Reducing CHF Readmissions in an Integrated Delivery Network:
A Multi-Disciplinary Quality Improvement Initiative

Marie Parker, PharmD, MPH, BCPS[1]; Andrew Kobylivker, MD[2]

[1]Kaiser Foundation Health Plan, Atlanta, GA [2]The Southeast Permanente Medical Group, Atlanta, GA

Background

Congestive heart failure (CHF) is one of the primary drivers of hospital readmissions within 30 days of discharge and contributes significantly to rising healthcare costs. Despite lower overall rates of 30-day readmissions in the Kaiser Permanente – Georgia (KPGA) CHF population (17%) than those observed nationally (25%), CHF management efforts had long been under-resourced and fragmented, failing to achieve lower readmission rates in the region. In 2016, a core project team was convened to develop a robust, multi-disciplinary program for KPGA patients living with heart failure. For those newly diagnosed with CHF or recently discharged from the hospital with a CHF exacerbation, a clinical pathway program was developed where nurses and pharmacists provide education and medication management between cardiology visits to reduce readmissions.

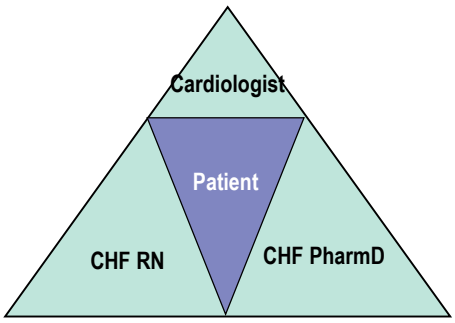
Objective and Measures

The objective of KPGA's CHF quality improvement initiative was to establish an efficient outpatient management program for patients with CHF, as evidenced by lower readmission rates for CHF patients enrolled in the pathway program versus those in the general heart failure population.

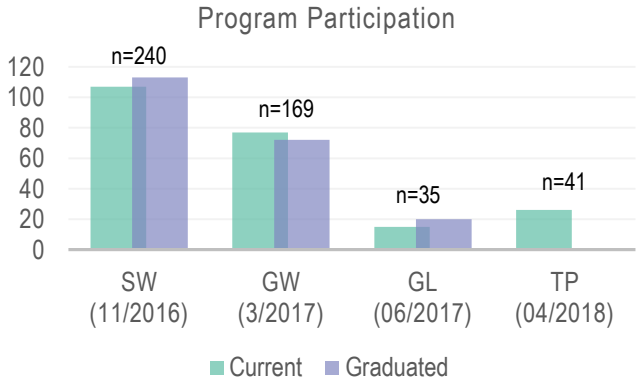
There were four overall measures included in the evaluation of this program to assess process and clinical outcome improvements:

- Process:
  - % Physician time vs %Nurse/Pharmacist time
  - # Medication changes
- Outcome:
  - % 30-day readmission rates
  - % 90-day readmission rates

Program Structure and Participation Rates

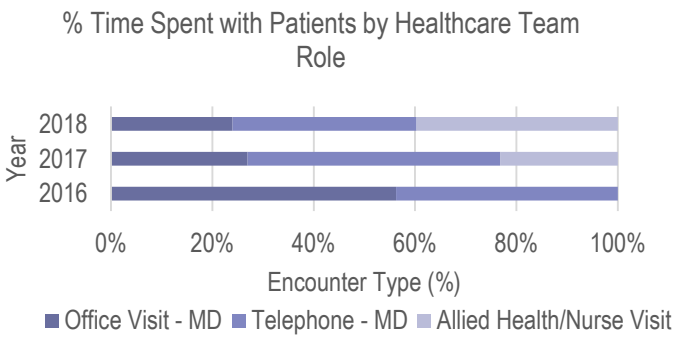


The cardiologist is responsible for the primary management of the CHF patient, making referrals to the CHF pathway for patients that need additional support between cardiology visits. The CHF RN provides self-management education and coaching, while the CHF PharmD assesses medication compliance and titrates medications, based on response, to optimal doses.



The CHF Pathway was first started, in its current operational structure, at the KPGA Southwood (SW) location in November 2016, followed by the opening at Gwinnett (GW) and Glenlake (GL), and, most recently, Town Park (TP).

Process and Outcome Measures

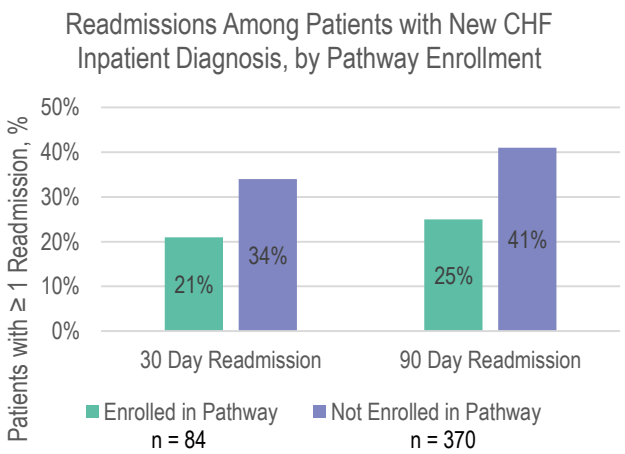


Over time, there has been a decrease in physician time providing education and titrating medications over time (from 100% in 2016 to 60% in 2018); instead, nurses and pharmacists now provide these services for patients enrolled in the CHF pathway.

CHF Pathway Medication Management Process Measures

	PharmD Encounters (#)	Medication Changes (#)
July 2018	155	85
June 2018	162	86
May 2018	177	97
April 2018	150	86
March 2018	161	86
February 2018	129	74
January 2018	108	49

Pathway pharmacists completed, on average, two encounters per patient to reach optimal therapy for patients with CHF in 2018.



Only 21% and 25% of pathway patients diagnosed with CHF while in the hospital were readmitted to the hospital within 30 and 90 days, respectively, of initial hospital discharge versus 34% and 41% of similar patients not enrolled in the pathway (30 day $x^2 = 5.24$, p = 0.022; 90 day $x^2 = 7.09$, p = 0.008).

Next Steps

- Incorporate Quality of Life (QoL) assessment
- Expand pathway program resources

KAISER PERMANENTE®