

# Population health and value-based care collaboration: Primary care case study

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## Background

Many health systems globally are introducing new care models which purport to replace expensive, and often clinically unnecessary, acute inpatient care with more primary and community-based services. Changes in reimbursement are a critical part of introducing new models of care. Current efforts aim to ensure that clinical decision makers have financial incentives which support best practice clinical interventions. In this article we discuss the primary care redesign of seven US practices over the course of three years, including their reported utilisation and savings achievements.

## Pre-outline summary

The Center for Medicare and Medicaid Innovation (CMMI) in the United States awarded grants to 14 organisations to support primary care redesign efforts. CMMI awarded these grants in 2012 and typically evaluated implementation and outcomes for three years. The final assessments have not been completed, but in many cases the second annual evaluation reports provided solid results to review. CMMI's goal with funding the test cases was to assess if a capitated payment model would allow health systems to operate care delivery redesigned to focus on primary care in a sustainable way. The awarded funds allowed systems to spend money on services, infrastructure and personnel that would not be reimbursed under typical fee-for-service reimbursement models.

## Source material

The source material used is a programme report<sup>1</sup> summarising the second annual assessment of the 14 awards granted to support primary care redesign. The first section of the report included in the source documentation is limited to the applicable case study, 'Health Care Innovation Awards (HCIA) – Primary Care Redesign (PCR) Programs – Atlantic General Hospital.'

## 1. Introduction

In January 2013, Atlantic General Hospital (AGH) implemented a patient-centred medical home (PCMH) model throughout its seven primary care practices in the United States. The PCMH<sup>2</sup> is a model focused on the organisation and delivery of core primary care functions and encompasses comprehensive, patient-centred, coordinated care with accessible services while ensuring quality and safety. The design of the programme focused on two main primary care redesign (PCR) objectives:

1. Care coordination for participants diagnosed with chronic conditions
2. Post-admission care transitions support for patients with any diagnosis

The key objectives of the programme were to reduce hospital admissions, 30-day readmissions, outpatient emergency visits and, consequently, the total cost of care. As the programme developed, AGH sought to identify opportunities to improve its programme by measuring the quality of care participants received and identifying other high-risk patients who would benefit from the programme.

During the first year of the programme's implementation, a third 'keeping in touch (KIT)' stream was added for patients who did not require the same level of intensity as the interventions offered through the first two streams. This stream provided follow-up services to help the participating patients manage their conditions. Ultimately, this portion of the programme was not evaluated, as the volume of data was not sufficient for statistical models to reliably calculate its impact.

AGH used health information technology (IT) as well as community education and outreach programmes to enhance the effect of the PCMH model. For example, it developed a patient portal where participants were able to communicate directly with providers, make appointments, request referrals, order prescription refills and access their medical records. AGH also engaged with faith-based community organisations to distribute information on the PCMH services and provide participants with on-site access to the portal.

1 Moreno, L. et al. (March 30, 2016). Evaluation of Health Care Innovation Awards (HCIA); Primary Care Redesign Programs, Second Annual Report, Volume II: Individual Program Summaries. Mathematica Policy Research. Retrieved July 6, 2017, from <https://www.mathematica-mpr.com/our-publications-and-findings/publications/volume-ii-evaluation-of-health-care-innovation-awards-hcia-primary-care-redesign>.

2 Agency for Health Research and Quality (AHRQ). Defining the PCMH. Retrieved July 6, 2017, from <https://pcmh.ahrq.gov/page/defining-pcmh>.

## 2. Care redesign

The main features of the PCR programme are detailed in the table in Figure 1.

