

Centralized Structured Telephonic Encounters Improve Early Post-Discharge Follow-up for Pneumonia

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Introduction

The Centers for Medicare and Medicaid Services (CMS) Hospital Readmission Reduction Program (HRRP) was introduced in 2012 as a mechanism to reduce rates of all cause unplanned 30-day readmissions with penalties for risk-adjusted readmissions in excess of expected. The diagnoses that are targeted through HRRP have been expanding since first introduced and now include six medical and surgical conditions. Because of HRRP, as well as several other quality reporting and value-based programs, hospitals have focused intensely on decreasing readmission rates. With these efforts, readmissions have fallen nationally in recent years, but further reduction remains a substantial ongoing goal of many institutions, including the NorthShore University HealthSystem. Despite this improvement and increased focus on reducing readmissions, there remain few interventions that have been able to demonstrate meaningful, sustainable, reductions in readmission rates. A few that do appear effective, based on several observational studies, are engaging patients shortly after discharge with a standardized telephonic encounter, completion of a post-discharge follow-up appointment, and interventions aimed at promoting self-care.

Aim Statement

In this quality improvement project we aimed to initiate a centralized care transitions program to contact patients post-discharge via a structured telephonic encounter and improve post-discharge follow-up rates. We aimed to contact 80% of patients discharged home within two business days of discharge by October 2018 and complete a structured and standardized phone call. Through this intervention with aimed to increase the rate of completed follow-up appointments to 80% and achieve a reduction in 30 day all cause unplanned readmissions for CMS targeted conditions to 75th percentile compared to a peer group benchmark.

Project Design/Strategy

This was a quality health improvement initiative aimed at reducing readmission rates for CMS targeted conditions. In the poster presented here, we will focus on the population of pneumonia patients. Our project included executive sponsors, multidisciplinary initiative leaders, and a committee consisting of various quality leaders, medical group operations, physicians, health information technology, patient experience, clinical analytics, care management and senior leadership. The committee meets on a regular basis for strategy development, implementation, and outcomes evaluation.

Interventions implemented

A multidisciplinary team was assembled in February 2018 to create value stream maps of the current post-discharge process. Teams then worked to uncover and identify those issues that were considered most likely to improve readmission rates for all patients with a CMS targeted condition. In May 2018, our team implemented a phase I program with inclusion criteria of patients with a Diagnosis Related Group (DRG) diagnosis of ischemic stroke, pneumonia, chronic obstructive pulmonary disease (COPD), acute myocardial infarction (AMI) or congestive heart failure (CHF). Patients were excluded if their discharge destination was hospice, an acute rehabilitation facility or a skilled nursing facility. Cases were identified based on working or coded DRG for one of these five diagnoses, or when pneumonia was a secondary coded condition in a patient with principle DRG for sepsis or COPD was a secondary coded condition in a patient with a principle DRG for acute respiratory failure. Patients meeting inclusion criteria were placed in a work queue within the electronic health record (EHR). Two RNs would call each patient and during the call use a standard script and documentation template to record the contents of the call. If there was an identified primary caregivers, that person was included in the call. The contents of the telephonic encounter included assessment of comprehension and reinforcement of discharge instructions, health assessment, medication adherence, identification of transportation barriers, coordination with home health services, when indicated, as well as scheduling and reinforcing the importance of a post-discharge appointment with the appropriate provider to be completed within 14 days of discharge.

Results

Table 1. Patient demographic, hospital, risk stratification and discharge destination characteristics for patients discharged after index admission for PNE

