Integrated Care for High-Risk Patients: Keeping Patients Healthy and Costs Down for Over Ten Years

HEALTHCARE ORGANIZATION

Academic Medical Center

Accountable Care Organization

Integrated Delivery System

PRODUCTS

- Health Catalyst® Analytics Platform and broad suite of analytics applications

SERVICES

- Professional Services
- Installation Services

EXECUTIVE SUMMARY

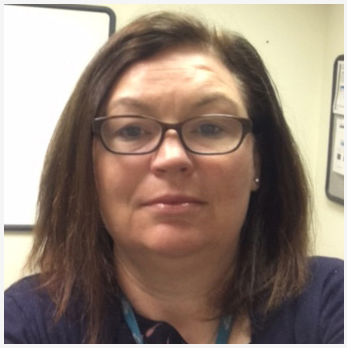
People with chronic and mental health conditions account for 86 percent of the $2.7 trillion in healthcare expenditures made in the U.S. each year. Patients with multiple chronic conditions cost up to seven times more than those with one. In total, five percent of patients account for half of all healthcare spending.

Managing costs for these high-risk patients are not easy. Patient needs are largely influenced by a variety of medical, social, and economic circumstances. Combined with chronic illnesses, these circumstances add up to substantial challenges for patients and their families, as well as care teams. In an effort to expand its care management program to include patients with multiple chronic conditions and complex social and economic factors, Partners HealthCare, a non-profit healthcare network in Boston, utilized data and analytics to identify patients at high-risk in order to improve outcomes and reduce costs. Overall, integrated care management program (iCMP) Medicare results include:

- $125 per member per month savings upon enrollment into the iCMP compared to patients not enrolled.
- Similar to cost findings, the relative risk of any emergency department (ED) visits, non-emergent ED visits, and hospitalizations decreased as length of program enrollment increased, specifically for Medicare patients. In months 24+ in the program, the relative risks of all three types of utilization were lower than 0.60.

INTEGRATED CARE, REDUCING THE COST BURDEN FOR COMPLEX PATIENTS

Eighty-six percent of the $2.7 trillion annual healthcare expenditures made in the U.S. are for people with chronic and mental health conditions.[1] The five percent of patients with chronic conditions account for half of healthcare spending, and patients with multiple chronic conditions cost up to seven times more than those with only one.[2]



iCMP has become the bedrock program for the Partners Population Health strategy. In five short years, we have scaled the program across the system, supported over 20,000 patients, and have approximately 14,000 enrolled at any one time. We have touched the lives of these people and their families by providing them with the support they need for a better quality of life.

Maryann Vienneau
Program Director for
Care Management
Partners Population Health

Partners HealthCare is a not-for-profit, integrated healthcare system based in Boston, Massachusetts. The Partners HealthCare network includes hospitals, community health centers, physician practices and post-acute care facilities. To improve health outcomes and reduce costs, Partners tasked its Population Health team to stand up a care management program for patients with chronic, complex conditions.

Partners Population Health is a team of teams dedicated to researching and redesigning clinical care in a way that focuses on the whole patient. They design population health management strategies, programs, and tools. To identify and test meaningful interventions, Partners Population Health collaborates closely with frontline clinicians. A central team works with staff across the Partners system to develop, implement, and manage a systemwide value-based care strategy for all patient populations.

Launched in 2006, Partners iCMP is a primary care based longitudinal care management program for complex, high-risk patients. Approximately 65 percent of iCMP patients are Medicare beneficiaries. On average, Medicare patients are enrolled in the iCMP for 26 months. The goal of the program is to help patients stay healthier longer by providing the specialized integrated care services they need to prevent complications and avoid hospitalizations.

ADAPTING iCMP TO MEET PATIENT NEEDS

The Partners iCMP contributed to effective management of patients and the financial success in at-risk contracts as a Pioneer ACO—successfully reducing hospitalizations, ED utilization, and mortality.

