**

Data Sources for Population Health Management
By tracking meaningful patient information, the care team can improve the effectiveness of interventions both for individuals and for entire populations. There are a number of data sources that can be used to collect and analyze data effectively. **Table 1** provides an overview of these data sources.

Table 1: Overview of Population Health Management Data Sources

SOURCE	ADVANTAGES	DISADVANTAGES
Claims Data	• Important starting point since ACO is measured on costs / patient at end of year. • Information includes diagnoses, admissions, visits to the ED and outpatient providers, diagnostic tests, and procedures.	• 30-60 day lag time between a clinical encounter and receipt of the claims report. • Only as accurate as the claims that are submitted by providers; depends on appropriate coding.
Clinical Data	• Medical records contain valuable data such as provider notes, lab results, vital signs, and medication lists that can help to risk-stratify patients.	• Data must be tagged into discrete fields to allow for sorting and analysis. • Analysis can be difficult for ACOs that do not have a single, comprehensive EHR.
Providers	• Clinicians with long-standing relationships with patients can provide intangible information that can help identify those at high risk.	• Lack of literature on physicians' ability to identify patients at high-risk of future health care utilization.
Patient-Reported Data	• Research shows that patient reported outcomes and patient engagement metrics correlate with utilization and cost. • Many metrics freely available, including those for specific diseases.	• Can be time-consuming to collect and measure these metrics from patients. • Patients may lack confidence/trust to accurately respond to survey questions.

Claims Data

Claims data includes information such as diagnoses, admissions, ED visits, diagnostic tests and procedures. However, there are important caveats to working with claims data for analytics. For one, claims data are only as accurate as the claims that are submitted by providers. If a provider does not bill for each diagnosis that a patient carries, the analytic system will not capture the complete clinical picture for that patient. For example, if a patient had a below-the-knee amputation two years earlier because of diabetes complications, this is a critical factor for calculating the patient's risk categorization. However, such information will only be captured in a claims-based analysis if the providers submit the appropriate billing code. Capturing such information is particularly important for Medicare patients. Certain data from claims are also used as the basis for risk-adjustment in the Medicare Program. To ensure accurate claims submission, EHRs that automatically generate billing codes based on patient data entered by clinicians are being used more frequently. Professional coders can also be employed to read through clinical notes and review charts for documentation to ensure proper coding in primary care settings.

Once an ACO has access to claims data, the next step is to dive in to the claims data itself. Start with the quarterly summary reports provided by CMS (or the health plan) and generate questions to be investigated. Look at where your ACO's patients are spending money. How do inpatient costs compare with outpatient costs? What about procedures, imaging, laboratory, and specialty care? Stratify the data by provider and practice site to see what variations emerge. It is important to look at the distribution of costs across the patient population and try to understand the role of patient demographics and geographic data. Drill down to individual patients to get a clinical and qualitative understanding of potentially avoidable costs.

A major challenge in working with CMS claims data is the lag time between a clinical encounter and receipt of the claims report. For example, after a patient is seen in the emergency department, the claim needs to be submitted by the hospital, processed by the insurer and reported by the insurer. This process generally takes anywhere from 30 to 90 days depending on the payer, and can be a major barrier to delivering effective clinical interventions or successful care management. Yet, while claims data on their own will only tell you

one piece of the picture, it represent important information, especially given that at the end of the year, the ACO will be measured on costs per patient.

Clinical Data

While claims data are valued for their simplicity, they are also limited to information contained in billing codes. Clinical data include all patient information captured in the medical record, including encounter notes, diagnosis lists, laboratory data, medication lists, and social and family history. While clinical data provide rich information about patients, synthesizing and aggregating all of the entries in a medical record for a particular patient can be challenging.

For clinical data to be used effectively, the data must be electronic (not in paper charts) and tagged (entered into discrete fields) rather than free text. Some EHR vendors allow the capability to perform various levels of analysis on information entered by clinicians. Alternatively, one can purchase an analytics platform that sits on top of an EHR to extract clinically meaningful data.

While the primary source of clinical data will usually be the medical record or EHR, other important sources of information include patient portals, pharmacy records, and data collected from outside health providers via health information exchanges (HIEs). Maintaining a centralized data repository of clinical patient information with query and analytic functionality can ensure that clinical data is optimally harnessed for population health management.

BOX B: OPTIONS TO CONSIDER
Overview of Patient Risk Stratification Methods

The following are among the most common methods for stratifying patients by risk:

- Johns Hopkins Adjusted Clinical Groups (ACGs) System: Uses both inpatient and outpatient diagnoses to classify each patient into one of 93 ACG categories. It is commonly used to predict hospital utilization.

- Minnesota Health Care Home Tiering: Based on Major Extended Diagnostic Groups (MEDCs), MN Tiering groups patients into one of five tiers from Tier 0 (Low: 0 Conditions), Tier 1 (Basic: 1 to 3), Tier 2 (Intermediate: 4 to 6), Tier 3 (Extended: 7 to 9), to Tier 4 (Complex: 10+ Conditions).

- Hierarchical Conditions Categories (HCC): Developed by CMS to risk-adjust capitation payments for patients in Medicare Managed Care Plans. Uses ICD-9 diagnosis codes and demographic data.

- Elder Risk Assessment Index: Developed to identify patients over 60 at risk of hospitalization. Uses age, sex, hospital days over past two years, marital status, and presence of select medical conditions.

- Chronic Comorbidity Count: Based on the publicly available information from Agency for Healthcare Research and Quality (AHRQ)'s Clinical Classification Software, CCC is the total sum of selected comorbid conditions grouped into six categories.

- Charlson Comorbidity Index: Predicts the risk of one-year mortality for patients with a range of comorbid illnesses. Based on administrative data, the model uses the presence/absence of 17 comorbidity definitions and assigns patients a score from one to 20, with 20 being the more complex patients with multiple comorbid conditions.

Clinical Intuition

Most risk calculators use some combination of claims data, diagnoses, and demographics, yet missing from these calculations is information such as how often patients do not show up to appointments, what kind of living situation they have, whether they take their medications regularly – information that clinicians who interact with patients face-to-face can provide. By gleaning insights from providers and their relationships with patients, ACOs can maximize qualitative and quantitative information. For example, not all high-risk

patients will benefit from primary care intensive care management programs. Use clinical intuition to help differentiate between patients that:

- Receive coordinated care elsewhere (i.e., those in certain managed care plans);
- Demonstrate strong social support structures and do not require intensive care management (e.g., those with caregivers who manage spectrum of patient's health and social needs);
- Receive intensive treatment for high-acuity disease and are unlikely to lower utilization of care (e.g., cancer chemotherapy);
- Would likely benefit from intensive care management.

When primary care physicians are asked which of their patients are complex, on average they will identify approximately 25 percent as being "difficult to manage." However, many physicians have expressed concern that providers may be identifying patients that take up a lot of their time, rather than patients who actually overuse or inappropriately use health care services and dollars. For younger patients, complexity is most often associated with mental health issues. For older patients complexity is mostly associated with coordination of care or medical decision making issues.[17] Interestingly, when physician designation of patient complexity is compared with commonly used comorbidity-based risk-assessment tools, the agreement was found to be quite variable with between 26 percent and 56 percent concordance depending on the analytic method chosen.[11] Missing from the published literature is a comparison of physician ability to predict future health care utilization and costs with commonly used predictive risk algorithms.

Obtaining clinical information about which patients are high-risk can be as simple as asking primary care providers to list which patients they think are most at risk of being admitted to the hospital in the next six months. Rather than asking your physicians to remember names of patients who are at risk of poor disease self-management, a more successful option may be to provide physicians with a list of all of their patients with high-risk diagnoses such as congestive heart failure, diabetes and mental illness and ask them to select patients from the list who may be at high risk of hospitalization.

Patient Reported Data

A final source of data that should not be overlooked is to ask patients whether they feel confident in their ability to manage their disease with the resources currently available to them. Alternatively, patients can rate their health as good, fair or poor. More information can be found in **Chapter 4: Engaging Patients.** There are also a number of instruments which measure self-management around specific diseases such as diabetes.[18]

Best in Practice: Institute for Family Health

At the Institute for Family Health, an MSSP ACO located in New York City, a new initiative is capturing socioeconomic risk factors to enhance patient care. Patients are asked about housing, financial situation, access to healthy foods, and other social factors that may impact behaviors, such as medication non-adherence and overuse of health care resources. The Institute expects to use the information to reduce complications and improve patient health.

Research has also shown that one of the strongest predictors of poor health in adulthood is adverse experiences during early childhood years.[19] Based on the results of the Adverse Childhood Events (ACE) Study, some provider organizations are now implementing patient questionnaires about childhood experiences into their clinical workflow and are then using the data to identify patients at high risk of poor health outcomes and high utilization that may benefit from additional resources or services.

Moving from Risk-Stratification towards Patient Segmentation

There is no one-size-fits-all approach to population health management, nor is there any consensus regarding which patients should be labeled as "high-risk." Rather, the more meaningful questions should be: which

subset of my patients would I like to be able to identify through a data-analysis process? Which interventions do I plan to implement on this selected patient group? By using pre-specified care interventions to help guide the analytic process, an ACO can assure that population health data analytics can be utilized most effectively. Examples of potential patient subgroups to identify via risk-stratification include:

- Patients most likely to be admitted or readmitted to the hospital
- Patients most likely to present to the ED
- Patients with the highest risk of ambulatory-sensitive hospital admissions
- Patients most likely to die in the next six months and who would benefit most from hospice
- Patients at highest risk of developing ESRD and needing dialysis
- Patients with poorly controlled psychiatric illness

It's not surprising that one could feel overwhelmed when confronting the multitude of decisions regarding which analytics software to purchase, whether to hire an outside firm to perform analytics, and which data to include in your algorithms. However, the reality is that many different methods work reasonably well, and no method is going to perfectly identify the patients who will most benefit from care management.

III.   Care Management

The term **care management** captures a wide variety of activities that aim to improve patient health, self-management and coordination of care for patients with complex health and social needs. The most effective strategies have been identified as the following:[20]

- **Self-management**: Encouraging patients to manage their own conditions through coaching, group visits, and other types of interventions;
- **Transitional care**: Helping to ensure that patients who are discharged from the hospital will succeed in managing their conditions after discharge, either at home or in a post-acute facility; and
- **Coordinated care interventions:** Providing high-intensity care management for patients at greatest risk of hospitalization or utilization of other high cost resources.

Self-Management

The term **self-management** refers to interventions that will help patients take ownership of their health and are generally implemented to support specific chronic diseases, such as diabetes or congestive heart failure (CHF). A winning strategy for improved patient self-management of chronic disease involves engaging non-physician staff such as patient educators, nurses, pharmacists and community health workers to work closely with patients, identify barriers to change and create personalized action plans (more detail is included in **Chapter 4: Patient Engagement**). Examples of patient self-management include: connecting patients with online resources for disease management support; establishing patient support groups around specific diseases and conditions; scheduling visits with non-physician patient educators; putting a system in place to self-track important personal health indicators (e.g., weight, blood pressure, glucose, etc.); or holding workshops in community settings.[21]

BOX C: OPTIONS TO CONSIDER
Successful Care Management Programs

- Target the right patients: Not too sick and not too healthy
- Encourage in-person contact between care managers and patients
- Ensure that care managers receive real-time information about hospitalizations and discharges
- Establish close collaboration between care managers and PCPs
- Identify which services each patient needs most, and target interventions appropriately
- Invest in medication management
- Establish a robust transitional care plan for patients discharged from hospitals and SNFs.

Care Transitions

The transition from the acute care setting to the community setting has consistently proved a vulnerable time; this is a point where many patients experience medication errors, poor follow-up and exchange of information, and are at high risk for adverse events and readmissions.[22,23] One of the most comprehensive resources for those interested in improving care transitions is the Care Transitions Program.[24] This four week program is customized for patients being discharged from the hospital, and uses a care transitions coach to ensure that patient needs are being met as they transition from inpatient to outpatient care. A randomized controlled trial showed that patients receiving the intervention experienced lower readmission rates and mean hospital costs when compared with the control group.[25] For additional resources see **Appendix B**.

There are various models for how to implement a transitional care program. The first element is ensuring that you receive notifications when a patient is being discharged from the hospital or other acute setting (see **Chapter Three: Event Notifications**). The practice must institute a workflow to contact these patients within two business days, and put a care coordination workflow in place to ensure a successful transition. At a minimum, we recommend capturing the following information in the health record: date the beneficiary was discharged; date of interaction with beneficiary and/or caregiver; date of face-to-face visit; and complexity of the medical decision making (moderate or high).[26]

Medicare Transition Payments

Medicare provides reimbursement for care coordination upon discharge from acute care and other facilities. **Transitions of care codes** allow the clinic to be reimbursed for essential care coordination efforts that are not otherwise compensated under fee-for-service Medicare. Within the MSSP, these efforts can reduce patient risk of readmission. A total of two CPT codes (99495 and 99496) provide reimbursement for care coordination services following discharge from inpatient hospitalizations, observation stays, skilled nursing facilities or rehabilitation centers. To bill for transitions of care services, the following must occur:

- The patient must be contacted within two business days of discharge
- The patient must receive non-face-to-face services as appropriate such as reviewing discharge information, reviewing medications, providing patient education, setting up referrals, and scheduling an appointment with a primary care provider
- The patient must receive a face-to-face visit within 14 days
- If the patient is of high medical complexity and the visit is within seven days, code 99496 should be used; otherwise use 99495 for medium medical complexity

Best in Practice: Crystal Run Healthcare

A physician-led MSSP ACO in New York State, Crystal Run uses hospital-based care managers to coordinate discharge plans for high-risk patients. Those at highest risk of readmission receive a home visit from a nurse practitioner within 48 hours of hospital discharge. Other patients receive a phone call from a primary care manager to help ensure a smooth transition. Medicare patients are scheduled for primary care follow up within 7 to 14 days of discharge, and receive transitional care services for 30 days afterwards. Those with poorly controlled chronic disease or frequent inpatient visits are referred to complex care management services that extend beyond the 30 days.

Complex Care Management

The term **complex care management** is broadly defined as high-intensity care management for patients with high care utilization patterns. Typically practices will use nurse care managers to coordinate care for a specific panel of high-risk patients. Responsibilities may include assisting with medication adherence to arranging transportation for appointments. Often, an organization will hire nurse care managers and allow them to determine the best course of action. However, we advise that practices consider a number of factors that can enhance the success of a care management program, including:

- **Intensity of care:** Consider the level of care your patient requires: a low intensity program that covers a large population of patients may require just one remote care manager making phone calls and sending mass mailings. A more intensive "high touch" program would require that care managers meet in-person with patients, conduct home visits and develop strong relationships with patients.

- **Coordination between care managers and primary care providers:** Some care management programs are entirely telephonic and do not involve any time or resources on the part of the primary care clinic. Other programs involve closer communication between a care manager and a patient's primary physician. It is important to strike a balance between encouraging close collaboration between care manager and primary care provider, and demanding too much time from primary care providers.

- **Training background of care managers:** The skillset of your care managers must meet the needs of your patients. For high-intensity care management which involves a great deal of communication with the patients and providers, having RN care managers will ensure that they have adequate clinical training to best meet the complex patient needs. Other patients may benefit more from social workers who can help connect patients with community resources, such as rides to clinic appointments, housing and food subsidies, and mental health services. Patients with difficulties adhering to medication plans may be best paired with a pharmacist. Medical assistants can also be particularly effective at performing defined tasks such as patient intake and health risk assessments.

- **Location of care managers:** Depending on the organization, co-locating care managers in primary care practices can help care managers establish relationships with patients and providers, and enable better communication. Additionally, embedding care managers in the ED can be a very effective means of improving coordination between the primary care practice and the hospital, and may help prevent unnecessary ED and hospital visits. Embedding care managers in the hospital or post-acute facility can have a similar effect. Another option is to have "mobile" care managers who will go where they are needed most; this could involve visiting patients at home, in the hospital, or meeting them in the clinic.

Examples of Successful Complex Care Management

Prior to the creation of the Pioneer ACO Program and the Medicare Shared Savings Program, Medicare initiated the Coordinated Care Demonstration Program (2002), and the Care Management for High-Cost Beneficiaries Program (2005). These programs were among the earliest care management initiatives to be formally studied, and resulted in several published evaluations.[27,28]

- **Washington University:** Washington University in St. Louis implemented a care management program and initially experienced a 12 percent cost increase. However, the program then underwent a redesign: care management moved from telephone-based contact from a call center in California to local care managers in St. Louis who made face-to-face contact with patients. Care management focused on the patients at greatest risk of hospitalization, and incorporated more care transition services and emphasized medication. Later results demonstrated a 12 percent reduction in hospitalizations, and a reduction in Medicare spending by $217 per member per month (compared to the program's cost of $151 per month).[29]

- **Massachusetts General Hospital:** The hospital's care management demonstration project reduced the mortality rate in those patients receiving care management and demonstrated a return on investment of $2.65, in which Medicare saved $2.65 in health spending for every dollar invested in the MGH Care Management Program. Analysis of the MGH program found two critical success factors:[30] Clinical leadership and senior management were fully committed to the success of this program, and everyone worked together to ensure that it was able to succeed. Second, care was provided in an integrated system where patients get almost all their care through the same hospital system. All notes are electronic, so all providers (including care managers) can see each other's notes. In addition, the care

management functionality in the EHR helped alert providers across the continuum of care which patients had a care manager and how to get in touch with that care manager.