**FIGURE 1: KEY PCR PROGRAMME COMPONENTS BY PROGRAMME STREAM**

KEY PROGRAMME COMPONENT	PROGRAMME STREAM		
	1. CARE COORDINATION	2. POST-ADMISSION CARE TRANSITION	3. KEEPING IN TOUCH (KIT)
IMPACTED POPULATION	1,460 beneficiaries	460 beneficiaries	Not available because programme was not evaluated.
TARGET POPULATION	<p>Medicare (primarily over-65s) patients with a diagnosis of: Chronic Obstructive Pulmonary Disorder (COPD), Congestive Heart Failure (CHF) or Diabetes Mellitus (DM). Extended to other patients expected to benefit:</p> <ul style="list-style-type: none"> <li>▪ Non-Medicare</li> <li>▪ Under age 65</li> <li>▪ Other diagnoses such as obesity, hypertension, mental health</li> </ul>	All patients with an AGH Primary Care Physician (PCP) discharged from AGH for any diagnosis.	Patients discharged from the care coordination or post-admission care transition programmes who required less intensive follow-up support to manage their conditions.
POPULATION IDENTIFICATION	<p>Identify frequent users from hospital discharge data on either:</p> <ul style="list-style-type: none"> <li>▪ Less than two admissions or emergency visits within six months</li> <li>▪ Three or more chronic conditions</li> </ul> <p>Patients were recruited during face-to-face visits with providers and care coordinators would conduct an introductory call with those who agreed to participate.</p>	Use hospital discharge data. Care coordinators also reviewed discharge summaries to identify patients with a high risk of readmission using the LACE index. <sup>3</sup>	KIT nurses informed providers of patients with issues that might impair effective self-care. Providers would then refer patients to the programme based on an assessment of ongoing support needs.
KEY ELEMENTS OF CARE AND SERVICE DELIVERY	<p><b>Initial:</b> 30-minute introductory call with a care coordinator to review their conditions, goals and care plan.</p> <p><b>During:</b> Progress reviewed by monitoring lab results, visiting patient and weekly phone calls (frequency increased to two to three times per week for those with unstable conditions).</p> <p><b>Discharge from programme:</b> Patients discharged after meeting care plan goals, typically within six to 12 months.</p>	<p><b>Initial:</b> Care coordinators visited patients in hospital to inform them of the programme, brochures were mailed to the patient's home and a follow-up call was made within 72 hours from care coordinator to assess transition needs and schedule follow-up appointments with providers.</p> <p><b>During:</b> Weekly phone calls during 30 days post-discharge (frequency increased to two to three times per week for those with unstable conditions).</p> <p><b>Discharge from programme:</b> All participants discharged after 30 days. Providers for those still at high risk of readmission were notified.</p>	Brief weekly phone calls from KIT nurses to identify concerns and any issues regarding self-care.
RESOURCES	<p>AGH created several new core clinical staff positions to support the programmes:</p> <ul style="list-style-type: none"> <li>▪ Nurse care coordinators</li> <li>▪ Nurse</li> <li>▪ Social worker</li> <li>▪ Two administrative positions (day-to-day program manager and data specialist for data analysis, collection and reporting)</li> </ul>		Two retired nurse volunteers.
TRAINING	<p><b>Year 1:</b> Training for staff and providers including education on National Committee for Quality Assurance (NCQA) PCMH standards (four-hour course, five trainees), PCMH philosophy of care (four-hour course, 255 trainees) and health literacy (one-hour course, 52 trainees).</p> <p><b>Year 2:</b> Motivational interviewing training given to care coordinators to enable them to understand and motivate the patients they support.</p>		Volunteer nurses and programme staff received training in the use of the AGH electronic health record (EHR).

3 The LACE index predicts a patient's readmission risk based on length of stay, acute admission through the emergency department, comorbidities and emergency department visits within the last six months.

### 3. Results

Programme results were only measured for Medicare beneficiaries enrolled in the Care Transitions programme. Data volumes were too low to produce reliable statistical results for other beneficiaries and the other programme streams. In addition, the timing of available Medicaid data made it impractical to include this cohort in the analysis.

Outcome measures were defined in terms of the three main categories described in the table in Figure 2. If outcome measures were in excess of the substantive threshold values and statistically significant, the outcome was considered to be achieved. The substantive threshold values were established in order to reflect a successful outcome even if the goal outcome was not achieved completely.