		May 2017 - April 2018 (n = 395)	May 2018 - July 2018 (n = 76)	p-Value
Age (Years)	Mean	73.1	74.6	0.4667
	Median	75	76	0.4428
Gender	Female	201 / 50.9%	41 / 53.9%	0.7161
	Male	194 / 49.1%	35 / 46.1%	
Pavilion	Evanston	92 / 23.3%	13 / 17.1%	0.6308
	Glenbrook	139 / 35.2%	27 / 35.5%	
	Highland Park	105 / 26.6%	22 / 28.9%	
	Skokie	59 / 14.9%	14 / 18.4%	
Specialty	Hospitalist	363 / 91.9%	71 / 93.4%	0.8267
	Non-Hospitalist	32 / 8.1%	5 / 6.6%	
Readmission Risk	Low	264 / 66.8%	41 / 53.9%	0.0967
	Medium	88 / 22.3%	23 / 30.3%	
	High	43 / 10.9%	12 / 15.8%	
Discharge Destination	Home	297 / 75.2%	57 / 75.0%	1.0000
	Home Health	98 / 24.8%	19 / 25.0%	

The results presented here are for those patients within the program with a diagnosis of pneumonia. Patients were evaluated retrospectively to estimate the likely impact of improving post-discharge follow-up appointments. Patients who completed a follow-up appointment within 14 days had a 57.2% relative reduction and 12.8% absolute reduction in readmission. Post implementation, patients with a diagnosis of pneumonia were identified and an outreach attempt was made in 62.2% of discharges home. Outreach was completed in 52.6% of all eligible discharges and 86.6% of attempted calls. Call completion resulted in a scheduled appointment within 14 days 95.1% of the time. (Figure 2)

Follow-up appointments with an appropriate provider were completed within the target timeframe of 14 days in 62.5% of patients discharged to home in the baseline period, compared with 71.1% since the start of the intervention (p=0.1920) (Figure 3). The readmission rate for pneumonia patients was 13.6% in the baseline period compared with 12.2% in the intervention period (p=0.5759) (Figure 4)

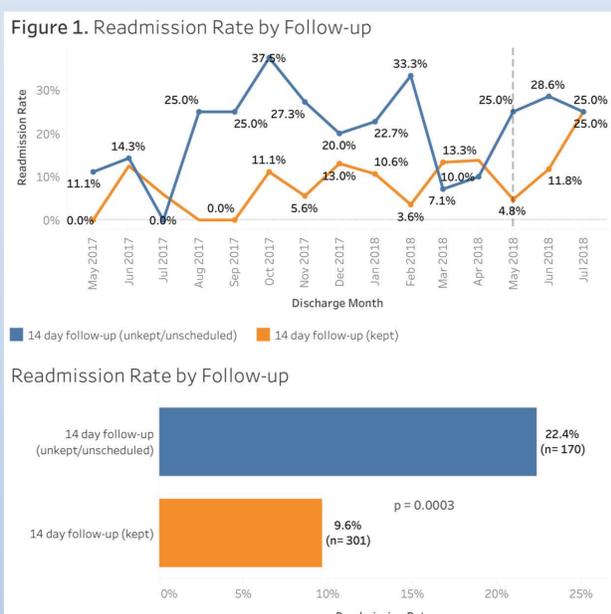


Figure 2. Post-Discharge Patient Outreach and Follow-Up

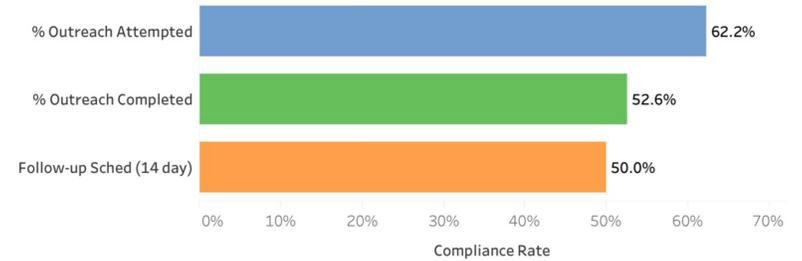
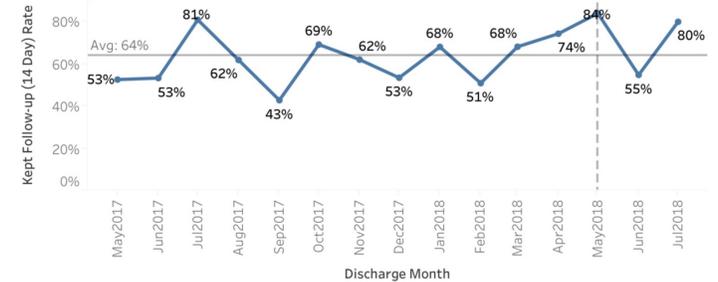