- **Health Quality Partners:** The program at Health Quality Partners in Pennsylvania, one of the most successful that has been studied, employs a community-based care management model with patients enrolled across 90 different medical practices and four counties in eastern Pennsylvania. The program was extended by Medicare after its original termination date due to the success at both improving quality and reducing costs for a complex patient population. Results include a reduction in hospitalizations by 33 percent and reduced Medicare Part A and B expenditures on the highest-risk cohort by up to 30 percent.[31]

Metrics for tracking care management

ACOs can expect to receive cost and utilization data at regular intervals, but such reports are rarely frequent enough for rapid internal process improvement. Those practices interested in care management success will want to track their own metrics on a weekly basis. Information regarding patient hospitalizations and ED visits can offer critical insights. Additional metrics may include:

- Percentage of patients with telephone contact within 48 hours of hospital discharge
- Percentage of patients seen by a primary care provider within seven days of hospital discharge
- Percentage of patients identified as high risk with a documented care plan in an electronic format
- Achievement of particular ACO quality metrics
- Disease measures, such as improvements in diabetes or asthma control
- Readmission rates by diagnoses in intervals of 30, 90 and 180 days
- Volume managed by patient risk per care manager
- High-level metrics like bed days/1000 patients

There is a significant opportunity to optimize new technologies to deliver more effective care management. Unfortunately, most EHRs were not designed for this functionality and depending on which EHR you use, it may take some significant customization. A helpful 2012 report from the National Quality Forum identified a set of data elements that could be used as a starting point for IT documentation of care coordination (additional resources and tools are listed in **Appendix B**).[32] Ultimately, each organization must determine how best to measure and track care management work, but integrating data systems so that all providers and staff can share a common IT platform with seamless information transfer will be the key to successful care coordination efforts.

Intensive Interventions for Specific Patient Population Segments

It is well known that a one-size fits-all care management approach does not always work effectively. Patient segmentation approaches enable an ACO to identify subsets of patients that will benefit from targeted care management interventions.

Home Care

While many patients with acute illness require hospitalization because of the acuity of their conditions, a large number of patients are admitted to hospitals nationwide because the diagnostic testing and medical interventions they require are often difficult to provide in the outpatient setting. However, some ACOs are rethinking the model of hospital care to shift more acute care to the outpatient setting. For example, Heartland Health in St. Joseph, Missouri is one of only four MSSP programs nationally that elected to take two-sided risk. One of the unique programs that Heartland Health has implemented is a hospital-at-home program in which patients with congestive heart failure, COPD exacerbations, or skin infections who would normally be admitted to a hospital can instead be treated at home where they are visited multiple times daily by skilled nurse practitioners who can administer IV medications, provide supplemental oxygen and perform lab draws. This program is allowing Heartland Health to reduce both ED visits and hospital admissions while providing care in a place that is more comfortable and convenient for the patient. In addition, home care can

be combined with remote monitoring for chronic disease patients. One analysis of multiple hospital-at-home programs demonstrated that for carefully selected patients, this model is safe, effective, and lower in cost when compared to inpatient admission.[33]

For those with less acute needs, there are numerous physician groups implementing house call models in which a physician or nurse practitioner visits home-bound patients. If patients are chosen selectively, such interventions can potentially reduce ED visits and hospital admissions. For example, Essen House Calls (affiliated with Balance MSSP ACO) serves a predominantly low-income patient population in New York City, and their home visit program provides both primary care as well as transitional care for patients recently discharged from the hospital.

Geriatric Care, Palliative Care and End of Life Care

Numerous studies have shown that elderly and frail patients benefit from targeted therapies. Establishing a geriatrics program within an ACO can help elderly patients get better quality care, and also help reduce hospitalizations and readmissions. Those interested in setting up such a program should look at the Geriatric Resources for Assessment and Care of Elders (GRACE) model. In a randomized controlled trial of low-income elderly patients, the model demonstrated a reduction in ED visits, hospitalizations and readmissions by using in-home assessments and care plans.[34,35]

Multiple studies have shown that patients with advanced or complex chronic disease can achieve significant benefit from early involvement of palliative care; these demonstrations have also resulted in significant cost savings. For example, a 2007 study of in-home palliative care found increased patient satisfaction with care, and decreased costs by 33 percent when compared with a control group receiving usual care. More recent studies of in-hospital palliative care programs have shown average savings of $4,000 to $5,000 per hospitalization when palliative care is included.[36,37]

Population health, data analytics and care management have not been traditionally reimbursed under fee-for-service payment structures. As mentioned earlier, Medicare now has care transition CPT codes, as well as Medicare Wellness Visits (CPT G0438 and G0439), which represent an opportunity to perform health risk assessments and address some population health measures. Medicare also recently announced a proposed rule to reimburse providers for performing chronic care management. As of this writing, the rule is expected to be finalized by November 2014, and payments could start as early as January 2015.

IV.   Recommendations

Start by defining an intervention: We recommend first identifying how you hope to best support and manage high-risk patients before choosing a risk-stratification method. For example, if your goal is to perform intensive care management on patients at risk for hospital readmission because of poorly managed chronic conditions, then you can tailor the analytics to select this population. While this may seem counterintuitive, working backwards will help ensure that you are selecting the patients most likely to benefit.

Use the analytic tools that are most accessible: If your population health vendor has set up an integrated predictive modeling platform that integrates all of your claims and EHR data, then go ahead and use that tool. If not, consider building a list of costly patients over the past year; or look at your utilization data and identify patients with over two hospitalizations or ED visits in the past 6 months. You can also consider using the free or low-cost risk-stratification methods mentioned in **Box B: Options to Consider**.

Combine your raw analytics with clinical intuition: Providers can be critical in identifying high-risk patients, including those who do not show up for appointments, live alone, are unsteady on their feet, or have other psychosocial comorbidities. We recommend giving providers a list of patients generated by an analytic approach and have them help to refine the list based on their personal insights and interactions.

Take advantage of patient-reported data: Patients should be encouraged to share personal information that can better inform a course of treatment or care management. Consider using tools like the Patient Activation Measure (PAM), or building a set of custom measures.

Invest in coordinated care transitions: Creating a standardized workflow for smooth care transitions is essential to reducing avoidable readmissions. Successful care transition programs will include receiving notifications of patient discharges from hospitals and post-acute care facilities, and ensuring that patients are contacted within two days to reconcile medications, referrals, and provide necessary patient outreach.

Use intensive care management thoughtfully: Care managers are integral to the process and they must be deployed effectively. Choosing patients who already have strong support networks and dedicated caregivers may prevent you from realizing significant benefits from an intervention, or could marginalize patients who need care management the most.

Set up your care management to promote meaningful relationships: Care managers should be in a position to develop strong relationships with their patients. Locating care managers in the practice can make it feasible for care managers to meet with patients during regularly scheduled visits, and may also improve communication with providers. Alternatively, care managers can also conduct home visits, hospital visits or even post-acute facility visits.

Use information technology to promote care management success: Spend time with IT staff to devise a system for care managers to easily communicate with other health providers including primary care, hospitalists, ED physicians, home health nurses, and others. Additionally, prominently displaying in your EHR that a patient is part of a care management program can help ensure that even if the patient sees a new provider, the clinician will be able to quickly identify the patient as high risk and be able to easily make contact with the patient's care manager.

CHAPTER 2
Creating a High-Value Network
James Colbert

A major source of waste and inefficiency throughout the U.S. health care system has been the lack of coordination among its various players: primary care providers, clinicians, specialists, hospitals, home health services and skilled nursing facilities. For most primary care providers, a fee-for-service payment model does not provide the incentives or support to warrant investment in non-reimbursed activities, such as care coordination or care that the patient receives outside their practice.

However, in an ACO model—this changes. Providers are now responsible for care occurring outside their practice, including diagnostic tests, secondary referrals, length of stay in skilled nursing facilities and home visits from a physical therapist. While primary care services represent only 6 to 7 percent of total Medicare spending for any given patient,[38] primary care physicians indirectly control a much larger percentage of Medicare spending through their numerous care decisions.[39,40] ACOs that can coordinate and organize care across settings will be well-positioned to improve health and reduce costs.

A robust primary care infrastructure is fundamental to the establishment of a high-value network outside the primary care clinic. Perhaps the most formalized approach to advanced primary care is the **patient-centered medical home (PCMH).** The PCMH is defined as a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety. It has become a widely accepted model for how primary care should be organized and delivered throughout the health care system.[41,42] A number of resources are available for ACOs seeking to strengthen their primary care infrastructure,[43] however, our goal in this chapter is to focus on the care that patients receive beyond the walls of the primary care practice.

I.   Challenges and Aligning Incentives

Specialty care is much more expensive than primary care, and visits to specialists comprise a growing amount of spending for Medicare beneficiaries. Between 1999 and 2009 the number of patient visits resulting in a referral to another physician increased by 159 percent nationally.[44] Access to specialty care is critical for many patients and effective access to specialists is an essential part of any ACO's strategy. Yet, for many patients, more specialty referrals and poorly-coordinated referrals lead to greater fragmentation of care and worse outcomes.

The literature has demonstrated that a number of barriers exist in achieving effective communication and coordination. Primary care physicians inconsistently send specialists the data they need to efficiently conduct a consultation visit, while specialists are not consistent about ensuring that consult notes are seen by primary care providers. One study found that 54 percent of primary care providers were dissatisfied with the timeliness of the information they received from specialists about a consultation.[45] Specialists may choose to send patients to see another provider without informing the primary care provider, and they may be unaware of the specialist visit until communicated by the patient in a follow up visit much later.[46,47,48]

There exist numerous physician-led ACO organizational structures regarding primary care and specialty services. Some ACOs include only primary care physicians, some are multispecialty groups, and some include specialists as equal partners in shared savings. Others include specialist partners that use a common IT or health information exchange platform, or they may receive large numbers of referrals, but are not included in the ACO and do not receive shared savings. While choosing preferred referral partners can improve quality of care for patients, it is important to remember that Medicare ACOs are not managed care plans; patients retain access to their fee-for-service benefits and are free to receive care from any Medicare provider.

Understanding Existing Referral Patterns

The first step in crafting a high-value referral network is to understand the referral patterns of your ACO providers, as well as actual patient utilization patterns. Physician-led ACOs that are comprised of multiple provider organizations should start by mapping common referral relationships. Defining and mapping the network of providers caring for your ACO's patients will help answer two important questions: which specialists do our primary care providers use for referrals; and which specialists do our patients visit via self-referrals? (possibly without even informing their PCPs of the visits).

Surprisingly, this information is not commonly known or documented within most organizations, but will help define the network of providers and caregivers for patients attributed to the ACO. Once this information is established, it can help providers more actively manage the referral process, improve coordination of care and increase the value provided by all clinicians caring for patients belonging to the ACO. Further, since fee-for-service Medicare does not obligate the patient to obtain a primary care referral prior to visiting a specialist, the primary care provider will be frequently unaware of self-referrals or "downstream referrals" from one specialist to another.

> *Defining and mapping the network of providers caring for your patients will help answer two important questions: Which specialists do our primary care providers use for referrals? Which specialists do our patients visit via self-referrals?*

By knowing which specialists and specialty groups are caring for your patients, you can begin to assess their practice patterns. This can provide critical insights about their history of providing guideline-concordant care and how they communicate with primary care providers. For high-performing specialists, the establishment of care coordination agreements, or compacts, can help formalize the coordination of care between primary care and specialty providers (these providers can be designated by the ACO as "preferred providers"). Similarly, primary care practices can choose *not* to refer patients to specialists that do not follow specified communication or utilization patterns.

One opportunity to reduce the number of referrals from primary care to specialists is to perform an analysis of referral patterns for individual primary care providers stratified by episodes of care, and then look for opportunities to reduce referrals. For example, through an analysis of either EHR, or claims data, one could identify patients with a new diagnosis of low back pain who were referred to an orthopedic or spine surgeon, and then group the data by primary care provider. Such an analysis is likely to show a wide distribution in referral rates, even among providers in the same practice. This represents an opportunity to discuss best referral practices among providers, and hone in on those providers demonstrating poor referral patterns.

Sources of Information

Surveying clinicians: Asking clinicians about their current referral patterns can provide a look at which specialists are interacting with ACO patients, even before claims data are available. One option would be to ask primary care providers to list their top three cardiologists used for patient consultations; the same can be done for other specialties and will provide a sound starting point for understanding referral patterns.

Public use datasets: CMS has made available an open-source file of transactional frequencies between different fee-for-service Medicare providers. The raw data is available through CMS, and individual providers can be queried using the ProPublica Treatment Tracker. However, the data are somewhat dated, and more significantly, the data are aggregated at the provider level. Thus, one cannot query by episodes of care (e.g., of all patients referred to an orthopedic surgeon, how many had a spinal fusion performed?).

Claims-based analysis: Analysis of line-level claims data can provide an overall picture of the providers historically caring for your patients. For example, one can generate a list of the cardiologists who provided outpatient care to patients in the ACO over the past year. Further analysis can help identify the cardiologists who ordered the most expensive diagnostic tests or those who performed procedures in settings with costly facility fees. One can also trace utilization across episodes of care for individual patients. However, establishing the appropriateness or quality of the specialist's utilization is difficult with claims data alone.

Chart reviews: One of the best ways to fully understand failures of care coordination specifically around referrals is to review charts of patients who were referred to specialists, with a particular focus on patients where a problem is likely to exist. The "closing the referral loop" quality measure (NQF# 1335) (CMS75v1) specifically measures the proportion of the time that outgoing referrals were matched to incoming consult notes.[49] To get a more qualitative sense of communication and care coordination, one could pick 20 patients in a primary care practice with complex, chronic diseases that are known to be co-managed with specialists. Review of the medical record for these patients can reveal how often the consult note from the specialist is sent back to the PCP and integrated into the medical record. If specialty consult notes are not found in the medical record during chart review then there is an opportunity to improve care coordination between those providers. If specialty consult notes are found, one can look for evidence that the specialist and primary care provider are sharing clinical information, such as labs and medications.

Table 2: Metrics for Referral Tracking

METRIC	EXPLANATION
% referrals scheduled	After a PCP has identified that a patient should be seen by a specialist, what percentage of the time is the specialty appointment actually scheduled?
% referrals completed	What percent of requested referrals are completed? i.e., patient completes appointment with specialist
Wait time	How long does it take between the request for a referral and the appointment date?
Clinical question	How often does the requesting PCP provide a clinical question to the specialist that specifies the reason for consult?
Clinical Information	How often does the requesting PCP offer clinical information (e.g., past medical history, medication list, lab tests or diagnostics to specialty provider when requesting a new consultation?
Closing the loop	How many days after the consult does it take for the specialist consultation note to be received by the PCP and then integrated into the patient's medical record?
Quality of consult	Does the specialist consult note adequately address the clinical question as defined by the PCP who requested the referral? Does the specialist provide clear guidance regarding what clinical care (if any) will be needed for this patient's condition?
Defining responsibility for ongoing care	Whether it is clearly stated in the PCP-specialty communication who will be responsible for ongoing management of the condition for which the consult was requested.

II.   Establishing Care Coordination Compacts

Establishing agreements or "compacts" between primary care and specialty providers can help formalize the relationship between the primary care medical home and its 'neighbors,' such as specialists and other providers.[50] Since many ACO primary care practices are working within the PCMH model, the medical home neighbor concept establishes a framework for integrating all of a patient's care in a coordinated manner. Goals of the medical home neighbor concept include the following:

- Promoting bi-directional communication between primary care practices and specialists
- Promoting timely scheduling of referrals and availability of specialists for consultations
- Promoting the flow of patient care information between primary care and specialist
- Establishing responsibility for management or co-management of a patient's care
- Affirming the role of the PCMH as provider with ultimate responsibility for coordinating all care that each patient receives

Essential Components of a Care Compact

Benefits of such compacts to the ACO include improving communication across the care continuum, avoiding duplicative tests and procedures, and reducing unnecessary specialty consults. Instituting a care compact can improve communication and coordination between primary care and specialty providers and should routinely include the following components:

- Pre-consultation exchange
- Establish management protocols for common conditions
- Set clear expectations for communication
- Establish common goals

Pre-Consultation Exchange: This is an exchange of information between the primary care and specialty providers, which establishes the reason for the consultation and defines the expectations of both providers. In addition, the pre-consultation exchange helps determine whether or not a referral is necessary. A primary care physician would provide the following information to a specialist during a pre-consultation exchange:

- Reason for referral
- Timeframe for patient to be seen (urgent, routine)
- Clinical information (labs, imaging, medication list, problem list, etc.)
- Types of referrals:
    - Medical consultation with specific clinical question (one-time visit)
    - Consultation for a procedure
    - **Co-management with shared responsibility**: Primary care provider and specialist will share responsibility for managing this condition
    - **Co-management with principal responsibility:** Specialist will assume principal responsibility for this condition while primary care provider will continue to be responsible for all other elements of the patient's care

A specialist or subspecialist may indicate whether the referral was accepted and provide confirmation that patient was scheduled for the appointment. Reasons for not accepting a referral may include: primary care provider did not provide a specific clinical question; referral should be redirected to a different specialist/subspecialist; primary care provider did not provide enough clinical information; or the specialist thinks that the clinical question can be answered via phone call/email rather than face-to-face appointment.

Establish management protocols for common conditions: Protocols can help standardize which patients need referrals to specialists, and which patients can be managed by primary care providers. For example, a protocol for diabetes could outline general expectations for diabetes management, including which drugs to

use and which clinical "triggers" should result in a diabetic patient being referred to an endocrinologist. Such protocols can also help define what workup primary care physicians should perform *prior* to sending a patient to a specialist, and define how often patients with stable chronic conditions should get lab testing. Furthermore, clinical protocols can also establish general guidelines for co-management of conditions between specialists and primary care providers. Care protocols should ideally be developed in collaboration, so that both the primary care clinicians and the specialty clinicians are in agreement.

Set clear expectations for communication: Communication channels must remain open such that primary care and specialty providers can easily reach each other when they need to discuss shared patients. In addition, there should be an expectation that visit notes should be sent back to the primary care physician within two days of the visit. The primary care provider has a responsibility to maintain open communication with the specialist regarding updates on the patient's condition to prevent unnecessary specialty follow-up visits. For example, if a patient is referred to a neurologist for help with managing migraine headaches and then the headaches are well controlled over the following year, if the provider updates the neurologist that the patient is doing well, the neurologist may not need to see the patient again. However, when primary care providers do not provide ongoing communication with specialists, the specialists may have no update on a patient's condition without asking the patient back for an office visit.