The results presented in Figure 3 have been obtained directly from the programme report created by Mathematica Policy Research (MPR), rather than being calculated or validated by us. Based on the results reported there, the Care Transition

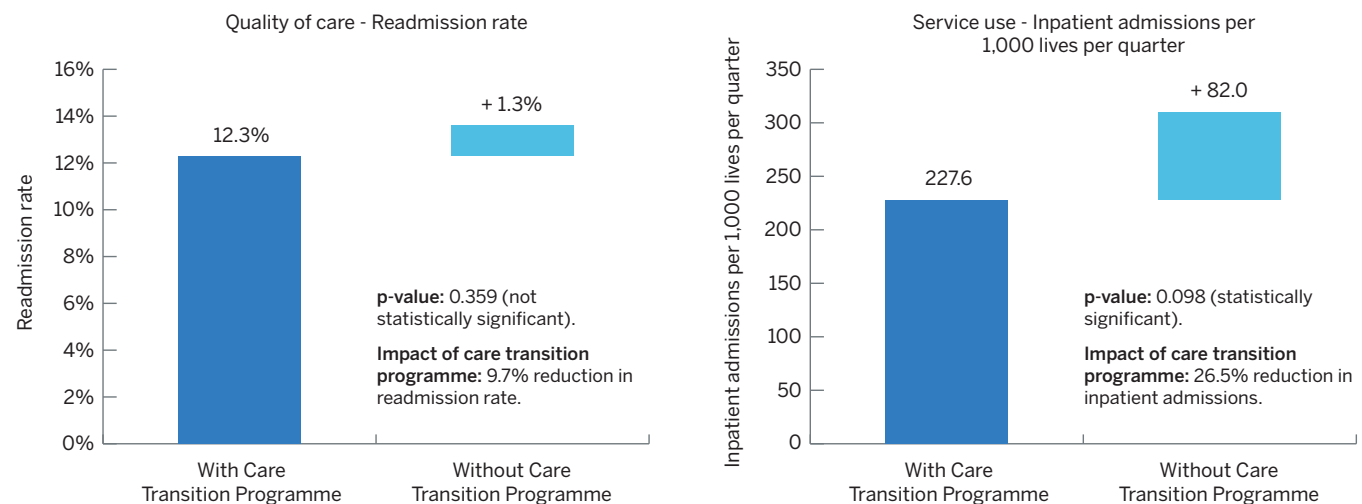
Programme appears to have exceeded the outcome goals for reducing inpatient admissions and spend. The results for reducing readmission rates and outpatient emergency department visits were not statistically significant and did not exceed the substantive threshold. The results currently available are preliminary, and final conclusions will be drawn about the programme in subsequent programme reports that consider a longer timeframe.

The programme achieved a 26.5% reduction in inpatient admissions, with patients in the treatment group having an inpatient admission rate of 227.6 per 1,000 lives per quarter compared with 309.8 if no programme had been in place. The 31.4% difference in spend (with and without the programme) equates to a reduction of USD 1,443 per beneficiary per month. Over a six-month period, this translates to a total saving of USD 3.98 million. Based on these results, the programme benefits from the Care Transition Programme alone have exceeded the overall grant of USD 1.1 million that was received to implement the entire PCR programme.