The needs of patients are deeply influenced by a variety of medical, social, and economic circumstances. Combined with chronic illnesses, these circumstances can create substantial challenges for patients and their families. To continue to help improve patients' overall health while also containing costs, Partners needed to maintain its iCMP and adapt the program to better meet the needs of patients with complex social and economic characteristics.

CARE COORDINATION IMPROVED WITH DATA

To identify rising-risk patients who may be appropriate for the iCMP, it is important to have integrated clinical, financial, and operational data. Partners integrates this necessary data using the Health Catalyst® Analytics Platform. To identify the patients, Partners applies claims data from the analytics platform into a risk predictive modeling software. The software generates a list of patients who are likely to be at an increased risk in the next 12 months.

Enrolling in the iCMP

In addition to using data and analytics to identify patients that would benefit from the iCMP, primary care physicians (PCPs) help review the list of potential patients to determine who enrolls in the program. PCPs can also refer patients outside of the identified list they believe will benefit from the iCMP. Patients selected for the iCMP include:

- Pediatric patients, adult patients, and seniors.
- Patients with multiple medical conditions.
- Patients with mental health, behavioral health, or substance use concerns that worsen existing medical conditions.
- Patients with lacking socioeconomic resources required to manage their illnesses effectively.
- Patients who are at risk of becoming high utilizers of care.

The iCMP uses a triad care team model, matching high-risk patients with a care coordinator lead. Depending on a patient's specific need, the care coordinator may be a registered nurse, a social worker, or a community health worker. The care coordinator lead works closely with the patient and their family to develop a customized plan to address their specific healthcare needs. The lead also becomes the central, consistent point of contact for the patient, helping to coordinate tests, transportation, social services, appointments with specialists, and anything else a patient needs.

Expanding the program—iCMP PLUS

Partners expanded its iCMP to care for those patients with multiple conditions spanning medical issues, social and economic challenges, and behavioral health concerns. The new program, iCMP PLUS, focuses on a small population of ultra-high-risk patients with the most complex, critical needs. Three medical drivers define patients in iCMP PLUS:

- Social or economic problems.
- Behavioral health conditions.
- Medical issues.

A patient enrolled in iCMP PLUS could have quadriplegia or multiple, severe chronic illnesses, such as congestive heart failure or end-stage renal disease. Social factors may include homelessness, domestic violence, or being homebound. Behavioral health issues like depression and substance use disorders are also a prevalent health driver in this patient population. iCMP PLUS members do not necessarily have to be dealing with all three drivers simultaneously, though some are—some patients are simply so medically complex that this program best accommodates their needs.

To help Partners deliver home-based services and to better coordinate care, Partners Population Health is collaborating with a community-based, non-profit healthcare organization in Boston with expertise in treating this population. Depending on what the patient needs, iCMP PLUS care managers can provide a significant amount of care support to patients outside of traditional clinical setting, meeting patients in their homes, an easily accessible public place like a coffee shop, or another location of their choosing. Other services offered through the program include help with transportation to the patient's primary care office and acting as an interpreter for the patient.

Focusing on patients with complex, critical needs

One example of a patient enrolled in iCMP PLUS is a patient with a large number of medical problems. He has lung cancer, congestive heart failure, asthma, type-2 diabetes, chronic kidney disease, kidney stones, as well as a developmental delay and significant cognitive impairment that makes it hard for him to remember words, grasp complex ideas, or follow general social cues. This patient navigates Boston public transportation, visits his friends, and is very involved in

his church, participating in church activities more than five times a week.

It takes substantial work to keep this patient out of the hospital. When he is feeling better, he sometimes fails to take his medications, or he may start to have difficulty with his breathing but not tell his provider about it. His hospital stays have included an emergency surgery from an untreated, necrotic infection in his thigh, a week-long stay for water retention, and a two-week stay last winter for fluid in his lungs.