Establish common goals: When initially presented with the concept of the medical home neighbor, some specialists may fear a loss of patient consultations and possibly revenue. However, patients may arrive better prepared with appropriate clinical questions and workup, which may lead to improvements in scheduling efficiencies. Many specialists are also beginning to take advantage of incentives, such as accountable care payments, bundled payments, and network tiering to support these referral changes. Other advantages include access to an EHR or HIE, registries and data reporting tools, thus allowing specialists access to provider quality and utilization report cards and care management activities.

BOX D: OPTIONS TO CONSIDER
How to Implement a Pre-Consultation Exchange

PAPER-BASED: Primary care physicians would complete a provider referral request form stating the reason for consultation, clinical question to be addressed, time frame for patient to be seen as well as all necessary clinical data for the specialist to review prior to the visit. This form is then sent to the specialist along with copies of relevant clinical information on the patient either via fax or email. Advantages of a paper-based pre-consultation exchange process are the ability to get started without significant IT implementation work and even without a shared electronic health record or HIE between providers.

ELECTRONIC: An electronic referral system is advantageous in that it allows for much more robust tracking of referrals. Numerous vendors offer products that can automate the referral process (and can even incorporate protocols such that referrals can only be sent if the patient meets pre-specified clinical criteria). Electronic referral implementation projects have shown great success in reducing wait times for patients to be seen by specialists as well as reducing the number of inappropriate referrals.

How to Operationalize a Referral Request

There are numerous options available regarding how to set up and schedule a referral once it has been determined by a PCP that a patient should be seen by a specialist. Options include:

- **Creating a centralized referral request process for all ACO patients:** The ACO could hire dedicated staff members to coordinate referrals across all primary care practices and specialty providers, or use an electronic referral request system that generates a standardized referral request process.

- **Leverage existing workflows:** Practice assistants, medical assistants or other office staff can be used to help coordinate referrals at the individual practice level. This has the advantage of using practice workflows that already exist, but might also weaken centralized referral tracking capabilities.

Identifying High-Value Providers Using Narrow and Tiered Networks

Insurance companies have been sorting providers based on utilization patterns for years. Recently, they have been offering products with narrow networks and tiered networks, indicating that certain providers are higher-value than others. Unfortunately, payers rarely indicate the metrics they use to stratify providers, causing concern that preferred providers are those with whom the payer has negotiated the best reimbursement contracts (rather than those who deliver the highest quality care).

Alternatively, if an ACO can partner with a payer to analyze quality and utilization data, it may be possible to identify specialists that achieve high-quality outcomes without ordering as many tests as their peers. This approach has been used by Blue Cross Blue Shield of Massachusetts as part of its Alternative Quality Contract ACO shared savings program.[51] Specific diagnosis-related groups were identified for which multiple treatment options were available, each with approximately equal clinical effectiveness, but where one option was more expensive than the other. One example was use of ARB versus ACE-inhibitor medication for treatment of hypertension. Using claims data, BCBSM was able to generate lists of providers stratified by practice, as well as the percentage of times they ordered one test or procedure versus another. After presenting these data to provider groups, they saw significant positive impact in providers changing their behavior to reduce utilization of lower-value tests and treatments.

Those interested in doing similar analyses, could certainly integrate clinical data with claims data to run similar queries. However, if you want to identify specific practice patterns of specialty providers outside of the ACO using only claims data, it will be difficult adjusting for case-mix without the clinical data. One option is to partner with commercial payers and specialty groups that are already seeing a large percentage of an ACO's patients to work together and analyze provider practice variation in the interest of quality improvement – and potentially shared savings through the commercial payer.

Quick Tip: Metrics for Identifying High-Value Specialists

- Quality scores (risk-stratified)
- Cost per diagnosis code (risk-stratified)
- Cost per procedure (risk-stratified)
- Quality and timeliness of communication

III.   Post-Acute Care

Another element of crafting a high-value network is to think strategically about the post-acute care that ACO patients are receiving. The cost of post-acute care is high, and reducing unnecessary post-acute patient days provides opportunities for significant savings.[52] Many physician-led outpatient provider groups have traditionally felt that they do not control the post-acute care their patients receive. Since hospitals generally have their own care managers that determine where patients will be discharged to SNFs, there is often very little communication between the facility and a patient's primary care provider.

Opportunities to exert more control of post-acute care include having care managers visit patients in the hospital to help determine their post-acute care needs. In addition, care managers or clinical staff members can visit patients in post-acute facilities to ensure that they are receiving necessary care and to effectively manage their length of stay. Another option is to choose post-acute facilities that already care for significant portions of the ACO's patients, and then develop joint coordination of care agreements. Such arrangements could include setting up automatic notifications of all patients admitted and discharged; expectations

regarding post-acute follow up care; and establishing regular communication regarding any changes in the patient's medical condition or medications. Such an agreement could be modelled on the care compacts that have been established between primary care providers and specialists. While promising shared savings to post-acute facilities may not be feasible, other incentives include working together to reduce readmission rates, providing clinical expertise to the facility, and communicating with patients about the value of these partners and the potential for improving care.

Strategies for Managing Post-Acute Care

Understand the ACO's current post-acute utilization patterns: It is important to look at claims data to find out which SNFs and rehab facilities patients are visiting, and focus particularly on length of stay and readmissions to identify opportunities for improvement.

Learn more about the post-acute facilities your patients are using: It may be helpful to look at data from Medicare's Nursing Home Compare, ProPublica's Nursing Home Inspect, and other publically available data. Ask your clinicians, nurses and care managers about which nursing homes they had positive experiences with, and identify which ones communicate updates regularly with clinic staff. Finally, ask patients about their experiences at post-acute facilities.

Craft partnerships with select post-acute facilities: Based on the data you collect, select some facilities to be partners with the ACO. Then steps can be taken to set up processes to ensure bidirectional flow of clinical information with these facilities. You might also consider having clinical staff visit patients while they are in these facilities, and working collaboratively with staff at the post-acute facilities to implement programs to reduce hospital readmissions, track patient outcomes and improve quality of care.

Best in Practice: Summit Medical Group

Summit Medical Group has invested a significant amount of resources in improving care coordination for patients being discharged from the hospital to a post-acute facility. The provider group employs a patient advocate that visits patients in the hospital and provides information about partner post-acute facilities. Once patients are discharged to these facilities, they are visited by a nurse practitioner who keeps the PCMH care team up to date on the patient's progress as well as helps arrange for a safe transition back home when the patient is ready for discharge.

Home Care

Visiting nurse and other home services can provide essential care to patients living at home who need additional assistance with both medical and personal needs. Not only can these services help patients better manage their chronic conditions and improve medication compliance, but they also allow patients to remain in their homes rather than living in long-term care facilities. Yet, home care services are expensive, and may represent millions of dollars in Medicare spending for an ACO. Identifying which patients need such services and which do not need them can allow an ACO to reduce unnecessary utilization.

A significant driver of home nursing over-utilization is the fact that hospitals have very low thresholds for setting patients up with home services upon discharge. In a fee-for-service landscape, the hospital will often set up every qualifying patient with a home nurse. While many patients will benefit from a visiting nurse, for some high-functioning patients, the visiting nurse is not necessary. Conversely, some patients may need more intensive or specialized home health services (for more information see **Chapter 4).**

Best in Practice: Palm Beach ACO

Palm Beach ACO reduced home care expenses for its Medicare patients by asking visiting nurses to come in person to the clinic to obtain authorization for home services. This allowed the primary care provider to meet directly with the home nurse, the patients and their families, such that they were able to have conversations about how patients were doing at home. These meetings helped close the loop such that primary care providers and home nurses could directly communicate and also helped ensure that patients living at home received the most appropriate services for the correct duration of time.

IV.   Recommendations

Understand existing referral patterns: The first step in crafting a high-value referral network is to understand the current referral patterns of your ACO providers, and how your ACO patients are utilizing resources. For example, do you know which providers outside of the ACO are caring for your ACO's patients? These data can be obtained through chart reviews, clinician surveys, claims analysis, or public use datasets, and can inform more active management of referrals and care coordination.

Reduce unnecessary referrals: In a fee-for-service model there is no financial incentive to think twice before sending a patient to see a specialist for even minor medical issues. Sharing individual referral variation data with primary care physicians and establishing care protocols for common conditions can help reduce referrals for conditions that can be managed effectively in a primary care setting. Primary care providers can also obtain the training to manage certain conditions that are often referred to specialists.

Improve the coordination of care between your primary care and specialty providers: Providers that are aligned and working together in a medical home or medical neighborhood model can help provide a framework for improved care coordination and increased efficiency. Elements of this model include pre-consultation information exchange, co-management agreements, and shared expectations regarding communication between providers.

Avoid unnecessary facility fees: Medicare reimbursements for many procedures are significantly higher when these tests are performed in a hospital setting, due to the additional facility fee. Identifying imaging centers and endoscopy centers that are not affiliated with hospitals, and do not charge a facility fee for many of these relatively routine services could result in significant savings.

Identify and partner with cost-conscious specialists and ancillary care providers: Identifying providers that are more likely to adhere to clinical guidelines and use resources wisely can be challenging, but a robust analytics team should be able to achieve a rough sense of the differences between specialty providers by digging in to claims data. Another option is to ask providers which specialists they think are resource-effective and establish partnerships with those physicians.

Bring specialists into your ACO: This will enable specialists to participate in shared savings and incentivize them to work more collaboratively with your primary care physicians. For high-demand specialists such as cardiology, psychiatry, dermatology and endocrinology, one could consider even embedding the specialist within the primary care practice.

Build partnerships with long-term and post-acute care facilities: Many physician-led outpatient provider groups have felt they do not control the LTPAC care their patients receive. However, opportunities now exist for ACOs to form partnerships with these facilities to reduce hospital readmissions and ensure that transitions are better coordinated with primary care providers.

CHAPTER 3

Using Event Notifications

James Colbert, Mark Monterastelli, Joshua Seidman

As most physician-led ACOs operate independently of hospital systems, usually with separate health IT platforms, receiving notice of acute patient events requires adoption of additional IT solutions. While most of this information is reported in claims data, building and producing such reports can take months. To be effective, ACOs need timely and actionable data. A recent study found that 30 percent of primary care providers were unaware that their patients had even been admitted to the hospital,[53] and only 41 percent of US hospitals are able to exchange secure electronic messages containing patient health information.[54]

Additionally, recent data show that 48 percent of US hospitals routinely notify primary care providers when patients present to the emergency department, but only 24 percent of hospitals notify primary care providers outside of the hospital system.[55] Yet, while interoperability of clinical data between health care organizations can be technically challenging, the language used for admissions, discharges and transfers is nearly universal; thus offering an opportunity for ACOs to tap into these data streams and gain real-time knowledge of where patients are getting acute care.

Real-time notifications can support an ACO's efforts to take timely actions that reduce avoidable readmissions and ED visits. For example, by receiving a notification of a patient's ED visits, a member of the primary care team can coordinate with the ED physician and put an outpatient treatment plan in place. Notifications can also encourage early collaboration between the inpatient and outpatient care teams and improved discharge planning. This chapter will present strategies and recommendations for physician-led ACOs seeking to implement or improve their notification processes, and provide a broad overview of the current landscape for **health information exchange.**

I.   Four Steps to Support Implementation of Event Notifications

1. Data Connections: Event notification relies on the ability of multiple systems to communicate with each other. Simply identifying that an ACO patient has been admitted to the hospital is not useful unless this information can be relayed effectively from the hospital to the ACO. Eventually, adoption of national standards will help systems achieve interoperability and greatly reduce the costs to link together multiple systems.

2. Event Detection: Once data connections have been established, notification systems can begin detecting events. A notification system should be able to detect two types of events: (1) trigger events and (2) timer or gap events. A trigger event is a response to an action that occurs for a patient, such as a patient being registered in the emergency department. The most common trigger events are changes in patient status or location (such as admission to the hospital or transfer from the operating room to the intensive care unit). These events can be detected by monitoring data connections to other organizations or regional HIEs. A timer event notification will detect when something expected to happen did not occur. For example, when a patient is referred to a specialist but fails to schedule a consult or a patient fails to pick up a prescription.

3. Decision Support: Notification systems must have a way to apply decision support rules for clinical, financial and business data to create high value notifications. Ensuring that notifications are clinically useful and actionable can help reduce the risk of developing "alert fatigue." The application of rules is how an event notification becomes of true value and effectiveness.

4. Patient Intervention: Finally, the notification alert should create an opportunity for intervention in the care pathway of each patient. Every notification that is sent should pass an "actionability" test. This ensures that notifications are actionable such that the receiver can take the information received in the notification

and respond with an action that will ultimately benefit the patient. If notifications are not clinically actionable, the alerting system will not contribute to patient care and will likely not be used.

II.   Getting Set Up to Send and Receive Notifications

There are several key issues that must be addressed to set up an effective event notification system. Selecting a notification system will ultimately depend on the technical infrastructure of the ACO, as well as hospitals and other facilities. Areas with a robust HIE infrastructure may offer ready access to real-time, automated notification systems. ACOs will need to position themselves strategically for advances in HIE that may be on the horizon.

Understanding the Architecture of Patient Notifications

ACOs can start with the hospitals most frequently visited by their patients and look at opportunities to automate data exchange. Some regions in the United States such as Indiana and Maryland have high-functioning HIEs that can serve as data intermediaries between outpatient and inpatient providers. If such an exchange exists in your region, then your ACO will need to provide a list of patients and providers to the HIE. Hospitals connected to the HIE will send alerts with patient admissions, discharges and transfers. These alerts will be matched against the list of patients and providers that were provided by the ACO, and when a match occurs, the ACO will receive a notification from the HIE. If your region does not have an HIE with the capability to connect an ACO with local hospitals, you will need to establish individual connections between the ACO and each hospital.

Patient Registries

An ACO must also ensure that its **patient registry** is up-to-date and complete. An incomplete patient registry could result in failed attempts to match a patient between clinical systems. Registries also need to have accurate listings for primary care providers and other clinicians. The key to a successful patient registry is the maintaining a master patient index, which employs rules to avoid duplication of patient entries, and can be used to match patients across different sites of care.[56]

An event notification system must be able to reach all the members of a care team. Even ACOs that have most of their clinical systems integrated or have a universal system, certain care team members may not be authenticated into a communication system that interacts with the ACO. This is especially difficult for newly formed ACOs that inherit disparate EHR systems, and face an expensive integration endeavor. An effective event notification system should include the entire care team and work across boundaries of different financial and clinical systems.

Methods of Event Detection

Once data are organized, and connections with individual hospitals or an HIE have been established, an ACO should be ready to send and receive notifications. This section of the chapter describes some of the basic tools for data exchange and provides examples of different types of event detection processes.

Data Exchange: Most clinical systems communicate by exchanging data as messages using the standard format from HL7. There are four primary types of HL7 messages that communicate categories of health information: Patient Administration (ADT), Orders (ORM), Results (ORU) and Charges (DFT). The ADT message transmits information about an admission, discharge or transfer of the patient in the healthcare system.

BOX E: OPTIONS TO CONSIDER
Getting Your Data House in Order

Clean up your patient registry: All patients in your ACO should be assigned to a care team. Patient demographic data will need to be up-to-date (birthdate, address and contact information). Patients should have updated lists of medical problems, medications, allergies and social history. The more information your registry includes, the more useful it will be once a notification system is enabled.

Update your provider directory: All clinicians that interact with patients and are members of a care team need to be listed in a provider directory. Contact information for each of these providers should include both immediate and secondary points of contact (email, mail).

Invest in your EHR: An EHR that is able to send and receive CCD data and is compliant with Meaningful Use Stage 2 can enhance an event notification system. Without such capabilities, the EHR may not be able to connect directly to your notification system.

Establish notification rules and workflows: It is important to distinguish which notifications should be sent to which clinicians. Not every notification needs to be sent to a physician, and some notifications are less urgent than others. By establishing the workflows ahead of time, you can help your clinical staff respond to notifications in the most appropriate and efficient manner.

Although HL7 messages are not explicitly designed to be event triggers, they can, by inference, be effectively used to detect changes in patient status and location. Furthermore, the near common usage of ADT messages in health care settings offers an available and inexpensive method for surveillance of your patients' movement through the healthcare system.

Quick Tip: Types of ADT Events

- ED admission
- Inpatient admission
- Transfer within hospital
- ED discharge
- Inpatient discharge

Other mechanisms exist for transmitting relevant notification data, such as administrative data that need to be exchanged for the purpose of confirming each patient's insurance eligibility. These "270/271" eligibility checks can include basic clinical data as well. Additionally, claims data from insurers provide notification (long after the fact) of hospital visits, procedures and other clinical events.

Using HIEs to Detect Admissions, Discharges and Transfers

Although HIE historically refers to an entity – a centralized organization with a product or service for sharing structured data – it's probably more useful at this point to view HIE as an activity; the act of sharing health information. Mechanisms for HIE now include the Direct Project (also known simply as "Direct") that provides a set of standards, policies and services that enable simple, secure transport of health information between authorized care providers. Specifically, Direct supports the pushing of specific sets of information—summary care records, referrals, discharge summaries and other clinical documents—from one entity to another, to improve continuity of care.

In an increasing number of regions, sufficient HIE infrastructure exists to obtain event notifications through HIE HL7 feeds. Some states, such as Maryland and Indiana, have universal (or nearly complete) hospital participation in a single HIE, thus facilitating an event notification system for any entry into a hospital (inpatient or ER) and discharge home or transfer to another facility such as a SNF or rehab.

