Integrating Care Management — Improves Care and Population Health While Reducing Costs

EXECUTIVE SUMMARY

One hundred thirty-three million Americans, 45 percent of the population, have at least one chronic disease. Chronic diseases are responsible for 7 of 10 deaths each year, killing more than 1.7 million Americans annually. Moreover, chronic disease accounts for 86 percent of our nation’s healthcare costs.

An integrated delivery system and an accountable care organization with two large academic medical centers and six community hospitals, Partners HealthCare is increasingly compensated for outcomes of care. Recognizing the need to more effectively manage its chronically ill patients, Partners implemented an integrated care management program (iCMP) to improve the outcomes of rising-risk patients and better manage treatment costs. The iCMP is a primary-care embedded, longitudinal care management program led by a nurse care manager working collaboratively with the primary care provider and care team.

The iCMP is contributing to Partners effective management of patients and financial success in at-risk contracts. In its Pilot Phase as a Medicare Demonstration Project, the program achieved the following results:

- 20 percent lower hospitalization rate per 1,000 patients.
- 13 percent lower rates of emergency department (ED) utilization.
- 25 percent relative difference in mortality.

INCREASED COVERAGE, COSTS, AND RISKS

Chronic disease is not only a threat to millions of people nationally, but can also be a financial burden on healthcare systems as they treat the various conditions. In fact, a sizeable portion of our nation’s healthcare costs, including 99 percent of Medicare spending and 83 percent of Medicaid spending, goes to treating chronic diseases.¹

Although healthcare organizations around the country are searching for ways to contain costs, the mission is particularly critical in Massachusetts, where cost containment legislation has restricted...
inflation in medical costs to 3.6 percent. Under state law, inflation of healthcare costs may not exceed the growth in wages, requiring that providers become more responsible for healthcare costs. What’s more, Massachusetts has led the nation in health reform and now has a 98 percent coverage rate.\(^2\) With the expansion of insurance, cost of care becomes an issue.

Through its ACO, which covers approximately 500,000 lives, Partners has embraced population health management and is committed to finding better strategies, such as an iCMP or containing costs and improving care outcomes.

**Patients with chronic illnesses present opportunity**

To ensure ongoing financial viability and success in at-risk contracting, Partners’ overall challenge is to reduce the cost of care while improving patient outcomes. Partners’ Division of Population Health Management is responsible for the organizational accountable care strategy and infrastructure.

Partners recognized that the area of greatest opportunity for containing costs and improving care was with their adult patients who have chronic illnesses but who have not yet progressed to the point where they are incredibly complex medically. Once patients’ chronic illnesses progress to this point, they become high utilizers of high cost services.

Partners also identified that patients who have multiple chronic conditions often find it difficult to navigate the complex health system. Existing care models are disease- or specialty-specific, creating confusion and inadvertent fragmentation of care. Partners recognized that it needed to better coordinate care for these patients.

If Partners could more effectively manage the care of patients who are not yet “too sick,” it could then improve patient health and decrease cost, as care would be shifted away from high-cost inpatient hospital services and provided in lower-cost outpatient settings instead. Patients with rising risk presented the greatest opportunity for overcoming the value challenge.

Partners needed collaboration between clinical expertise and technology to identify those patients with chronic illnesses who had the potential to become high users of high-cost services.

**INTEGRATED CARE EMBEDDED IN PRIMARY CARE**

To more effectively manage its medically complex/high-risk patients, Partners developed iCMP, and embedded it within the primary care
practice to integrate care along the continuum. The iCMP is led by a nurse care manager who collaborates with the patient’s primary care provider (PCP) and care team.

Patients in the iCMP receive access to specialized resources, including mental health services, community resource expertise, pharmacy, and palliative care. Support is designed to occur throughout the continuum of care, including home visits, telemonitoring, and integration with post-acute and specialty services. Patients also receive health coaching and build skill in self-management through shared decision making with the care team.

Each care manager and their team manages a mix of low-, medium-, and high-risk patients, with approximately 200 patients assigned to each team. The care managers assess patient risks and needs. They follow the patient, assessing gaps in understanding or ability to comply with the established medical treatment plan. The care managers also act as liaisons, coordinating care between providers and services, facilitating better communication and transitions.

A precursor to the iCMP included only patients enrolled in risk contracts (Medicare, Medicaid, Commercial). Following the development of infrastructure and technology to support the iCMP, Partners now takes a payer agnostic approach to care management.

**Leveraging data to identify rising risk and ROI**

Effective, accurate identification of rising-risk patients is critical to effective care management. Without appropriate identification of rising-risk patients, clinicians and staff would not have the ability to engage the patient in participating in the iCMP.

To identify rising-risk patients who may be appropriate for the iCMP, Partners needed to review clinical, operational, and financial data. Partners used the Health Catalyst Analytics Platform built using the Late-Binding™ Data Warehouse architecture (EDW) to integrate its data. To identify patients who may be candidates for the iCMP, Partners applies claims data from the EDW into a risk predictive modeling software. The risk software generates a list of patients who are likely to be at a higher risk for rising/high costs in the succeeding 12 months.