**FIGURE 2: CARE TRANSITIONS PROGRAMME OUTCOME MEASURES**

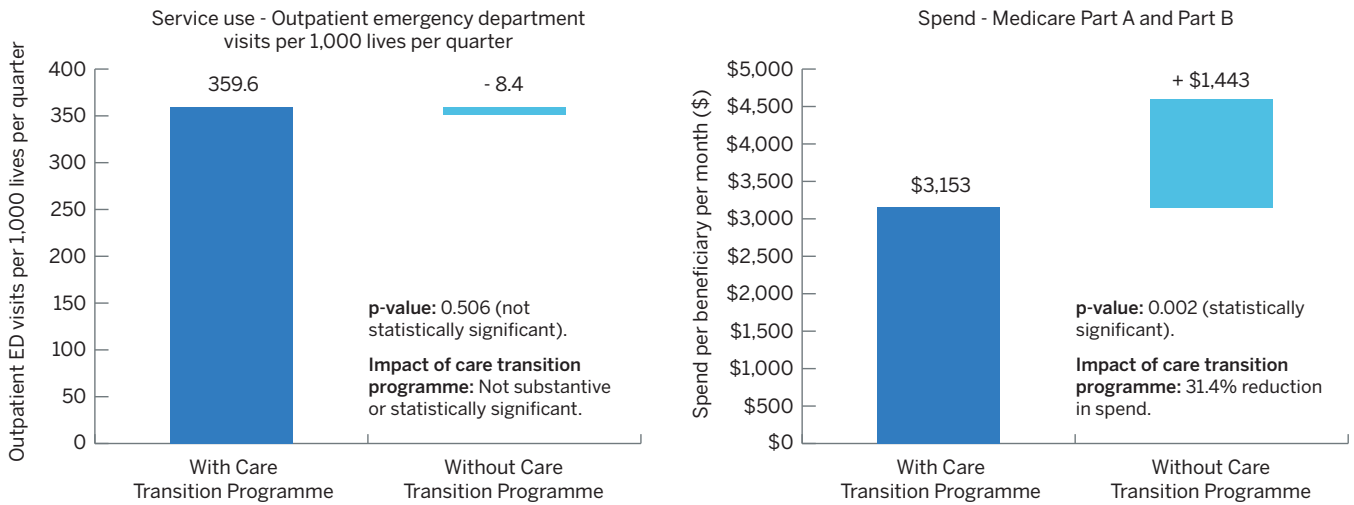
OUTCOME CATEGORY	OUTCOME	TIME PERIOD FOR MEASURING IMPACT	GOAL OUTCOME	SUBSTANTIVE THRESHOLD	OUTCOME ACHIEVED?
QUALITY OF CARE	30-day unplanned readmission rate	30 days following the enrolment admission	Not specified	15% reduction	Undetermined—results not statistically significant and did not exceed substantive threshold.
SERVICE USE	All cause inpatient admissions	Average of first two quarters following enrolment admission	30% reduction	15% reduction	Yes—exceeded substantive threshold and statistically significant.
	Outpatient emergency department visits		30% reduction	15% reduction	Undetermined—results not statistically significant and did not exceed substantive threshold.
SPENDING	Medicare Part A and Part B spending <sup>4</sup>		15.5% reduction	11.6% reduction	Yes—exceeded substantive threshold and statistically significant.

**FIGURE 3: OUTCOMES FOR CARE TRANSITION PROGRAMME**



<sup>4</sup> Medicare Part A and Part B cover in-hospital and out-of-hospital services, respectively.

**FIGURE 3: OUTCOMES FOR CARE TRANSITION PROGRAMME (CONTINUED)**



## 4. Financial structure and future considerations to support care design

Implementing capitated/risk-based payment structures empowers provider organisations to make decisions about spending by detaching payments from service utilisation. This allows provider organisations to spend money where it will be used most effectively to increase the quality of care while generating spending savings.

The programme report does not explicitly state how the generated savings are distributed between stakeholders, and it is unclear if AGH is able to benefit directly from the reduced inpatient admissions and spend achieved by the implementation of the three PCR programmes. However, at a system level there have been apparent reductions in cost and utilisation while achieving better outcomes for patients as their navigation through the healthcare system appears to be improved.

The opportunity for AGH to benefit stems from Maryland’s global payment model, which was adopted in January 2014 and rewards hospitals for avoiding unnecessary admissions. AGH anticipates that the financial gains achieved will enable it to maintain support for the PCR programme. AGH also plans to pursue the following avenues to ensure the programme’s sustainability and scalability in the future:

- Reinitiate the partnerships that enabled the provision of nurse and social worker support.
- Employ telemedicine to increase the capacity of the programme team.

- Develop plans to expand the PCMH model (e.g., include lower-risk patients) by engaging with more community organisations.
- Build new relationships with independent outpatient providers, develop shared savings programmes and extend the programme to all patients discharged from AGH, including those with non-AGH providers.
- Identify patients with AGH providers admitted to non-AGH facilities using a state-wide database to identify high-risk patients and monitor their healthcare use.

The flexibility of the programme and ability to adapt it according to both patient and provider needs has been central to the programme’s success. This flexibility is an attribute of alternative payment models because they detach payments from services, allowing payer organisations to allocate reimbursements more efficiently. Communication between the clinicians and with the patients was a key component of the implementation of the programme. This added to the positive perception by the providers and their engagement in the programme, which contributed to its successful implementation.

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