Best in Practice: Maryland Health Information Exchange

One of the biggest challenges in creating CRISP, Maryland's health information exchange, was how to identify individual patients who receive care from multiple providers and hospitals, each using a different medical record number. CRISP sought a solution that was highly scalable and sought to ensure zero-tolerance policy for "false positive" patient matches while also enabling a near-zero tolerance for false negative patient matches. CRISP ultimately chose to use an algorithm that assigns weights to various sources of patient information. For example, points are assigned for matching first name, last name, address, phone number, date of birth and medical record number. Partial points are assigned for partial matches (i.e. misspelled name or transposed dates). The algorithm is thus able to uniquely identify each individual, either creating a new identity (if the individual is "new" to the HIE) or associating the individual with an existing entry in the master patient index.

Some HIEs have successfully created a master patient index list against which the ACO can assess its attributed lives. The ACO needs to submit its active patient roster to the HIE with adequate demographic information to allow for patient matching. For every patient admitted to an ED or hospital, the institution identifies via an automated check whether the patient is attached to that ACO by a primary care physician or referring doctor. For each identified patient, the institution sends a message via an HL7 message, thus notifying the ACO in real time of an acute event for one of its patients.

Eligibility Checks

Additional options for event notification data feeds are possible irrespective of regional HIE infrastructure. Because every admission to an ER, hospital or other facility requires that institution to check the patient's insurance coverage, ACOs can leverage eligibility transactions to learn of their patients' acute events.

Whenever a patient registers at a facility, that institution sends a message to the insurer through an electronic data interchange (EDI) standard for health care eligibility benefit. This HIPAA Eligibility Transaction System (HETS) 270 application is the query, and a 271 is the response. In addition to the standard benefit eligibility data fields, the 270 and 271 messages can embed other free-text field information, up to a specific character limitation, regarding the patient's diagnosis or other critical clinical information. In some cases, payers have used 271 responses to inform the admitting facilities of gaps in care to guide testing and treatment decisions.

Building your own Connections When HIE is Not Available

One possibility is to create your own HIE. For an ACO in a rural or suburban area with only a handful of hospitals, it would be possible to establish ADT feeds directly from each of these hospitals to the ACO. Such connections could even be established such that they interface with your EHR. Numerous vendors can help facilitate this process. Alternatively, a much less elegant solution would be to form care coordination agreements with local hospitals, where they agree to send your ACO a daily list of hospitalized patients. Finally, meaningful use incentives have encouraged hospitals to improve their communication with primary care practices, through the use of notifications and clinical summary documents.

Establishing Data Feeds from Long-Term and Post-Acute Facilities

Obtaining electronic data feeds from long-term and post-acute care facilities is challenging because they often have less mature clinical data infrastructure; however, new SNF data capture initiatives are beginning to emerge. In eastern Massachusetts, ACOs can now access ADT-like data feeds from more than 100 SNFs, hospitals and other providers. In many cases, Massachusetts SNFs do not actually produce an automated ADT message, but provide access to a portal that can offer the SNF an opportunity to quickly enter information that can be routed back to the ACO. Although this does require manual data entry, it typically involves only a few patients per day and allows ACOs to collaborate with SNFs to better manage length of stay.

## Quick Tip: The Ideal Event Notification System

- Respond to patient events across the clinical spectrum: hospital admissions and discharges; pharmacy encounters; and missed clinic appointments.
- Employ a secure communication platform where information can be safely transferred between providers.
- Utilize decision rules to ensure notifications are high value and avoid "alert fatigue."
- Always include an opportunity for the receiver to take action. Avoid "FYI" notifications.
- Allow for bi-directional communication of clinical data.
- Employ a provider directory.
- Adopt best practices of orchestration, thus allowing the receivers of alerts to forward messages to other members of a care team manually if special issues arise.

LTPAC remains one of the most promising opportunities for reducing unnecessary care. Full reimbursement exists for Medicare beneficiaries until the 21st day of a SNF stay, meaning that those facilities have little incentive to efficiently move patients toward timely discharge. At approximately $500 per day, this opportunity represents thousands of dollars of potential savings to the ACO.

Decision Support Rules

The application of rules or conditions is critical to ensure that event notifications have high value. A rules-based event notification system avoids "alert fatigue" because users trust the rules of the system to only send important notifications. The use of a decision tree can ensure that event notifications are directed to the appropriate clinicians, and helps automate basic decision-making. Decision trees can be used to categorize your patients into more granular populations, such as identifying all current pregnant patients. Event notification about an admission for labor and delivery is likely to be treated with different urgency than admission for a heart failure exacerbation.

Figure 4: Simple Notification Decision Tree for Hospital Discharge Alerts
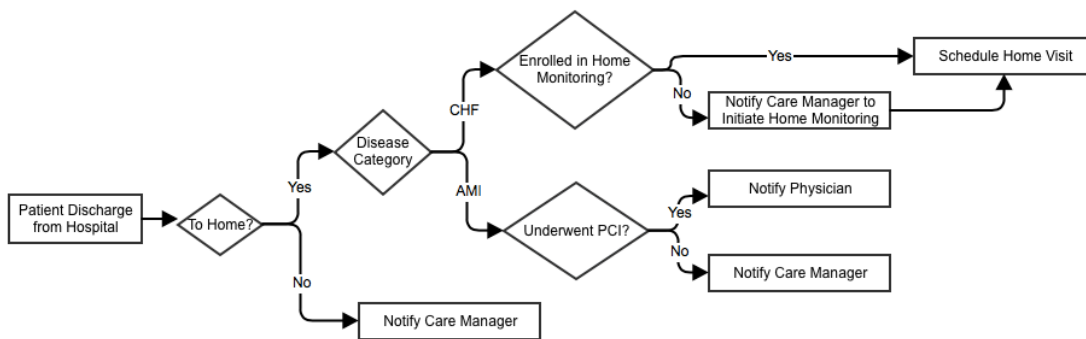
Application of Predictive Analytics to Event Notification

The event notification system should also leverage predictive analytics. A predictive model uses data about the patient to assess the likelihood of a future outcome. For example, a predictive model would estimate the likelihood that a patient will be readmitted to the hospital after discharge; using predictive scores in your notification system can help send more valuable notifications. There are many opportunities to use risk stratification and data analysis to identify which patient events should trigger certain notifications. By integrating multiple data sources including the EHR, claims data, and CCD data, one can build powerful tools.

For example, using **readmission risk calculators** on inpatient populations can help predict those who may need additional services following discharge. Patients with risk scores above a certain threshold can trigger a discharge alert notification to a high-risk transitional care manager, who can then ensure that the patient receives necessary support after discharge. Further, **high-risk medication alerts** can help manage patients

with medications such as blood thinners or narcotics. Using analytics can help determine which patients with prescriptions for these high risk medications will need additional monitoring, and which patients will likely be able to manage on their own.

III.   Types of Notification Methods

Choosing the appropriate communication channel will make a key difference between an effective workflow and one that is cumbersome for clinicians and physicians. Below is a description of communication options.

Email: Email can be an effective notification method, but must be used carefully if not secure. No Protected Health Information (PHI) should ever be included in an email, either in the message or as an attachment unless the email is secure and encrypted. The security of email can be increased when used in tandem with a portal. Such a system will require that the user click a link to a portal to authenticate and be able to read PHI.

Direct Project: Another mechanism for notifications is the Direct Project (also known simply as "Direct") that provides a set of standards, policies and services that enable simple, secure transport of health information between authorized care providers. Direct is essentially a secure email system. Establishing a secure connection between two end users is not always easy. However, once the first trusted connection is made, Direct can be used to send all types of PHI – such as summary care records, referrals, discharge summaries and other clinical documents – from one entity (e.g., provider, consumer, etc.) to another to improve continuity of care. In addition, most EHRs now have the ability to accept these messages and put them into a clinical "inbox" for providers to easily access.

Secure Text Message: The market for mobile apps that allow for secure messaging is moving fast and several new products are coming on the market to address this need. The advantage is that the messaging can be very timely as most everyone has a smart phone. When implemented securely, this can allow clinicians and care managers to receive text notifications that include PHI. This emerging capability can especially help nurses and care managers who provide home visits and are not based in a physical office.

Fax: Finally, it is important not to ignore the fax machine. This exchange technology will continue to be with us and is still the most ubiquitous secure method available. Your event notification system should be able to talk to fax machines when necessary.

Table 3: Advantages and Disadvantages of Notification Methods

SOURCE	ADVANTAGES	DISADVANTAGES
Email	Widely available	Cannot send PHI
"Direct"	Email like messaging that can include PHI in the message and attachments	Difficult to deploy. May require intermediary networks to first establish trust with each other, or the message will not reach recipient
Secure Text Message	Leverage the high availability of smart phones. Very urgent and timely notifications.	Sometimes limited on sending attachments, requires a vendor that supports installation of apps on all smart phone platforms
EHR Alert	Secure and reads like an email	Only available to care team members who can authenticate to your EHR
Fax	Widely available	Data is not structured or machine readable

Frequency of Notifications

In addition to choosing a method of receiving notification alerts, an ACO must also consider how often it transmits alerts.

Real-time: Real-time notifications may not be the most practical approach, and are most helpful for select patients that have been identified as high-risk, or are monitored by a care manager. For these patients, a real-time ED visit alert could encourage intervention by a member of the patient's care team to enact an outpatient follow-up plan that could avoid a hospital admission

Once or twice daily: For most admission and discharge alerts, once or twice daily is a manageable frequency with which to receive notifications and fit the information into a clinical workflow. When alerts are sent from an HIE once or twice daily, they will generally appear to clinical staff as patient lists that can then be managed according to protocols depending on the type of notification and patient characteristics.

Weekly or monthly: For events that do not require prompt intervention, these notifications could be bundled in weekly or monthly installments. Such infrequent alerts would be most appropriate for purposes of updating patient registry information or quality reporting.

IV.   Interventions

Receipt of an event notification should trigger an intervention or response, such as scheduling an appointment or arranging transportation or setting up a home visit. Ideally, the physician-led ACO will set up protocols outlining who will receive the notification, what possible actions they should perform, and how to deal with special circumstances. Furthermore, it is important to address escalation and proxy rules early in the design of the intervention protocol. Escalations are necessary when the recipient of a notification is unable to take action because he or she may not have proper authorization, expertise or capacity to address the clinical situation. ACOs must establish a method to escalate the notification to the proper person to ensure that actions defined by the protocol are completed. Impersonation rules handle cases when receivers are unavailable due to vacation, illness or job change. An impersonation mechanism allows for an equally authorized and qualified person to receive event notifications on behalf of someone for a short period of time without an expensive re-tooling of the notification system.

A. Emergency Department Visits

Numerous opportunities exist to utilize real-time notifications of emergency department visits to improve care for ACO patients.

Automatic transfer of patient medical records: When ACO patients visit a non-affiliated hospital, the ED staff may not have access to important patient health information. Some organizations, such as Reliant Medical Group, are working to set up automated systems where the ED receives relevant clinical data for all patients with a primary care provider in the network. Receipt of such information by the ED can prevent hospital admission.

Care Manager Alert: An ACO patient being followed by a care manager who visits an emergency department could then trigger an email or secure text message to the care manager allowing for the opportunity to either visit the patient in the ED or to communicate by phone with the ED staff. In many instances, reassurance that a patient is being followed closely by a complex care management program and can be seen by a PCP the following day may help prevent an admission for a low-acuity problem.

Primary Care Physician Alert: Notifying the primary care physician in real-time would be helpful for complex patients for whom the primary care doctor may need to transmit essential information to the emergency department staff.

High Risk Patient Alert: High quality population health efforts rely on integrating multiple data sources to help organizations identify patients at high risk for high health care utilization who would benefit from additional interventions. Claims data are often used to identify high utilizers, but real-time ED visit notification would allow for more immediate risk stratification.

B. Hospital Admission

Once a patient has been admitted to the hospital, notifying the primary care practice provides an opportunity to ensure close collaboration between the inpatient and outpatient teams and allows for discharge planning beginning on day one, thus offering the possibility of shortening the hospital admission.

Automatic transfer of patient medical records: Once the patient is admitted, a bidirectional information exchange can ensure that the hospitalist and other inpatient providers receive all necessary outpatient records that would be relevant to the patient's care.

Care Manager Alert: Notification can allow the outpatient care manager to work collaboratively with the inpatient care management team to arrange the safest possible discharge for high-risk patients.

Primary Care Physician Alert: Direct communication between primary care providers and inpatient providers is essential for high-quality healthcare. Receipt of an email or EHR notification allows the PCP to contact the inpatient team and provide relevant information as well as to ensure that the PCP is aware of the admission.

High Risk Patient Alert: Notifications of inpatient hospitalizations can contribute to risk stratification algorithms and identification of patients at high-risk of repeat admission or other poor outcomes.

C. Hospital Discharge

Discharge notifications are most useful for transitional care planning. To receive a transition of care payment from Medicare, a patient must be contacted by a member of his or her primary care office within 48 hours of discharge. Primary care clinics that do not receive discharge notification alerts will not be able to contact patients promptly and may miss out on receiving transitional care payments from Medicare.

We suggest setting up an automated notification system such that when an ACO patient is discharged from the hospital, an alert will be sent to the ACO transitional care team who can contact the patient to check on how he or she is feeling, schedule timely follow-up, and perform medication reconciliation. Through decision support rules, complex care managers should receive notification of the highest risk patients who may need additional services such as a home visit.

D. Transfer to Post-Acute Facilities

Awareness that a patient has been transferred to a skilled nursing facility or rehab can ensure that the primary care staff stays updated on the patient's condition, and that the post-acute facility providers have all of the clinical information that they need to optimally care for the patient. In addition, close communication between patients, PCPs, care managers, and post-acute facilities may lead to shortened lengths of stay and ACO savings.

E. Using Notifications for Quality Metrics and Population Health

Provider organizations are constantly monitoring quality measures such as HEDIS scores, Meaningful Use measures, HCAPS and other indicators of the quality of care and patient outcomes. Within the Medicare Shared Savings Program, 33 quality metrics must be reported to CMS. To improve patient outcomes and quality scores, an ACO could set up notifications that respond to many of the 33 ACO metrics. For example, an admission for COPD or heart failure could trigger an alert to a clinician who can review whether the admission was preventable and can help set up a plan to avoid hospitalization for that patient in the future. Hypertension and diabetes notifications could be set up both from your own EHR as well as from hospitals within your network to alert providers or care managers of patients whose blood pressure or glucose are not optimally controlled.

V.   Recommendations

Certainly the data environment of each ACO is unique and the capabilities for health data exchange depend on regional infrastructure which will influence the ability to identify and address patient events in real time. However, there are baseline strategies that all physician-led ACOs can pursue.

Get your data house in order: A chief advantage for physician-led ACOs is that providers already have ready access to clinical data on their patient populations. Ensuring that you are making meaningful use of existing EHRs will provide the necessary foundation from which you can pull key elements of population health. Fundamental information about patient problems, medications, tests, demographics and vital signs are the building blocks from which all other data feeds can expand. Creating master patient indexes with care team relationships defined is also necessary.

Leverage existing relationships: Take advantage of state-wide or regional health information exchange (HIE) capabilities where they exist. However, if sufficient HIE infrastructure does not exist, an ACO can begin working with local hospitals and long-term and post-acute care (LTPAC) facilities to get notification data, such as ADT feeds. Many ACOs already have strong relationships with hospitals and LTPAC providers based on their historical admitting, rounding, teaching and collaboration. For many physician-led ACOs, one or two hospitals may constitute a majority of the acute events for their attributed patients. Building care management processes and protocols can lay the groundwork for more comprehensive event notification management in the future.

Build notification processes into the existing clinical workflow: Utilizing existing workflows can ensure that the right ACO staff member gets to the right patient in the most efficient manner. Successful workflows will allow clinical staff the opportunity to act in real time as patients experience acute events.

Utilize decision support rules: The application of decision support rules helps direct notifications to the right person in your organization and can automate some of the initial decision-making. Rules can ensure that care managers and providers receive the most important notifications in real time while less urgent alerts can be batched and sent daily.

Ensure that notification alerts lead to clinical intervention: Receipt of an event notification should trigger an intervention or response. Examples include scheduling an appointment, arranging transportation or setting up a home visit. The event notification system should bring to the provider all the information needed to effectively carry out such an intervention. Ideally, the ACO will set up protocols outlining who will receive the notification, what possible actions they should perform, and how to deal with special circumstances.

Promote HIE and data exchange outside your ACO: Work within your community to advance HIE more broadly. The barriers to robust HIE in most communities are not technical, so developing collaborative relationships, building mutual trust, and establishing governance frameworks for data sharing will serve physician-led ACOs well in the near future.

CHAPTER 4

Engaging Patients
James Colbert, Joshua Seidman

Effective patient engagement is essential for the success of physician-led ACOs. In the context of an ACO, engagement can transpire on multiple levels. First, there is engagement of patients in managing their health and caring for their medical conditions. Second, there is engagement of patients and their families with the clinicians and the staff who provide them with care. Finally, patients, families, and community members must be engaged and aligned with the overall governance and goals of the health organization and the ACO.

Medicare assigns beneficiaries to an MSSP based on clinical visits. Thus, an ACO must identify and reach out to all Medicare beneficiaries that CMS has defined as "attributed lives." Once identified, the ACO needs to create mechanisms to help those patients feel connected to the physicians and/or other clinical team members if special relationships do not yet exist. Once such bonds exist, the ACO can initiate a process of collaborative care to manage and improve health. The ACO is making an investment in the attributed beneficiaries assigned by CMS, and if the ACO does not effectively engage once-attributed patients and they seek care from other providers, the patients will no longer be attributed to the ACO. Such attribution loss represents a poor return on investment for the ACO.

An emerging body of data reinforces the value of patient engagement in population health management. More than 90 peer-reviewed studies have explored the relationship between levels of patient activation and a variety of patient outcomes using the Patient Activation Measure (PAM). A recent paper describes a continuum of engagement from consultation to involvement to partnership, with each step asking patients and families to contribute more and thus play a more central role in the decision making process.[57] This framework is applied not just to direct patient care, but also has relevance for clinical leadership, organizational design, and policy proposals.