Figure 3. Follow-up Rate by Month



Kept Follow-Up (14 Day) Rate Pre and Post Intervention

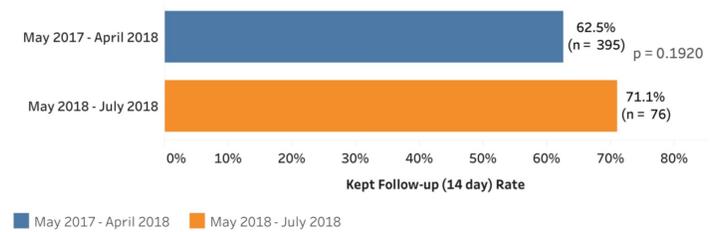
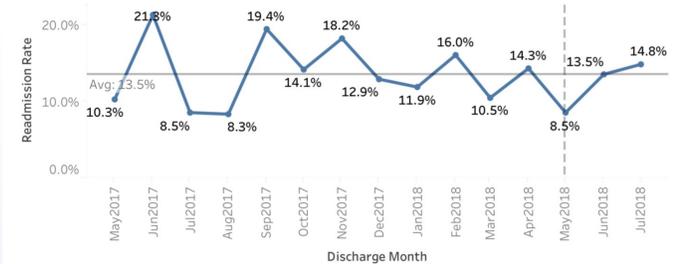
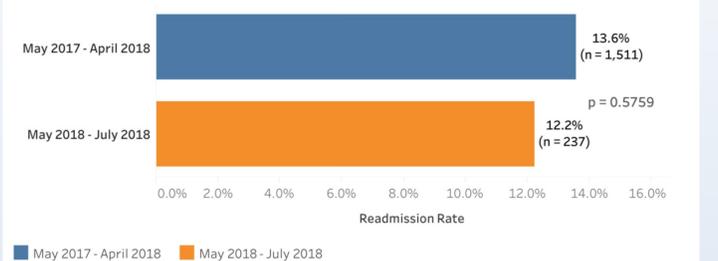


Figure 4. Readmission Rate by Month - All PNE Discharges



Readmission Rate Pre and Post Intervention



Discussion

We successfully implemented a centralized outreach process for patients with a DRG diagnosis of pneumonia using a standardized post-discharge assessment and documentation. As seen in figure 1, the completion of a follow-up appointment within the NorthShore system for patients discharged with a diagnosis of pneumonia appears highly protective against readmission. This suggests that working to improve post-discharge follow-up appointments should be an effective tactic towards improvement in readmission rates.

For our primary intervention of an early telephonic encounter, we were able to complete outreach for patients post-discharge in 52.6% of all discharges home. In the 3 months post-implementation we had a relative improvement in follow-up appointment rates of 12.1% (absolute increase of 8.6%). Our overall readmission rate for pneumonia during this period decreased from 13.6% to 12.2%. While this decrease has been small, this is likely due to the small sample size and relatively short intervention period. Additionally, as seen in Table 1, the post-implementation population included a more complex patient population with a higher percentage of patients with an elevated readmission risk.

Some barriers we encountered to being able to reach all patients included having correct contact information, patient reluctance to participate in the phone call, a high volume of patients needing a phone call, list accuracy which led to missed case opportunities and a significant amount of time spent on removing inappropriate cases who did not meet inclusion criteria for a follow-up phone call. Follow-up appointment barriers identified included, confusing or incorrect discharge information and patient reluctance to schedule an early follow-up appointment. As we move this program forward through iterative improvement, we plan on eliminating DRG-based disease classification as primary inclusion criteria and instead use risk adjustment for readmission to identify our target population. In addition, we plan to move the initial patient contact within the hospitalization, likely through dedicated discharge navigators.

Through these changes, and with additional iterative testing, studying, and modification, we are confident that we will have a large impact on the outcome measure of 30 day all cause unplanned readmission rates

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