Also using data from the EDW, Partners is able to compare the outcomes and cost for iCMP patients against comparison groups, enabling Partners to demonstrate the return on investment (ROI) and outcomes of the iCMP.
Meeting varied patients’ needs

The list of candidates for the iCMP is reviewed by the PCP and nurse care manager, who assess each patient’s needs and discuss additional qualitative information that may not be adequately represented within the claims data. Together, the PCP and nurse select patients who are appropriate for the iCMP.

While the care managers focus on ensuring availability of appropriate care for patients who may need additional community resources or mental health support, they also identify other, atypical areas where support is needed.

One example of this is a patient, who was being supported by an iCMP care manager, who had regular monthly appointments with her PCP to treat her venous stasis ulcers, a type of wound that develops as a result of decreased blood return to the heart. Each month, the PCP would direct the patient to wear her compression stockings, which are designed to help increase blood flow back to the heart.

Unfortunately, this patient did not wear the stockings as directed, and each month the PCP would restate the importance of wearing the stockings, expressing concern about the patient’s ulcers and sharing how the stockings would help improve the current ulcer and prevent additional ulcers from developing. The patient’s ulcers were not going to get better unless she wore the compression stockings.

The care manager noticed that the patient only wore red clothing from head to toe. The care manager was certain that the reason the patient would not wear the compression stockings was because they were not red. Upon bringing this discovery to the PCP’s attention, the care manager obtained red compression stockings. The patient immediately began wearing her new, red compression stockings and her problem with venous stasis ulcers was eliminated.

Data helps with strategic decision making

Through the EDW, analytics platform, and care managers who are skilled at assessing and meeting patient needs, Partners is able to gain valuable insight about patients who are candidates for the iCMP, as well as plan cost-effective care to best meet the patients’ needs.

Analytics supports both strategic decision making and the operations of the iCMP. IT systems improve care coordination, leveraging real-time data from the EHR. For example, when an iCMP patient is registered in the EHR for care in the ED or for an inpatient bed, an automated page goes out to the patient’s PCP and iCMP care manager for the patient. Additionally, flags noted in the EHR identify

To have data from all multiple sources throughout the network in one place in structured tables makes analytics that much easier. The EDW allows everyone, across the system, to pull data from the same place.

Maryann Vienneau
Senior Program Manager for Center for Population Health Partners HealthCare System

Our care managers are most proud of making a difference in patients’ lives across the continuum over time.

Jennifer Wright, R.N.
Newton Wellesley PHO Manager Behavioral Health and Care Management
iCMP patients, helping to ensure the care team is aware of the additional care team members involved in the patients’ care who should be contacted when the patient presents to the ED or is admitted to the hospital.

**RESULTS**

The iCMP has provided positive clinical outcomes and financial benefits for at-risk contracts. Claims data from the EDW applied in the risk modeling software has resulted in the identification of more than 50,000 at-risk patients. Approximately 14,000 patients actively participate in the iCMP.

In its Pilot Phase as a Medicare Demonstration Project, when compared to a similarly selected control population, the program achieved the following results:

- 20 percent lower hospitalization rate per 1,000 patients.
- 13 percent lower rates of ED utilization.
- 25 percent relative difference in mortality (16 percent in iCMP patients vs. 20 percent among the comparison group).
- 12.1 percent gross savings.
- 7 percent in annual net savings after the management fee paid by CMS.
- Positive ROI—for every $1 spent, the program saved at least $2.65.

While the financial savings are impressive, communication among care team members has also increased, as have physician, staff, and patient satisfaction. Physicians have stated that they have better work-life balance and are satisfied they are able to focus on the most effective medical management of the patient, while other team members use their skills to help patients overcome social, behavioral, and informational barriers to care.

**WHAT’S NEXT**

As part of the broader population management strategy, Partners has expanded the iCMP systemwide and is broadening efforts, offering the program to pediatric patients.

Partners is also considering enhancements to their care management model, moving to a triad model that expands leadership to include a social worker and community health worker who would each manage cohorts of patients that would benefit the most from their specific expertise.

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*We’ve made wonderful progress. We’re very comfortable that we’ve created a product for this group of patients that is really quite effective and clinically meaningful and that our providers really like.*

Eric Weil, MD
Associate Chief for Clinical Affairs
MGH Division of General Internal Medicine
MGPO Associate Medical Director
Primary Care
Medical Director for Primary Care
Population Health Management
Partners is also continuing to expand and improve population health and redesign primary care practices to make them more efficient and a better experience for patients and care team members. By the end of 2018, all Partners primary care practices will receive Patient-Centered Medical Home certification.

REFERENCES


ABOUT HEALTH CATALYST

Health Catalyst is a mission-driven data warehousing, analytics, and outcomes improvement company that helps healthcare organizations of all sizes perform the clinical, financial, and operational reporting and analysis needed for population health and accountable care. Our proven enterprise data warehouse (EDW) and analytics platform helps improve quality, add efficiency and lower costs in support of more than 50 million patients for organizations ranging from the largest US health system to forward-thinking physician practices.

For more information, visit www.healthcatalyst.com, and follow us on Twitter, LinkedIn, and Facebook.