Patient Engagement and ACO Performance Metrics

ACOs participating in MSSP must perform well on 33 quality measures, and some measures are more directly linked to engagement than others, particularly the patient/caregiver experience measures (ACO 1-7). The ACO's ability to provide access, communicate well, effectively educate and engage in shared decision making all involve patient engagement. Providing patients with an online portal and access to secure messaging with their clinicians will substantially improve performance on ACO 1-3, 5 and 6. Expanding hours for normal visits and same-day appointments for urgent care can improve performance on ACO 1. Prescribing patient-specific education resources alongside patient instructions, after-visit summaries and other information will improve performance on ACO 2, 3, 5 and 6. Offering access to a health coach or care manager, likely will lead to better performance on ACO 2, 3, 5 and 7.

In addition to the patient experience measures, as noted above, significant evidence exists to suggest that successful patient engagement has an impact on several other MSSP performance measures. In some cases, these effects are more indirect than others. For example, vast experience of those using Eric Coleman's Care Transitions Model (or similar approaches) suggests that patient engagement is a prerequisite to reducing readmissions (ACO 8).[58] The same likely holds true for reducing ambulatory-sensitive admissions for conditions that depend on patient recognition of, and action with respect to, new symptoms, such as asthma, COPD and heart failure (ACO 9, 10).

Engaged patients who partner with their care team in chronic disease management will see significant improvements in clinical outcomes through improvements in medication adherence, lifestyle and behavioral changes, and close monitoring by the care team. Many of these outcomes are MSSP measures, such as control of HbA1c, LDL, blood pressure and tobacco use among at-risk populations (ACO 22, 23, 24, 25, 27, 28,

29, 32). Appropriate use of indicated medications (ACO 26, 30) is dependent on patients being informed and engaged in their care. Measures related to prevention – such as vaccinations and screenings (ACO 14-21) can also be linked to patient engagement, as successful preventive care depends on educating patients on the importance and value of receiving these beneficial services.

Patient Engagement and Lower Costs of Care

Research has demonstrated that patients with higher levels of engagement and 'activation' incur lower health care costs and health spending. [59,60] Additional research demonstrates that engaging patients in the consideration of treatment options for preference-sensitive conditions can reduce both unnecessary and unwanted utilization.[61] Similarly, involving patients and families in discharge planning from a hospital can help ensure that patients who want to return home rather than go to a skilled nursing facility are set up with appropriate home services, often at lower cost. An opportunity also exists in end of life planning, where research has shown that patients often desire less care at the end of their life, but many receive aggressive ICU care because of ineffective advance care planning.

Figure 5: A Conceptual Framework for ACO Patient Engagement

	TYPE OF ENGAGEMENT	EXAMPLES
Step 1	Building connections with attributed ACO patients	• Online patient portals • Medicare Wellness visits
Step 2	Forming a partnership between the patient, primary care provider, and other members of the care team to achieve better health outcomes	• Shared decision making • Collaborative end-of-life planning
Step 3	Engaging patients with the goals and objectives of the ACO	• Participate in an ACO patient-family advisory council • Participate in a task force to improve patient satisfaction

I.   Building Connections with Attributed ACO Patients

Patient engagement for an ACO must begin with education such that patients can understand the purpose and benefits of an ACO. From there, further engagement can focus on disease management, strengthening the relationship between patients and their care team as well as involving patients in ACO strategic planning.

Many patients may be confused or skeptical about what they might otherwise infer about accountable care and health costs. Studies have shown that patients are reluctant to discuss costs with their providers, as many patients believe that more expensive care equates with better care, and are thus hesitant to make personal medical decisions based on cost.[62] For example, patients may care about the overall cost of health care when it comes to others, but when it comes to their own care, the perception is that they often want everything done – and that means MRIs for back pain and antibiotics for viral infections – treatments that are not recommended using evidence-based guidelines.

Efforts to educate patients about Medicare ACO benefits must take account of CMS' strict regulation of patient outreach materials. For example, upon entering a Medicare Shared Savings ACO, all patients receive a standardized letter from CMS indicating their provider's ACO participation and allowing patients to opt out of sharing claims data. Yet, many patients report that they do not remember receiving the letter, or they didn't understand the letter. While Medicare does provide an informational FAQ brochure for patients, CMS must review any additional promotional or marketing materials.

How are Beneficiaries Assigned to a Medicare Shared Savings ACO?

Step 1: The first step assigns a beneficiary to an ACO if the beneficiary receives the plurality of his or her primary care services from primary care physicians within the ACO. Primary care physicians are defined as those with one of four specialty designations: internal medicine, general practice, family practice, and geriatric medicine; or for services furnished in a federally qualified health center (FQHC) or rural health clinic (RHC), a physician included in the attestation provided by the ACO as part of its application.

Step 2: The second step only considers beneficiaries who do not receive primary care services from any primary care physician either inside or outside the ACO. Under this second step, a beneficiary is assigned to an ACO if the beneficiary receives a plurality of his or her primary care services from specialist physicians and certain non-physician practitioners (nurse practitioners, clinical nurse specialists, and physician assistants) within the ACO.

Strengthening the Connection with ACO Patients

The MSSP attribution process generates a list of fee-for-service Medicare beneficiaries who have been assigned to a particular ACO. On this list may be patients with a longstanding primary care relationship with the ACO as well as patients for whom there is no existing primary care relationship. If beneficiaries have not had an ongoing primary care relationship with a primary care physician (PCP) in the geographic area in which they now live, they may end up being attributed to an ACO because of an isolated specialty or urgent care visit. Yet, whether or not the patient is an existing patient or is new to the practice, relationship-building can help ensure that patients will stick with the ACO. Below we outline a number of strategies to support patient engagement.

Invest in outreach methods that can "touch" all patients, not just the complex. Much ACO energy is invested in caring for the sickest and medically complex patients who need more frequent visits by clinic staff and benefit more from additional services such as appointments with a social worker or pharmacist. But ACOs care for large numbers of patients who are generally healthy and may only visit the clinic once a year or less. The opportunity of forging a connection of comparatively healthy patients to the ACO has the potential benefit of keeping them satisfied with the practice, and thus, remaining "attributed" over time without consuming extensive clinical resources.

Determine each patient's preferred method of communication. People have different preferences for how they receive information, sometimes depending on the information type. Understanding whether each patient wants to communicate with the practice via phone, mail, email, secure patient portal, or text message is the first step in ensuring that important messages can be delivered in a timely way—in both directions.

Use every visit, phone call or email as an opportunity to create a special relationship. Think about how patients are greeted when they walk into the clinic. Does the waiting room look welcoming? If the clinic staff make patients feel wanted, then they are certainly more likely to come back and recommend the practice to others as well. Similarly, patient complaints are an opportunity to engage staff around opportunities to improve patient experience and engagement.

Schedule beneficiaries for a Medicare wellness visit. These billable visits are without cost to patients and allow the ACO to collect health risk assessment information from patients that can allow them to receive more targeted care. In addition, the visit can help the ACO meet quality measures on prevention, medication usage and management of specific chronic diseases. The Medicare wellness visit also has the side benefit of providing the ACO with a billable visit that is reimbursed by Medicare.

Proactively schedule patient visits. Complex patients with chronic disease should be seen in the office four times yearly. At checkout, make sure to schedule the next office visit before the patient leaves the clinic. Those with chronic disease who haven't been seen in 5 months should be called at home and scheduled for a visit.

Connect with patients while they are hospitalized or in a SNF. Even though primary treatment decisions for these patients are made by a hospitalist or SNF physician, patients want to hear from their PCP's office when they are inpatients. A brief phone call or social visit can ensure that the patient knows that the PCP is aware of their medical condition and wants to hear from them. These check-ins can also help ensure that patients are scheduled for transitional care visits within 7 days of hospital or SNF discharge.

Consider distributing ACO cards or other materials. Give attributed patients a card that they can carry in their wallet which lists their affiliation with the ACO as well as contact information about their primary care clinic. When patients present to a hospital or ED they can present this card to help facilitate better care coordination. Make sure to submit your cards to CMS for approval prior to implementation.

Get patients involved in ACO decision-making. Allow patients an opportunity to have their voices heard through participation in quality improvement initiatives, focus groups, and patient advisory councils. Allow patients multiple channels for voicing their opinions, with comment boxes in the clinic, and an email inbox devoted specifically to patient and family concerns.

Importance of Access

Despite rapid access to health information on the internet, patients still value the personal connections they have with their doctors. A recent survey by the Pew Internet Project found that personal physicians are the most trusted source of health information for patients.[63] This trust can enable a physician-led ACO to engage with patients in ways that larger hospital systems and health plans may not be able to achieve. However, to best capitalize on this relationship, organizations must ensure that patients are able to communicate easily with their providers and have the ability to be seen promptly for urgent conditions.

It is also important to remember that patients typically view the doctor's office (and all the staff associated with it) as an extension of the individual physician. That means the entire team must share the same philosophy around service tailored to individual patients. It also presents a great opportunity to create a far greater amount of personalized attention from the primary care physician unit without necessarily increasing the time demands on the doctors themselves.

ACOs should think about "access" as referring both to access to people and access to information. With regard to the former, it is important for patients to be able to get into see their clinicians in a timely way. Ensuring same-day sick appointments, evening and weekend office hours, and reasonable timeliness for scheduling follow-up visits provides a good starting point. Convenient access also means designing clinical workflows such that they are more patient-centered. Rather than closing the clinic for 2 hours for lunch, instead consider scheduling visits during the middle of the day so patients with full time jobs can see their physician during their own lunch break.

In addition, clinics should consider alternative means of patient-provider communication that go beyond the traditional office visit. Don Berwick, founder of the Institute for Healthcare Improvement, has estimated that 50 to 80 percent of all office visits could be replaced with remote consultation (via phone, patient portal or other technology) without any harm to clinical care.[64] Many studies have demonstrated patient demand for using electronic means of communication.[65] Creating more efficient mechanisms to communicate with patients not only vastly improves the experience for those patients, it also frees up valuable physician office time for the kind of in-clinic access described above.

Patient Portals and Electronic Communication

Access to information can be accomplished by leveraging capabilities now required for meaningful use of EHRs. For Stage 2 Meaningful Use, a certified EHR must include several key capabilities that will help provide convenient access to people and information:

- Ability to view, download and transmit information in a structured format;
- Secure email between patient and provider;
- After-visit summaries (which are critical, as studies have shown that patients retain only 50% of the information communicated by the doctor in the office, and half of what is remembered may be incorrect);
- Patient reminders for both preventive and follow-up care; and
- Patient-specific education resources. (Compliant EHRs will be able to automatically compile links to patient educational materials based on data and diagnoses entered into the medical record by providers).

ACOs must find ways to integrate these tools into their clinical workflow so that they simply become some of the vehicles by which they help to manage care for their patients. Larger delivery systems that have made process investments in building electronic tools into clinical workflow have realized substantial gains in stickiness. ACOs can begin by implementing simple clinical workflow process changes such as signing patients up automatically for a patient portal when they check-in for a clinic visit. Practices could provide a computer at the checkout desk where staff can point out key features of the patient portal, such as prescription refills, lab results, or secure messaging.

Finally, electronic engagement will vary dramatically within the MSSP population. The "younger" seniors likely will have higher rates of portal use than older patients. ACOs should remember that their target for electronic engagement is not limited to the individual Medicare beneficiary but also includes the circle of caregivers that may surround the patient. In many cases, older seniors have substantial assistance in managing their health and personal information by spouses and children, and the latter group is not only highly likely to be using the web but often doing so geographically remotely, creating additional value in electronic access to providers and patient health information.

Engaging Families and Caregivers

Oftentimes, the key to patient engagement is through families and caregivers. Elderly patients are especially dependent on others for much of their care. First, an ACO must be sure to collect data on patient ability to perform activities of daily living (ADLs), and if a patient does not perform ADLs herself to list the contact information for the caregiver who does. Other sources of information that are vital to track include:

- How does the patient get to and from clinic appointments?
- How does the patient fill prescriptions and manage daily medication administration?
- Does the patient live alone?
- Who is the health care proxy for the patient?
- What other family members and caregivers are involved in the patient's care?

Once the ACO has the relevant information about who is involved in caring for each patient, the process of engaging the patient in disease self-management and collaborative care planning can proceed. Particular issues to be aware of include making sure that caregivers and involved family members can access the online portal on behalf of the patient and being sure to invite the appropriate family members and caregivers to participate in all important health care discussions.

Medicare Wellness Visits

Medicare provides primary care clinicians with reimbursement for annual wellness visits. Unlike a routine annual check-up, the Medicare Wellness visit does not include a physical exam, nor does it necessarily have

to be performed by a physician. Instead, the Wellness visit is an opportunity for a primary care practice to connect with patients and perform important health maintenance such as health risk assessments for depression and fall risk as well as to do medication reconciliation. Medicare Wellness visits are reimbursed as billable visits by CMS with no patient co-pay.

While Medicare Wellness Visits do contribute to the overall costs of care for ACO patients, the cost of a wellness visit could be more than rewarded with the valuable information gained from health risk assessments, accurate diagnosis coding and the opportunity to create stronger relationships with ACO patients. CMS has announced in its proposed Medicare fee changes for 2015 is the ability to perform these visits via telehealth. Having non-physician providers conduct health assessments over the telephone would be more convenient for patients and would free up office space for those patients in need of a face-to-face visit. Telemedicine Wellness visits would therefore allow physicians to devote a higher percentage of office visit time to seeing patients with complex and chronic disease. For now, telehealth visits are currently restricted to those in health professional shortage areas as well as those residing outside of designated metropolitan statistical areas.

Measure Patient Activation

The Patient Activation Measure (PAM) is a rigorously developed, psychometrically sound and statistically powerful instrument for quantifying how actively engaged patients are in managing their health.[66] The measure has been proven to be valid and reliable across different languages, cultures, demographic groups and health statuses. More activated patients have better outcomes and care experiences, and interventions that tailor support to individuals' level of activation and build skills and confidence, are effective in increasing activation.[67,] Research has also demonstrated that substantial opportunity exists to raise activation levels among unengaged patients. ACOs can use the PAM (or other tools) for three purposes related to patient engagement:

1. Tailor interventions based on information gathered about what the biggest activation needs are for individual patients.
2. Measure in very rapid evaluation cycles how well ACOs and their individual clinics or providers are doing in improving patient engagement in quantifiable ways.
3. Finally, the tool can be used as an outcome measure, perhaps for practices who are looking for new internal payment models that rely on measures that will drive overall performance on efficiency and MSSP performance measures.

BOX F: OPTIONS TO CONSIDER
Create Your Own Patient Survey

If you do not want to use a proprietary instrument, one option for getting started with measuring patient engagement is to simply put together a simple questionnaire to ask patients when they come in for a visit. Questions could include:

- Do you prepare for medical appointments by writing a list of questions for your doctor?
- Do you search the internet for information about your health?
- Do you use your clinic's electronic health portal?
- Do you take notes during clinic visits to help you remember what the doctor said?
- Do you communicate with your doctor or other staff members in between visits?
- Can you name all of your medications and doses? Or do you have an up-to-date list of your medications that you keep with you?

II.   Create a Personalized Care Plan for each Patient

Engaging patients in their care requires collaborative discussion regarding patient-specific goals and preferences. This means disregarding assumptions by providers about what would be "best" but instead

asking the patient what care and treatment goals they have. For someone with rheumatoid arthritis, this may be measured by whether or not she can comfortably take her morning walk. For an elderly patient, this may mean maximizing days at home and minimizing visits to the hospital or clinic. By expecting all patients to desire maximum clinical intervention for maximal life extension, clinicians will project their own preferences onto patients who may have very different goals. Care plans can be created for (and with) all patients, but are particularly important for those with complex, chronic disease or advanced illness. As these populations utilize many health care services, a care plan can help to optimize and coordinate all of the individual components of health delivery including outpatient care, inpatient care, post-acute care, and home care.

A great advantage of physician-led ACOs and their personal connections and close proximity to their patients is that they have an opportunity to collect patient-reported data and use it to engage patients more personally, understand patients' clinical and social needs, and better comprehend their patients' health and outcomes. Many of the above tactics relate to collection of patient-reported data – for purposes of shared decision making, improvements in patient activation, and others – but ACOs can start off with simple and/or free interventions as well. Collecting basic health risk assessment (HRA) data, home biometric (e.g., blood pressure or blood sugar) data, or even basic symptom reporting (e.g., for patients with asthma, COPD, heart failure, etc.) can provide a good launching point for personal discussions with patients about their health goals.

Benefits of Shared Decision Making

Even as the evidence base for medical treatments has exploded, tremendous variation continues in part because many treatments have virtual equipoise from an evidence standpoint, meaning that treatment decisions should be driven by patients' own values and preferences. This shared decision making approach is a more efficient way to practice medicine and better meets patient needs. ACOs can identify a series of high-priority conditions, tests or procedures which lend themselves well to shared decision-making interventions.

After selecting an initial clinical issue to pursue, the ACO can work with practices in building decision aids into the clinical workflow. For example, the practice could set up an algorithm that would prescribe a decision aid to any patient whose EHR lists low back pain in the problem list and indicates a referral to an orthopedic surgeon. A simple demographic algorithm could be established for any male over 50 years old to receive a decision aid regarding whether to get a prostate screening.