The care manager, an advanced registered nurse practitioner (ARNP), makes sure this patient takes his medications, monitors his weight to ensure he is not retaining water, documents his blood sugars, and adjusts his plan of care to keep him stable and out of the hospital. The ARNP works in partnership with the patient's primary care provider, ensuring they are aware of his status and that any serious issues are reported.

Partners uses the analytics platform to evaluate the effectiveness of the iCMP, enabling informed strategic decisions in addition to decisions about day-to-day operations. Partners continues to use technology to improve care coordination, including real-time notification in the EMR that informs providers in the ED and inpatient setting when a patient is enrolled in the iCMP. Automated paging is also used to alert care managers when their patient presents in the ED.

RESULTS

The iCMP, created to improve the quality of care provided to complex patients while still achieving savings through better care utilization and coordination, is continuing to decrease costs while improving outcomes. Results include:

- Estimated $125 per member per month savings for Medicare patients enrolled in iCMP as compared to patients not enrolled based on an analysis including 24 months of claims.
  - Previously published analysis included up to 18 months of claims data on post-iCMP assessments, which revealed an average $101 per member per month cost savings for Medicare patients enrolled in iCMP as compared to patient not enrolled. Cost savings continue to grow the longer the patients are in the program.

- Similar to cost findings, the relative risk of any ED visits, non-emergent ED visits, and hospitalizations decreased as length of program enrollment increased.
  - In months 24+ in the program, the relative risks of all three types of utilization were lower than 0.60.[3,4]
- The program is also having a positive impact on the quality of life of patients enrolled in the iCMP. For the first time, the patient mentioned above has avoided a hospital admission for six months.[3,4]

WHAT'S NEXT

Partners plans to further expand and adapt the iCMP, tailoring interventions to those who need them with the goal of helping patients stay healthier longer.

REFERENCES

1. Centers for Disease Control and Prevention. (2018). *Health and economic costs of chronic diseases.* Retrieved from https://www.cdc.gov/chronicdisease/about/costs/index.htm
2. Stanton, M. W., & Rutherford, M. K. (2005). The high concentration of U.S. health care expenditures. *Agency for Healthcare Research and Quality, 19*, 06-0060. Retrieved from http://archive.ahrq.gov/research/findings/factsheets/costs/expriach/
3. Hsu, J., Price, M., Brand, R., Chernew, M. E., Chaguturu, S. K., Mohta, N., . . . Ferris, T. (2017). Bending the spending curve by altering care delivery patterns: The role of care management within a pioneer ACO. *Health Affairs 36*, 5:876-884. Retrieved from https://www.healthaffairs.org/doi/10.1377/hlthaff.2016.0922
4. Evaluation of Medicare Care Management for High Cost Beneficiaries (CMHCB) Demonstration: Massachusetts General Hospital and Massachusetts General Physicians Organization. (2010) Retrieved from https://www.massgeneral.org/News/assets/pdf/FullFTIreport.pdf

ABOUT HEALTH CATALYST

Health Catalyst is a next-generation data, analytics, and decision support company committed to being a catalyst for massive, sustained improvements in healthcare outcomes. We are the leaders in a new era of advanced predictive analytics for population health and value-based care with a suite of machine learning-driven solutions, decades of outcomes-improvement expertise, and an unparalleled ability to integrate data from across the healthcare ecosystem. Our Health Catalyst Data Operating System (DOS™), a next-generation data warehouse and application development platform—powered by data from more than 100 million patients, encompassing over 1 trillion facts—helps improve quality, add efficiency and lower costs for organizations ranging from the largest US health system to forward-thinking physician practices. Our technology and professional services can help you keep patients engaged and healthy in their homes, communities, and workplaces, and we can help you optimize care delivery to those patients when it becomes necessary. We are grateful to be recognized by Fortune, Gallup, Glassdoor, Modern Healthcare and a host of others as a Best Place to Work in technology and healthcare.

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