The practice should also consider changes to workflow inside the clinic and with follow-up by care managers to ensure appropriate and timely opportunity for patients to discuss questions with their physicians or other clinical staff. Ideally, in addition to tracking impact on usage of tests and procedures, ACOs would deploy some standardized instrument for measuring the impact on patients.[68]

End of Life Care Planning

Much has been written about the work of the Dartmouth Health Atlas which documented large geographic variations in the amount of care that patients receive during their last six months of life.[69] Further research has shown that these variations do not correlate with quality of care, nor do they correlate with regional differences in patient preferences.[70],[71] Providers infrequently ask patients their goals of care when they are well, and often it is left to family members in an acute care setting to make difficult decisions about what types of interventions to provide for a loved one. In many instances, patients who would have preferred comfort over duration of life end up in intensive care units attached to ventilators because of lack of adequate advance care planning. While many politicized the earlier legislation that included advance care planning in federal health reform as the imposition of "death panels" by hospitals, the fact is that physicians are currently providing more end-of-life care than many patients desire.[72] Integrating advance care planning, palliative care, and hospice into an ACO can result in greater numbers of patients receiving the care that they desire at the end of life – which for many means more time at home and less time in a hospital. Furthermore, a growing body of literature now shows that patients with terminal illness who are treated by palliative care

providers have higher quality of life and lower healthcare costs without any reduction in survival when compared with patients treated with usual care.[73,74]

To start off, primary care offices can create workflows to ensure that advance directives are addressed in a systematic manner for all patients. Keeping track of end of life care plans within the ACO's patient registry is an important first step. Once patients are identified who do not have advance directives, clinics should perform outreach to those patients and their families. In addition, statewide registries of medical orders for life sustaining treatment (MOLST) can be accessed to ensure that patient wishes are carried out no matter which site of care they visit in the future. Many tools and resources are available to help guide end-of-life care conversations.

Use Tools from Behavioral Science to Motivate Patients to Change

Behavioral science is the study of the psychological, cognitive and emotional factors that influence human decision-making. While traditional economics assumes that humans make rational decisions, behavioral economists acknowledge that in the real world, decisions are often influenced by a myriad of other factors, both conscious and subconscious. Applied to health care, the field of behavioral economics offers insights into why patients often do not make decisions that in their personal long-term best interest. Physician-led ACOs can use lessons from behavioral science to help patients achieve long-term personal health goals such as weight-loss, diabetes management, and even coping with chronic pain. One strategy that has shown to be successful in helping patients to change behaviors is motivational interviewing. [75,76] This technique can help clinicians gauge a patient's readiness to make a behavioral change and then provides support to encourage the patient to follow through with a commitment to change. Besides motivational interviewing, other techniques to encourage patients to adopt healthy behavior include offering patients incentives to achieve pre-specified personal health goals and leveraging personal relationships to motivate change.

Improving the Success Rate of Patient Treatment Plans

When patients do not follow up on treatment plans, it is often a signal that the patient faces certain barriers to follow up, or has concerns about the plan. Both of these dynamics are often a signal that the plan was not created in genuine partnership with the patient, using strategies like care planning, goal setting, motivational interviewing or shared decision making, but rather was created for them and based on clinical goals, rather than goals that matter to the patient.

To track treatment plan adherence, ACOs can collect data directly from patients, or can consider the use of emerging technologies that leverage the growing information infrastructure. In some cases, tools now exist that can help ACOs better understand – some directly and some indirectly – their patients' ability and willingness to follow up on treatment plans. For example, some analytic tools offer mechanisms for organizing pharmacy data feeds to compare those medications that physicians electronically prescribe with those prescriptions that patients fill. The ACO could institute a follow-up strategy for any patient that has a medication treatment plan but who does not fill the prescription in a set number of days. Similarly, algorithms could be built to trigger alerts to care managers for overdue prescription refills that remain unfilled.

Patients who do not follow up to other agreed-upon treatment plans can also be identified and contacted. If a patient agrees during a clinic visit to schedule a mammogram on her way out at the exit desk but does not make that appointment, it provides an early signal that the patient has concerns or barriers that should have been discussed. In any of these instances of non-adherence, the outreach should begin with a member of the care team attempting to ascertain the reason. The "why" is important not only as a matter of personal autonomy but ultimately of providing better care management. If non-adherence results from inconvenience, the follow-up care management strategy should be fundamentally different than if, for example, there is a mismatch in expectations about the specific elements of the treatment plan.

III.   Involving Patients in ACO Governance

It is essential that patients have opportunities to participate in activities and decision-making at multiple levels of the organization. This means inviting patients and family members to participate in governance of individual clinics as well as the ACO as a whole. In fact, CMS requires that all ACOs have Medicare beneficiaries on the governing board. There are multiple strategies for patients to contribute their opinions and perspectives: having patient representatives on the ACO board, establishing a patient and family advisory council, and creating a task force with patient representatives to tackle a particular issue for the ACO.

Recruit patients to your ACO board: Including patients on the board of an ACO will ensure that the strategic leadership of the organization is patient-centric and represents the needs and desires of patients. This is especially important given that the board generally is composed of individuals with business and clinical backgrounds. Having patients participate in decisions about allocation of resources and financial strategy will ensure that the ACO is working to achieve what is best for its patients.

Launch a patient and family advisory council: A patient and family advisory council can serve multiple functions within an ACO: providing advice and opinions to organizational leaders, serving as a communication bridge between patients and staff, allowing the administration to better understand the needs and concerns of patients, and creating an opportunity for patients and family to participate in developing clinical programs and infrastructure. Choosing the right participants is essential as the council should not be a place for airing of individual grievances, nor is it a place for persons who only wish to discuss one specific topic. Membership terms should be long enough for consistency and sufficient turnover.

Create patient task forces: While an advisory council is a semi-permanent institution that is charged with weighing in on a broad range of topics, other opportunities exist for patients and families to get involved in decision-making around specific issues. For example, an ACO could form a task force to address deficiencies in patient satisfaction at a particular clinic. The task force should be composed of clinic staff, patients and families, and should meet over a specified period of time with a pre-defined objective.

IV.   Recommendations

Invest in outreach methods that reach all patients, not just the complex. The shared savings model typically incentivizes a significant amount of energy and resources for the most complex patients. However, ACOs should not ignore the large numbers of patients who require little to no care management and are generally in good health. Building a connection with these patients can improve patient satisfaction and increase retention while using health care resources wisely.

Determine each patient's preferred method of communication. Understanding how patients want to receive information (i.e., phone, mail, email, text) is the first step in ensuring that important messages can be delivered in a timely and user-friendly mode in both directions.

Schedule beneficiaries for a Medicare wellness visit. These billable visits are without cost to patients and allow the ACO to collect health risk assessment information from patients that can allow them to receive more targeted care. In addition, the visit can help the ACO meet quality measures on prevention, medication usage and management of specific chronic diseases. The Medicare wellness visit also has the side benefit of providing the ACO with a billable visit that is reimbursed by Medicare.

Connect with patients while they are hospitalized or in a skilled nursing facility. Even though primary treatment decisions for these patients are made by a hospitalist or SNF physician, patients want to hear from their primary care practice when they are inpatients. A brief phone call or drop-in visit can reassure patients that their provider is engaged and aware of their medical condition. At the same time, these check-ins can also help to facilitate transitional care support and avoid unnecessary hospital costs.

Work collaboratively with patients to achieve their care goals. Patient engagement that builds an environment of participatory medicine provides an opportunity to foster partnership between patients, families and clinicians. Providers can use tools such as shared decision-making, patient-activation measures, and behavioral science techniques to increase patient engagement in their own health goals.

Get patients involved in ACO decision-making. Allow patients an opportunity to have their voices heard through participation in quality improvement initiatives, focus groups, and patient advisory councils. Be sure to provide patients multiple channels for voicing their opinions, with comment boxes in the clinic, and an email inbox devoted specifically to patient and family concerns.

Part 2

CASE STUDIES IN ACCOUNTABLE CARE

Improving the Patient Referral Process
MESA COUNTY INDEPENDENT PHYSICIAN ASSOCIATION (COLORADO)

Mesa County IPA is a collection of primary care and specialty providers who manage approximately 40,000 patients in Western Colorado under a risk sharing arrangement with a commercial insurer. The IPA organization recently decided to focus on improving the referral process. Practices were motivated to participate through an incentive program with payments to physicians based on their participation.

First, the IPA leadership brought together PCPs and specialty physicians to discuss what an appropriate" or "ideal" referral would entail. From these focus groups, they came up with key features of an ideal referral and then created a standardized referral form based on these goals. Because the IPA has 20 different electronic medical record systems and each has its own built in work flow, each practice was asked to include certain standardized components to their existing referral workflow. Most would communicate by fax or paper communication. PCPs would need to make sure that the referrals were tracked and closed appropriately. Specialists were asked to schedule the appointment with patients and respond back to the PCP within 48 hours regarding whether the appointment had been scheduled.

The IPA ensured compliance by auditing participating practices to look at referral documentation, and receipt of physician incentive bonuses depended on passing the audit. Auditing criteria included the following:

For Primary Care:
Was a clinical question asked?
Was relevant supplementary data sent with the referral request?
Was recommended form of Co-Management requested?
Was patient aware of reason for referral?
Was No Show/Declined/Cancelled appointment logged and tracked?

For Specialty Care:
Was referral accepted/declined?
Was type of Co-Management outlined?
Was confirmation of receipt of referral and date of appointment sent?
Was clinical note sent to referring physician and cc'd to PCP?
Was the clinical question answered?
Was No Show/Declined/Cancelled appointment communicated back to referring physician?

Auditing revealed that 80 percent of PCPs and specialists had adopted the new referral guidelines. The financial incentive payment to those who passed the audit was modest, but an even more effective motivation seemed to be the desire of PCPs to receive clinical communications from specialists in a timely manner and the desire of specialists not to lose out on referrals if they did not participate. The organization is currently implementing a process for electronic consultation. They have an HIE that can move data bi-directionally and hope to use this platform for electronic referral communication. Other future steps include implementing a post-referral feedback process so that the PCPs and specialists can rate how the process is working both for specific patients as well as in the aggregate.

EXHIBIT A: PROVIDER REFERRAL REQUEST FORM FROM MESA COUNTY

	PROVIDER REFERRAL REQUEST FORM			
REFERRING TO	**Specialty:**	**Phone:**	**Fax:**	**Date:**
	Practice Name & Address:			
	Please Schedule (select all that apply): ☐ Urgent-- Referring physician called _____ ☐ Routine Appointment with Specific Physician listed:_____ ☐ First Available with any Physician			
	Referring Provider's Name:		**Phone:**	**Fax:**
	☐ Medical Consultation with treatment recommendations that primary care physician will continue to follow ☐ Procedural Consultation ☐Co-management: Assume principal care for this condition ☐ Co-management: I prefer to share the care for this condition		☐ Specialist to Specialist*–Secondary Referral *Send copy of this referral to patient's Primary Care Physician. ☐ Other (designate)_____ _____	
PATIENT	Patient Full Legal Name:			DOB
	If patient is under 18 years old – Parent Contact Name:			
	Preferred Phone:		Best time to call:	
	Special Patient Considerations:			
	Patient Insurance Information:			
	Patient's Primary Care Provider:		Phone:	Fax:
GENERAL	**Reason for Referral (*Clinical Question or Synopsis*):**			
	Comments/Considerations Related to Clinical Question: **Please include recent labs, pertinent imaging reports, medication list, problem list, allergies, and relevant clinical notes.**			
	Patient aware of reason for referral? ☐ Yes ☐ No: Explain			
	PROVIDER REFERRAL CONFIRMATION			
REFERRAL CONFIRMATION	**Referral Accepted?** ☐ Yes ☐ No: Explain			
	Appointment Scheduled with:		**Date & Time of Visit:**	
	Request for additional supporting clinical information (please detail):			
	☐ Patient prefers to contact specialist to schedule at a later date ☐ Patient declined appointment; Date:_____ Reason:_____ ☐ Patient cancelled appointment on _____ and rescheduled for _____ ☐ Patient cancelled appointment on _____ and did not wish to reschedule. ☐ Patient was NO SHOW for appointment on _____.			

Improving the Patient Referral Process
COMMONWEALTH ACO (PHOENIX, ARIZONA)

Commonwealth ACO is a physician-led ACO located in metropolitan Phoenix, Arizona comprising over 50 primary care practices with over 100 primary care physicians. The ACO has two shared savings contracts, a Medicare Advantage contract and a Medicare Shared Savings Program. The ACO decided early on that improving referral management would be key to its success. In order to do so while still retaining some degree of provider autonomy, the ACO decided to divide its primary care practices into teams, each consisting of approximately ten PCPs.

The provider teams select specialists to use as partners with an agreement that the specialists follow a set of expectations regarding appropriate communication, adhering to evidence-based practices, and not initiating a secondary referral without notifying the primary care practice. An electronic referral system allows the primary care practices to standardize the referral process for patients they send to those specialists who choose to participate. This electronic system allows the PCPs to easily send clinical information to specialists and also allows office staff to communicate electronically to provide better coordination of care. In addition, the ACO is working with proceduralists to reduce the number of outpatient procedures performed in hospital settings (thus avoiding hospital facility fees).

Managing Care with a Population Health Approach
SUMMIT MEDICAL GROUP (SUMMIT, NEW JERSEY)

Summit Medical Group is a for-profit, physician-owned multispecialty group with more than 300 physicians in 70 medical specialties. The group's primary care physicians care for over 90,000 patients of whom more than 50 percent are in a risk-based shared savings contract. In early 2014, Summit Medical Group instituted a new care management strategy with the goals of taking accountability for the total patient population, improving clinical outcomes and reducing total costs of care. The population health strategy involves two levels of care management: care managers that are embedded within the primary care clinic and care managers who work centrally to manage the most complex patients.

Patients at Summit Medical Group are identified for care management in multiple ways:
- All hospitalized patients are stratified into low/medium/high risk of readmission via an online readmission risk calculator,
- Primary care staff identify patients with one or more uncontrolled chronic diseases and via the AAFP six point risk stratification guide,
- Central risk stratification using claims data.

Care managers are medical assistants who work within a practice to help coordinate care for at risk patients. Tasks include contacting patients who have recently been discharged from the hospital, identifying gaps in care (need for vaccinations, cancer screening), and assisting clinic staff with other tasks such that primary care patients receive the highest level of care.

The centralized complex care management team consists of experienced care management nurses who each handle a panel of 150-200 patients. These are patients who are medically and socially complex with needs that are too great for the embedded PCMH care managers. Complex care managers establish care plans for patients and then help connect patients with needed resources including pharmacists, social workers, diabetic educators, behavioral health, home care and palliative care.

Managing Care with a Population Health Approach
CAMDEN COALITION OF HEALTHCARE PROVIDERS (CAMDEN, NEW JERSEY)

The Camden Coalition is a nonprofit organization led by family practice physician Jeff Brenner which brings together multiple stakeholders in the City of Camden, New Jersey to work together in caring for the most medically complex, highest-utilizing patients. Participants in the coalition include hospitals, primary care clinics, public health groups and city officials. Currently, the coalition has applied to the state of New Jersey to participate in a Medicaid ACO demonstration program. While this group is not a physician-led ACO, the work that Camden Coalition is doing in complex care management is translatable to many different types of provider groups. High risk patients are selected for this intervention based on the following criteria (The patient enrollment form can be seen here): two or more hospital admissions within the prior six months; one or more complex chronic medical conditions; multiple medications; difficulty accessing needed health services; lack of social support; homeless; uninsured.

The program is defined as a 90-day intervention. At the end of 90 days patients graduate from the intensive care management services. This short timeline allows the care management team to help more patients over time. This also ensures that patients who do not benefit from the intervention do not continue to utilize precious resources. Once a patient has been selected for the intensive care management intervention, he or she is approached while in the hospital by a member of the care management team. Following hospital discharge, patients receive a home visit which includes medication reconciliation and creation of a personalized care plan. All patients are scheduled for a PCP visit within 7 days of hospital discharge. Care management tasks are performed by a diverse group that includes AmeriCorps volunteers with just a bachelor's degree working along with LPNs, and Mas, all under the supervision of more advanced clinical providers. The organization is currently performing a randomized trial to quantitatively assess the impact of this intervention on health care utilization, costs and clinical outcomes.

Leveraging a High-Functioning Health Information Exchange
THE INDIANA HEALTH INFORMATION EXCHANGE (INDIANA, STATEWIDE)

With the exception of two small geographic pockets of the state, all acute-care hospitals in Indiana participate in the Indiana Health Information Exchange (IHIE). For a physician-led ACO to receive notification of admissions, discharges and transfers, the ACO first will submit its patient list to IHIE. That list is loaded into the system, each day at 2:00 a.m. IHIE securely transmits a list of any patient on the list that has had an ED, visit or inpatient admission, discharge or transfer along with chief complaint and other hospital data. When ACO care managers log into their care management portal viewers, they can view a virtually assembled collection of lab data, procedural information, radiology reports and other hospital-derived data (some pharmacy data are available as well). In one central Indiana Medicaid health plan, the care managers utilized IHIE information to identify patients with non-emergency medical issues who were seeking care at emergency departments rather than urgent care or primary care clinics. Through an outreach intervention, the care managers were able to successfully redirect patients to more appropriate sites of care, resulting in a 53 percent decrease in ER visits, a 68 percent increase in PCP office visits, and an estimated system-wide savings of between $2 million and $4 million.

Maximizing Event Notifications
RELIANT MEDICAL GROUP (MASSACHUSETTS)

Reliant Medical Group is a community-based multi-specialty physician practice in Central Massachusetts that is a member of the Atrius Health Medicare Pioneer ACO. Reliant has a robust health information infrastructure, thanks to Dr. Larry Garber, the Medical Director for Informatics at Reliant who is also a member of the ONC HIT Policy Committee's HIE Workgroup and the Massachusetts Health IT Council.

When a patient presents to the ED and is registered, the patient identifies a PCP or a referring physician. The hospital system looks at Reliant's list of doctors, and upon identifying a Reliant patient, immediately sends out an ADT notification to Reliant. That message is sent through an HL7 2.x interface. When Reliant receives that message, it is uploaded directly into the EHR. At the same time, Reliant has set up its EHR to print out a Continuity of Care Document (CCD). Reliant can put that CCD right in the Massachusetts HIE using Direct Project. Because the CCD has a medical record number, the ED provider receives notification within 30 seconds that outside records exist and can be viewed.

Hospital discharge notes are sent to the Reliant PCP's in-basket and (if applicable) care manager immediately upon discharge. Receipt of the discharge notification ensures that patients are scheduled for timely follow-up appointments. Reliant's system also monitors hospital ADT feeds and then creates a reminder such that three days later, the EHR checks to see if a follow-up appointment took place or is scheduled. If not, an in-basket message is generated and sent directly to the PCP's appointment secretary. Reliant also receives medication claims data from pharmacies. Within two days of a prescription being prescribed, Reliant knows which prescriptions have been filled. In addition, if medication monitoring is necessary (e.g., for a blood thinner) and not done, a message is sent to the physician's in-basket.

Improving Transitions in Care
ESSEN MEDICAL ASSOCIATES / BALANCE ACO (NEW YORK, NEW YORK)

Essen Medical Associates is a medical practice in New York City that is a member of Balance ACO, a Medicare Shared Savings Program participant. Essen manages high-risk CHF patients after hospital discharge with a home visit program that aims to improve transitions of care and reduce rates of readmission. Essen has deployed an event notification toolkit for managing CHF patients in the days after an inpatient discharge. Originally conceived as an innovation project sponsored by ONC, the toolkit uses the Business Process Model and Notation standard to create a process that orchestrates and automates the tasks required to manage the transition from hospital to home.

Essen has built an event notification protocol that tracks each patient through the hospital-to-home transition and sends notifications based on the circumstances of the patient. For example, during an initial screening call, if the patient reports no cardiac follow-up scheduled, a notification is sent to a care manager who contacts the hospital's cardiology department to schedule the appointment. Another notification process handles insurance eligibility checks. A notification goes to the insurance authorization department upon discharge, and simultaneously, a timer starts. If the eligibility check is not completed within two hours, the eligibility notification is escalated to the department manager who reassigns the task to another staff member.

Lastly, Essen has developed clinical rules to send event notifications based on patient medications. Essen's notification system receives a CCD from the discharging hospital via an automated connection. Essen is able to compare the medications for the patient and sends a notification to the care team if certain combinations (or lack) of medications are detected. The notification allows the care team to be better prepared for the home visit with the patient in the first few days after discharge.

Online Patient Portals
THE INSTITUTE FOR FAMILY HEALTH (NEW YORK, NEW YORK)

The Institute for Family Health is a Federally-Qualified Health Center with over 27 locations throughout New York State that is one of three members of the Family Health ACO Medicare Shared Savings Program. The Institute has been using an online patient portal since 2008 and has found the portal to be a convenient way to better connect patients with their care team. The portal allows patients to view portions of their medical record including lab test results, medication list, allergies, immunizations, and diagnoses. In addition patients can send messages to their primary care physician, refill prescriptions and make appointments, all without having to pick up the phone. The portal also has links from each patient's list of medical diagnoses to patient education materials so that patients can click on a listed diagnosis and go directly to an educational website to learn more. Initial concerns from physicians that the portal would be time consuming and would require additional hours each day to respond to patient messages have proved unfounded, as some of the automated processes such as lab result notification have actually created efficiencies in the daily clinical workflow.

Educating Patients about the Value of Health Care
CRYSTAL RUN HEALTHCARE (NEW YORK)

Crystal Run Healthcare, a multispecialty group practice in New York State, has a Medicare Shared Savings ACO as well as multiple commercial shared savings arrangements. Recently, the organization created an advertising campaign to educate patients about the benefits of receiving care from an organization that is focused on improving clinical outcomes and reducing unnecessary health care utilization. The campaign is designed to help patients understand that MORE care does not always result in BETTER care, and that ultimately, successful medical care should be measured by the coordination of care between providers and the achievement of improved health outcomes with fewer adverse events. One of the cornerstones of this effort has been a push to implement the Choosing Wisely initiative in Crystal Run clinics. Through education of providers and physicians, primary care clinics participating in the Choosing Wisely project were able to decrease rates of imaging for low back pain, antibiotic prescribing for sinusitis, dexa scans for women under age 65 and annual EKGs for patients without heart disease. The campaign has also included print advertisements in the community as well as a short video. In addition, the leadership of Crystal Run has run community seminars to discuss health policy, the Affordable Care Act and the future of health delivery in the United States. The goal of these seminars, along with the ad campaign is to help patients to understand recent changes in health care and to realize the benefits of receiving care from an organization that is focused on providing better care, keeping patients healthy, while also reducing costs. Ultimately, patients may learn that receiving fewer high-cost health care services and more high-touch services (like time spent talking with physicians and nurses) can lead to better outcomes and lower costs.

APPENDIX A: SAMPLE ACO ANNUAL OPERATING BUDGET

Budget Component	Average Budget Newly Formed ACOs *dedicating full-time personnel and substantial resources	Average Budget Building an ACO on Top of Already Established Networks *dedicating part time personnel and fewer new resources
PERSONNEL COSTS		
CEO Salary	$150,000-200,000	$100,000 (0.5 FTE)
Medical Director Salary	120,000-180,000	$20,000 (0.1FTE)
Director of Operations Salary	$100,000-180,000	$20,000 (0.1 FTE)
Annual Total Cost for Senior Administration/Leadership	$350,000-550,000	$140,000
Annual Care Delivery Personnel Costs-Care Managers/Case Management FTEs, Care Coordinators and practice liaisons	$1,000,000	$100,000-150,000
Administrative Assistant	$40,000-50,000	$18,000-20,000 (0.3 FTE)
Compliance Officer	$20,000-40,000	$20,000
Annual Overall Personnel Costs (with professional license fees excluded)	**$1,500,000-2,000,000**	**$300,000-400,000**
NON-PERSONNEL COSTS **(IT, Legal, Office Supplies, Insurance, Travel, etc.)**		
IT System Support and Maintenance (EHR interoperability fees, HIE costs, support costs)	$150,000 – 300,000	$20,000-25,000
Legal	$20,000	$20,000
Office Supplies	$15,000	$1,000-1,400
Insurance	$10,000-15,000	$8,000-12,000
Annual Total Non- Personnel Costs	**$250,000-550,000**	**$100,000-200,000**
Total ACO costs per member per month	$12.00-15.00	Information Unavailable
NON-COST RELATED STAFFING ARRANGEMENTS		
Staffing Ratio (Care Manager per number of Beneficiaries)	1:1,000-1:2,000	Information Unavailable
Annual Total ACO Expenses	**$1,500,000-2,500,000**	**$450,000-700,000**

Note: Does not include start-up costs

APPENDIX B: HELPFUL LINKS AND RESOURCES

WELLNESS VISITS AND HEALTH RISK ASSESSMENTS	
Health Risk Assessment	http://www.medicarehealthassess.org/
Wellness Visit Checklist	http://www.acponline.org/running_practice/payment_coding/medicare/annual_wellness_visit.htm
Medicare Wellness Visit Toolkit from Maine Quality Counts	http://www.mainequalitycounts.org/image_upload/AWV-ToolKit-Providers.pdf
AAFP Resources for Medicare Wellness Visits	http://www.aafp.org/fpm/topicModules/viewTopicModule.htm?topicModuleId=76
SELF-MANAGEMENT AND CARE MANAGEMENT	
California Healthcare Foundation Guide to Helping Patients Manage Chronic Conditions	http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/H/PDF%20HelpingPatientsManageTheirChronicConditions.pdf
Self-management for patients with chronic illness	http://www.aafp.org/afp/2005/1015/p1503.html
Disease Self-Management Toolkit	http://www.improvingchroniccare.org/downloads/selfmanagement_support_toolkit_for_clinicians_2012_update.pdf
Care Management Plus	http://caremanagementplus.org/
Guided Care	http://www.guidedcare.org/
Home Based Primary Care (VA)	http://www.va.gov/geriatrics/guide/longtermcare/home_based_primary_care.asp
Geriatric Resources for Assessment and Care of Elders (GRACE)	http://www.ncbi.nlm.nih.gov/pubmed/16866688
Program for All-inclusive care for the elderly (PACE)	http://www.npaonline.org/website/article.asp?id=12&title=Who,_What_and_Where_Is_PACE?
Improving Mood-Promoting Access to Collaborative Treatment (IMPACT)	http://impact-uw.org/tools/
Commonwealth Fund Report	http://www.commonwealthfund.org/~/media/files/publications/issue-brief/2014/aug/1764_hong_caring_for_high_need_high_cost_patients_ccm_ib.pdf
NQF Suggested Metrics for Tracking Care Management	http://www.qualityforum.org/Publications/2012/11/Critical_Paths_for_Creating_Data_Platforms__Care_Coordination.aspx
SHARED DECISION-MAKING	
Mayo Clinic Shared Decisions Website	http://shareddecisions.mayoclinic.org/
Informed Medical Decisions Foundation:	http://www.informedmedicaldecisions.org/what-is-shared-decision-making/shared-decision-making-resources/
Dartmouth Center for Shared Decision Making	http://med.dartmouth-hitchcock.org/csdm_toolkits.html
END OF LIFE AND ADVANCED DIRECTIVES	
Caring Info (National Hospice and Palliative Care Organization)	http://www.caringinfo.org/i4a/pages/index.cfm?pageid=1
Aging with Dignity (Five Wishes)	http://www.agingwithdignity.org/five-wishes.php
Center for Practical Bioethics: Caring Conversations	http://www.practicalbioethics.org/resources/caring-conversations
American Bar Association Consumer Toolkit for Healthcare Advance Planning	http://www.americanbar.org/content/dam/aba/uncategorized/2011/2011_aging_bk_consumer_tool_kit_bk.authcheckdam.pdf
PATIENT ENGAGEMENT	
American Society on Aging Guide	http://www.adultmeducation.com/downloads/Adult_Med_Facilitating.pdf
Motivational Interviewing	http://www.motivationalinterview.org/
Institute for Patient and Family Centered Care	http://www.ipfcc.org/resources/index.html
Aligning Forces for Quality Project	http://forces4quality.org/compendium-tools-engaging-patients-your-practice

RISK STRATIFICATION	
AAFP Risk Stratification Guide	http://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/RSCM.pdf
California Healthcare Foundation: Predicting the Financial Risk of Seriously Ill Patients	http://www.chcf.org/publications/2011/12/predictive-financial-risks
Information on Medicare HCC Risk Adjustment	http://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.html
CARE COORDINATION	
AHRQ Care Coordination Measures Atlas	http://www.ahrq.gov/professionals/systems/long-term-care/resources/coordination/atlas/care-coordination-measures-atlas.pdf
The Game Changer by the American Nursing Association	http://nursesbooks.org/Main-Menu/eBooks/General/eBook-Care-Coordination.aspx
California Quality Collaborative Complex Care Management Toolkit	http://www.calquality.org/storage/documents/CQC_ComplexCareManagement_Toolkit_Final.pdf
Reducing Care Fragmentation; A Toolkit for Coordinating Care	http://www.improvingchroniccare.org/downloads/care_coordination_toolkit.pdf
MedPac Medicare Care Coordination Report	http://www.medpac.gov/chapters/Jun12_Ch02.pdf
MGMA PCMH Care Management Workbook	http://www.mgma.com/store/books/printed/patient-centered-medical-home-care-management-workbook
The Center to Advance Palliative Care	http://www.capc.org/
Clinical Protocol for Hypertension Management	http://millionhearts.hhs.gov/Docs/Hypertension-Protocol.pdf
CARE TRANSITIONS	
IHI Toolkit for Transitions of Care	http://www.ihi.org/resources/Pages/Tools/HowtoGuideImprovingTransitionstoReduceAvoidableRehospitalizations.aspx
AMDA Transitions of Care Practice Guidelines	http://www.amda.com/tools/clinical/toccpg.pdf
Care Transitions Program	http://www.caretransitions.org/
SHM Project Boost	http://www.hospitalmedicine.org/boost/
LACE Online Calculator	http://www.hsprn.ca/?p=33
Yale Readmission Risk Calculator	http://www.readmissionscore.org/
REFERRAL MANAGEMENT	
AAFP Referral Management Toolbox	http://www.aafp.org/fpm/toolBox/viewToolType.htm?toolTypeId=26
ACP Medical Neighborhood Referral Management Resources	http://www.acponline.org/running_practice/delivery_and_payment_models/pcmh/understanding/specialty_physicians.htm
AHRQ Electronic Referral Implementation Handbook	http://healthit.ahrq.gov/sites/default/files/docs/citation/ereferralimplementationhandbookfinal.pdf
Primary Care-Specialty Care Compact	http://www.improvingchroniccare.org/downloads/_11_primary_care_specialty_care_compact.pdf

APPENDIX C: GLOSSARY

ADT Feed: ADT stand for "admissions, discharges, and transfers". It gives demographic data, including the patient's name, patient's location in the hospital, his or her address, phone number, gender, etc., whenever a trigger event occurs for that patient. Typically, a hospital registration database will have the master of the patient data and information. Each time patient information is updated or the patient changes facilities, the updates will be pushed out in the form of an ADT message to the appropriate providers in other facilities such as labs or clinics.

Advance Payment ACO Model: The program that provides upfront and monthly payments from CMS to physician-based and rural providers that are implementing ACOs. There are currently 35 ACOs participating in the Advance Payment Model.

Attribution: A method of identifying and assigning a provider or provider organization that will be responsible for managing cost and quality of care of a specific member or population, regardless of which providers actually deliver the service.

Beneficiary: Someone who receives benefits or is covered by an insurance policy or other healthcare financing program.

Bundled Payment: Often based on a specific episode of care or over a specific period of time. A bundled payment may include a single payment for multiple provider entities. This method apportions the bundled payment to each entity that provided service.

Capitation: Method of payment for health services in which an individual or institutional provider is paid a fixed amount for each person served.

Care Coordination Fee (or Care Management Fee): A separate fee most often paid to a patient's primary care office on a capitated basis for the work involved in coordinating or managing all aspects of the patient's care so as to ensure that the patient receives appropriate and necessary care in a timely fashion. The fee is typically intended to help cover practice costs and non-face-to-face services needed to effectively provide care coordination and management.

Care Manager or **care coordinator**. Specially trained professionals, many times registered nurses, who help patients navigate the care continuum. They can help patients with a range of tasks, such as arranging and ensuring the patient gets to appointments, locating healthcare resources in the patient's community, providing follow-up contact to ensure medication compliance, and reducing barriers the patient faces in his or her treatment plan.

Center for Medicare and Medicaid Innovation: Part of the Centers for Medicare and Medicaid Services, CMMI tests innovative payment and service delivery models, such as ACOs, that aim to reduce costs while maintaining or improving care quality. The Innovation Center, as it is sometimes called, was created as result of the Patient Protection and Affordable Care Act.

Clinical Document Architecture: A markup standard developed by the organization Health Level 7 International (HL7) to define the structure of clinical documents such as discharge summaries and progress notes. These documents can include text, images and other types of multimedia.

Clinically Integrated Network: A collection of hospitals, physicians, and other health providers who deliver services focused on quality, performance, and value to a patient and are aligned through formal clinical integration programs and other value-based integration options.

Continuity of care document (CCD): The Continuity of Care Document (CCD) is built using HL7 Clinical Document Architecture (CDA) elements and contains data that is defined by the ASTM Continuity of Care Record (CCR). It is an electronic document exchange standard for sharing patient summary information within the broader context of the personal health record.

Consumer Assessment of Healthcare Providers and Systems (CAHPS): a standardized survey instrument and data collection methodology for measuring patients' and consumers' perspectives on their experiences with health care and providers.

Electronic Data Interchange (EDI): The computer-to-computer exchange of business or other information between two organizations or trading partners. The data may be either in a standardized or proprietary format.

Electronic Health Record (EHR) / Electronic Medical Record (EMR): a longitudinal collection of electronic health information about individual patients and populations.

Episodic Payment: A single payment made to health care professionals for all services provided to a patient for an entire episode of care; for example, all of the inpatient and outpatient services provided to a patient following a heart attack.

Episode of Care: Refers to all the health services related to the treatment of a condition. For acute conditions (such as a broken bone), the episode includes all treatment and services from the onset to resolution. For chronic conditions (such as diabetes), the episode refers to all services and treatments received over a given period of time.

Fee-for-service (FFS) model: A payment model for health services where providers are paid separately for each service delivered, such as an office visit, test, or procedure.

Gainsharing: An arrangement in which a hospital or healthcare organizations gives physicians a particular percentage or share of cost reduction that the physician was responsible for due to their efforts.

Health Information Exchange (HIE): The infrastructure to mobilize health care information electronically across organizations within a region, community, or hospital system. HIEs allow for the movement of clinical information among disparate health care information systems while maintaining the meaning of the information being exchanged.

Health Maintenance Organization (HMO): An organization providing an agreed-upon set of basic and supplemental health maintenance and treatment services that are reimbursed through a predetermined fixed period prepayment made by each person or family unit that is voluntarily enrolled.

Health Level 7 International (HL7): A set of international standards for transfer of clinical and administrative data between Hospital information systems.

Health Level 7 International (HL7) Infobutton: Known generally as "Infobuttons," these are knowledge retrieval tools that provide a standard mechanism for clinical information systems to request context-specific clinical knowledge from online resources. This has become a widely adopted approach to help clinicians and patients answer clinical questions that arise in the course of care.

Health risk assessment (HRA) (also known as a health risk appraisal or health & well-being assessment): A systematic approach to collecting information from individuals that identifies risk factors, provides individualized feedback, and links the person with at least one intervention to promote health, sustain function and/or prevent disease

Incentive-Based Payments: Payments made to influence prevalence of certain activities, generally among providers.

Independent Physician/Practice Organization (IPA): A provider association comprised of physicians in private practice that negotiate contracts with insurance companies on their behalf. Participating physicians are usually paid on a capitated or modified fee-for-service basis and may also continue to care for patients not covered by the insurers with whom the IPA contracts.

Integrated Delivery System (IDS): A network of physicians, hospitals, and other medical services, sometimes combined with a health plan, to provide a spectrum and organized continuum of services to a particular population.

Medicare Shared Savings Program: CMS's shared savings program is designed to facilitate coordination and cooperation among providers to improve the quality of care and reduce unnecessary costs for Medicare FFS beneficiaries. Providers in the ACO are eligible for shared savings—with different levels depending on which model they choose—if they are able to meet quality and cost targets. There are currently over 340 MSSP ACOs across the country

One-Sided Risk Model: A shared savings risk arrangement in which an ACO is eligible for a percentage of total cost savings relative to benchmark, if the ACOs can meet quality and cost targets. These ACOs are not responsible for assuming shared losses if the organization exceeds its cost benchmark. ACOs in MSSP are eligible to share in up to 50% of total cost savings.

Patient-centered medical homes (PCMH) are often seen as the "building blocks" of ACOs. The model is specific to primary care practices. In a PCMH, primary care physicians are part of a care team, which often includes health coaches who engage patients as active participants in their own health.

Patient Registry: A patient database maintained by a physician practice, hospital, or health plan that allows health care professionals to identify their patients according to disease or demographic characteristics and helps them monitor treatment and improve overall quality of care.

Physician-Led ACO (PACO): An ACO organization model, typically composed of one or more independent primary care physician groups or practice associations that have come together in order to form a large enough patient population to form an ACO. Unlike hospital-led ACOs in which the entire delivery system could fall within the ACO, physician-led ACOs may only provide primary care to their patients. Other care, such as specialty, diagnostic, acute, and post-acute care usually falls outside of the direct control of the ACO. These physician-led ACOs will become responsible for the cost and quality of care for patients who may seek care from providers outside of the network of ACO affiliated physicians.

Physician Quality Reporting System (PQRS): A voluntary quality reporting incentive program in which physicians and non-physicians transmit data to CMS regarding the quality measures reported on in caring for their Medicare patients. Providers are given bonus payments or penalties depending on their individual performance on the quality measures.

Physician-Hospital Organization (PHO): A formally organized, contractual, or corporate arrangement between physicians and hospitals formed to develop improved methods of health care delivery; overseeing integration of physicians and hospitals into health delivery networks; assisting in voluntary group formation; and collecting, analyzing, and disseminating information. Many PHOs are formed to allow for contracting with managed care organizations with joint risk sharing.

Pioneer ACO Model: A CMMI initiative designed for health care organizations and providers that are already experienced in coordinating care for patients across care settings. This model is designed to allow these providers to move more rapidly from a shared savings payment model to a population-based payment model

on a track consistent with, but separate from, the MSSP. All ACOs are required to assume substantial two-sided risk in their second year of program participation. There are currently 23 systems that are operating as Pioneer ACOs across the country.

Population health: The health outcomes of a group of individuals. Population health approaches focus on increasing the prevalence of evidence-based preventive health services and preventive health behaviors, improving care quality and patient safety, and advancing care coordination across the health care continuum.

Preferred Provider Organization (PPO): A network of preferred providers that contract with a health plan. Plan members typically pay lower costs when they seek care from preferred providers.

Regional Health Information Organization (RHIO): A multi-stakeholder organization created to facilitate the electronic transfer of health information across organizations and communities.

Risk Adjustment: The process of increasing or reducing payments to health plans to reflect higher or lower than expected spending. Risk adjusting is designed to compensate health plans that enroll a sicker population as a way to discourage plans from selecting only healthier individuals.

Risk Sharing: A reimbursement model where a provider shares in the financial risk of managing the patient's care. For example, in an ACO, the provider takes greater accountability for managing the total health spending for a given population**.**

- o **One-Sided Risk Model:** A shared savings risk arrangement in which an ACO is eligible for a percentage of total cost savings relative to benchmark, if the ACOs can meet quality and cost targets. These ACOs are not responsible for assuming shared losses if the organization exceeds its cost benchmark. ACOs in MSSP are eligible to share in up to 50% of total cost savings.

- o **Two-Sided Risk Model:** A shared savings risk arrangement in which an ACO is eligible for a percentage of total cost savings relative to benchmark, if the ACOs meets quality and cost targets, but also assumes a financial loss for failing to meet these metrics. ACOs in MSSP are eligible to share in up to 60 percent of total cost savings based on their quality performance, but likewise assume a percentage of losses.

Shared Savings: A payment model that offers incentives for provider entities to reduce health care spending for a defined patient population by offering them a percentage of any net savings realized as a result of their efforts. It also offers additional support and accountability to provider organizations to enable them to deliver more efficient, coordinated care. This model provides an incentive for ACOs to avoid expansions of health care capacity that are an important driver of both regional differences in spending and variations in spending growth and that do not improve health.

Triple Aim or Triple-Part Aim: CMS and The Institute for Healthcare Improvement (IHI) devised goals for improving the health care system by delivering care more efficiently. The three critical objectives include: 1) improve the health of the population; 2) enhance the patient experience of care (including quality, access, and reliability); and 3) reduce, or at least control, the per capita cost of care.

Endnotes

[1] Chilmark Research. 2013 Clinical Analytics Market Trends Report. 2013.

[2] Muhlestein D. "Accountable Care in 2014: A Look Ahead." Health Affairs Blog.
http://healthaffairs.org/blog/2014/01/29/accountable-care-growth-in-2014-a-look-ahead/

[3] "Shared Savings Program." Centers for Medicare and Medicaid Services. http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/index.html

[4] "Pioneer ACO Model." Centers for Medicare and Medicaid Services. http://innovation.cms.gov/initiatives/Pioneer-ACO-Model/

[5] Kocot SL, Mostashari F, White R. "Year One Results from Medicare Shared Savings Program: What it Means Going Forward." Brookings UpFront. http://www.brookings.edu/blogs/up-front/posts/2014/02/07-results-medicare-shared-savings-program-kocot-mostashari

[6] McClellan M, Kocot, SL, White R, Katikaneni P. Medicare ACOs Continue to Improve Quality, Some Reducing Costs. Brookings UpFront. http://www.brookings.edu/blogs/up-front/posts/2014/09/22-medicare-aco-results-mcclellan

[7] Mostashari F, Sanghavi D, McClellan M. Health Reform and Physician-Led Accountable Care: The Paradox of Primary Care Physician Leadership. JAMA. 2014;311(18):1855-1856.

[8] Mostashari F, Sanghavi D, McClellan M. Health Reform and Physician-Led Accountable Care: The Paradox of Primary Care Physician Leadership. JAMA. 2014;311(18):1855-1856.

[9] Mostashari, F and J Colbert. Four Key Competencies for Physician-Led Accountable Care Organizations. The American Journal of Accountable Care. 3.24: 15-16.

[10] McClellan M, White R, Mostashari F, Kocot SL. Health Policy Issue Brief: How to Improve the Medicare Accountable Care Organization (ACO) Program. The Brookings Institution. http://www.brookings.edu/research/papers/2014/06/16-medicare-aco-program-changes

[11] Kindig D, Asada Y, Booske B. (2008). A Population Health Framework for Setting National and State Health Goals. JAMA, 299.

[12] Felt-Lisk, S. & Higgins, T. (2011). Exploring the Promise of Population Health Management Programs to Improve Health. Mathematica Policy Research Issue Brief. http://www.mathematicampr.com/publications/pdfs/health/PHM_brief.pdf

[13] Gawande, A. The Hot Spotters. New York Magazine. January 24, 2011.
http://www.newyorker.com/magazine/2011/01/24/the-hot-spotters

[14] AHRQ. Statistical Brief #354: The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008–2009. http://meps.ahrq.gov/mepsweb/data_files/publications/st354/stat354.pdf

[15] Hong CS, Siegel AL, Ferris TG. Caring for high-need, high-cost patients: what makes for a successful care management program? Issue Brief (Commonwealth Fund) 2014;19(August):1–19. http://www.ncbi.nlm.nih.gov/pubmed/25115035

[16] Chilmark Research. 2013 Clinical Analytics Market Trends Report. 2013.

[17] Grant RW, Ashburner JM, Hong CC, Chang Y, Barry MJ, Atlas SJ. Original Research Defining Patient Complexity From the Primary Care Physician's Perspective A Cohort Study. Ann Intern Med 2011;155:797–804.

[18] Advancing Diabetes Self Management: http://www.diabetesinitiative.org/programs/DICHC.h.

[19] Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. Am J Prev Med. 1998;14(4):245–58.

[20] Brown R. The Promise of Care Coordination: Models that Decrease Hospitalizations and Improve Outcomes for Medicare Beneficiaries with Chronic Illnesses. Mathematica. 2009

[21] Chronic Disease Self Management Program: http://patienteducation.stanford.edu/programs/cdsmp.html

[22] Moore C, Wisnivesky J. Medical errors related to discontinuity of care from an inpatient to an outpatient setting. J Gen Intern Med 2003;18:646–51.

[23] Forster A, Murff H, Peterson J, Gandhi T, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. Ann Intern Med 2003;138:161–7.

[24] Care Transitions Program. http://www.caretransitions.org/

[25] Coleman EA, Parry C, Chalmers S, Min S. The care transitions intervention. Arch Intern Med 2006;166:1822–8.

[26] National Quality Forum. Critical Paths for Creating Data Platforms: Care Coordination. 2012.

[27] Brown RS, Peikes D, Peterson G, Schore J, Razafindrakoto CM. Six features of Medicare coordinated care demonstration programs that cut hospital admissions of high-risk patients. Health Aff (Millwood) 2012;31(6):1156–66.

[28] Nelson L. Lessons from Medicare 's Demonstration Projects on Disease Management and Care Coordination. Congressional Budget Office. Working Paper 2012-01.

[29] Peikes D, Peterson G, Brown RS, Graff S, Lynch JP. How changes in Washington University's Medicare coordinated care demonstration pilot ultimately achieved savings. Health Aff 2012;31(6):1216–26.

[30] 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). RTI International. 2010.

[31] Brown RS, Peikes D, Peterson G, Schore J, Razafindrakoto CM. Six features of Medicare coordinated care demonstration programs that cut hospital admissions of high-risk patients. Health Aff (Millwood) 2012;31(6):1156–66.

[32] National Quality Forum. Critical Paths for Creating Data Platforms: Care Coordination. 2012.

[33] Leff B, Burton L, Mader SL, et al. Hospital at Home: Feasibility and Outcomes of a Program To Provide Hospital-Level Care at Home for Acutely Ill Older Patients. Ann Intern Med 2005;(143):798–808.

[34] Bielaszka-DuVernay C. The "GRACE" model: in-home assessments lead to better care for dual eligibles. Health Aff (Millwood) 2011;30(3):431–4.

[35] Counsell SR, Callahan CM, Buttar AB, Clark DO, Frank KI. Geriatric Resources for Assessment and Care of Elders (GRACE): a new model of primary care for low-income seniors. J Am Geriatr Soc 2006;54(7):1136–41.

[36] Morrison RS, Penrod JD, Cassel JB, et al. Cost savings associated with US hospital palliative care consultation programs. Arch Intern Med 2008;168(16):1783–90.

[37] Morrison RS, Dietrich J, Ladwig S, et al. Palliative care consultation teams cut hospital costs for Medicaid beneficiaries. Health Aff (Millwood) 2011;30(3):454–63.

[38] Phillips RL, Bazemore AW. Primary care and why it matters for U.S. health system reform. Health Aff (Millwood) 2010;29(5):806–10.

[39] Mostashari F, Sanghavi D, McClellan M. Health Reform and Physician-Led Accountable Care: The Paradox of Primary Care Physician Leadership. JAMA 2014;311(18):1855-6.

[40] Song Z, Sequist T, Barnett M. Patient Referrals: A Linchpin for Increasing the Value of Care. JAMA 2014;312(6):597-8.

[41] Patient-Centered Primary Care Collaborative. "Defining the Medical Home." https://www.pcpcc.org/about/medical-home

[42] National Committee for Quality Assurance. Leveraging Health IT to Achieve Ambulatory Quality : The Patient-Centered Medical Home (PCMH). 2010. http://www.ncqa.org/Portals/0/Public Policy/HIMSS_NCQA_PCMH_Factsheet.pdf

[43] See http://pcmh.ahrq.gov/, http://www.pcpcc.org/resources/170, http://www.aafp.org/practice-management/pcmh/overview.html, http://www.acponline.org/running_practice/delivery_and_payment_models/pcmh/

[44] Barnett ML, Song Z, Landon BE. Trends in physician referrals in the United States, 1999-2009. Arch Intern Med 2012;172(2):163–70.

[45] Gandhi T, Sittig D. Communication breakdown in the outpatient referral process. J Gen Int Med 2000;15:626–31.

[46] Ibid.

[47] Mehrotra A, Forrest C, Lin C. Dropping the baton: specialty referrals in the United States. Milbank Q. 2011;89(1):39–68.

[48] Forrest CB, Glade GB, Baker a E, Bocian a, von Schrader S, Starfield B. Coordination of specialty referrals and physician satisfaction with referral care. Arch Pediatr Adolesc Med 2000;154(5):499–506.

[49] MU Clinical Quality Measures. http://www.healthit.gov/sites/default/files/mu_clinical_quality_measures_alignment_across_quality_initiatives.docx

[50] Kirschner N, Greenlee C. Medical Home Neighbor. Am Coll Physicians 2010

[51] Chernew ME, Mechanic RE, Landon BE, Safran DG. Private-payer innovation in Massachusetts: the "alternative quality contract". Health Aff (Millwood) 2011;30(1):51–61.

[52] Ackerly D, Grabowski D. Post-acute care reform—beyond the ACA. N Engl J Med 2014; 370(8):689-91.

[53] Arora V, Prochaska M. Problems after discharge and understanding of communication with their primary care physicians among hospitalized seniors: a mixed methods study. J Hosp Med. 2010;5:385–91.

[54] Office of the Coordinator for Health IT. "Percent of Hospitals Able to Send and Receive Secure Electronic Messages Containing Patient Health Information to and from External Sources," Health IT Quick-Stat, no. 27.

[55] Technology TO of the NC for HI. "Percent of U.S. Hospitals that Routinely Electronically Notify Patient"s Primary Care Provider upon Emergency Room Entry,' Health IT Quick-Stat, no. 26.

[56] Purkis B, Practice MDM, Morris G, Associate S, Afzal S. Master Data Management within HIE Infrastructures: A focus on master patient indexing approaches. Audacious Inquiry. 2012.

[57] Carman KL, Dardess P, Maurer M, et al. Patient and family engagement: a framework for understanding the elements and developing interventions and policies. Health Aff (Millwood) 2013;32(2):223–31

[58] Kripalani S, Jackson A, Schnipper J, Coleman E. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitalists. J Hosp Med 2007;2(5):314–23.

[59] Hibbard JH, Greene J, Overton V. Patients with lower activation associated with higher costs; delivery systems should know their patients' "scores". Health Aff (Millwood) 2013;32(2):216–22.

[60] Charmel P, Frampton S. Building the business case for patient- centered care. Healthcare Financial Management. March, 2008.

[61] Stacey D, Légaré F, Col NF, Bennett CL, Barry MJ, Eden KB, Holmes-Rovner M, Llewellyn-Thomas H, Lyddiatt A, Thomson R, Trevena L WJ. Decision aids for people facing health treatment or screening decisions. Cochrane Database Syst Rev 2014 2014;(1).

[62] Sommers R, Goold SD, McGlynn E a, Pearson SD, Danis M. Focus groups highlight that many patients object to clinicians' focusing on costs. Health Aff (Millwood) 2013;32(2):338–46.

[63] Fox S, Duggan M. Pew Internet Project: Health Online. http://www.pewinternet.org/2013/01/15/health-online-2013/

[64] Wysocki BJ. Doctor Leads a Crusade to Replace Office Visits as Standard Procedure. Wall Street Journal. 2012: http://online.wsj.com/news/articles/SB102272116845781360

[65] Carolina de Jon C, Wynand JGR SG. The Effects on Health Behavior and Health Outcomes of Internet-Based Asynchronous Communication Between Health Providers and Patients With a Chronic Condition: A Systematic Review. JMIR 2014;16(1):e19.

[66] Hibbard JH, Stockard J, Mahoney ER TM. Development of the Patient Activation Measure (PAM): conceptualizing and measuring activation in patients and consumers. Health Serv Res 2004;39:1005–26

[67] Hibbard JH, Greene J, Overton V. Patients with lower activation associated with higher costs; delivery systems should know their patients' "scores". Health Aff (Millwood) 2013;32(2):216–22.

[68] Fowler FJ, Levin CA SK. Informing and involving patients to improve the quality of medical decisions. Health Aff 2011;30(4):699–706.

[69] Wennberg JE, Fisher ES, Stukel TA, Skinner JS, Sharp SM, Bronner KK. Use of hospitals, physician visits, and hospice care during the last six months of life among cohorts loyal to highly respected hospitals in the United States. BMJ 2004;328(March):607.

[70] Brooks G a, Li L, Sharma DB, et al. Regional variation in spending and survival for older adults with advanced cancer. J Natl Cancer Inst. 2013;105(9):634–42.

[71] Barnato AE, Herndon MB, Anthony DL, et al. Are Regional Variations in End-of-Life Care Intensity Explained by Patient Preferences. Med Care 2007;45(5):386–93.

[72] Frontline. Facing Death: Facts and Figures. PBS.org. http://www.pbs.org/wgbh/pages/frontline/facing-death/facts-and-figures/

[73] Morrison RS, Dietrich J, Ladwig S, et al. Palliative care consultation teams cut hospital costs for Medicaid beneficiaries. Health Aff (Millwood) 2011;30(3):454–63.

[74] Temel J, Greer J. Early palliative care for patients with metastatic non–small-cell lung cancer. N Engl J Med. 2010;363:733–42.

[75] Miller W, Rollnick S. Motivational Interviewing: Helping People Change. 3rd ed. New York: Guilford Press; 2013.

[76] West DS, DiLillo V, Bursac Z, Gore S, Greene P. Motivational Interviewing Improves Weight Loss in Women with Type 2 Diabetes. Diabetes Care 2007;30(5):1081–7.