

Impact of a Centralized Interdisciplinary Discharge Unit on Readmission Rates and Transitional Care Services in High Risk Patients

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Introduction

Care transition failures contribute to rising health care costs in the United States through increased hospital readmissions as demonstrated by one in five Medicare patients being readmitted within 30 days of discharge.⁽¹⁻⁴⁾ In 2007, the Medicare Payment Advisory Commission (MedPAC) reported to Congress on ways to promote greater efficiency in Medicare, which included decreasing the number of avoidable hospital readmissions through higher quality of care and improved transitions of care. MedPAC estimated that 13.3% of 30-day readmissions are potentially preventable and can total up to \$12 billion.⁽⁵⁾ In the 2008 report to Congress, MedPAC recommended that readmission rates be confidentially reported; however, the Center for Medicare and Medicaid Services (CMS) began publicly reporting the 30-day readmission rates for acute myocardial infarction (AMI), heart failure (HF), and pneumonia (PNA) in 2010.⁽⁶⁾ As a result of the previously identified financial burden on patients and the health care system, CMS enacted the Readmission Reduction Program in 2012. Originally, the program reduced payments to hospitals with an excess number of 30-day readmissions for three conditions: HF, PNA, and AMI.⁽⁷⁾ Since the initiation of the program, CMS has expanded the measures to include chronic obstructive pulmonary disease (COPD), elective total hip and knee arthroplasty, and coronary artery bypass graft (CABG) surgery.⁽⁷⁾ According to the fiscal year 2015 program, hospitals may be subject to a hospital-specific payment penalty of up to 3%, leading to a reduction of approximately \$424 million from the inpatient Medicare prospective payment system.⁽⁸⁾

Among the high-risk diagnoses under the Readmission Reduction Program, AMI and PNA are ranked in the top 10 conditions with the largest number of 30-day all-cause readmissions in Medicare beneficiaries.⁽²⁾ Further, AMI and PNA are listed as the fifth and sixth most expensive conditions billed to Medicare, contributing significantly to the aggregate hospital expenditures.⁽⁹⁾ In 2013, the aggregate hospital cost of readmissions was approximately \$1 billion for AMI and \$1.8 billion for PNA. In 2013, nearly 485,000 patients required a hospital admission for AMI, of which 14.7% were readmitted within 30 days. Similarly, 800,000 hospitalizations were due to PNA, with a readmission rate of 15.5%.⁽¹⁰⁾ Recognized as specific hospital measures, there is a need for more effective or novel approaches to improving quality and continuity of care. In January 2013, CMS introduced transitional care management (TCM) services with the focus of reducing readmissions and cost by means of improving care coordination.^(11,12) Nationally, several different programs have been proposed to improve transitions of care (TOC) in an effort to reduce avoidable readmissions, though it is still unclear which intervention is most effective.

Coordination of care across the health care continuum is crucial for the implementation, management, and evaluation of a patient's integrated care plan. Breakdowns in the communication of care and ineffective handoffs can often lead to poor transitions. Care transition failures can occur between various care settings. The risk is most critical when patients leave the hospital.^(13,14) Existing literature has described other institutions employing discharge coordinators to see high-risk patients prior to discharge to proactively address care needs in an effort to minimize hospital readmissions.^(7-11,13-17) Despite significant efforts to coordinate transitions, several gaps remain, including poor provider communication, ineffective patient and caregiver education, lack of follow-up with primary care providers, failure to address chronic conditions, and lack of community support. Several models have demonstrated successful components of transitions; however, collaborative relationships across settings are crucial, and challenges remain.⁽¹⁴⁾ Frequently, management of patient care plans is siloed under different services. One approach to bridging the gap in care coordination is providing a central location for discharge services.

Practice Innovation

At our institution, the Care Transition Center (CTC) was created in 2015 as a dedicated discharge unit where patients identified as "high risk for readmission" are transferred prior to discharge for Transitional Care Services. Patients are deemed to have qualifying high-risk conditions based on the physician progress notes and/or primary diagnosis code(s). A designation of "high risk for readmission" is then indicated in the electronic health record (EHR) through an order, which would tag the patient for CTC discharge. This risk for readmission order could be placed by any provider or health care professional caring for the patient. The order for "high risk for readmission" can be bypassed if there is documented patient refusal, patient status changes, or the CTC is closed. Though CTC discharge for patients identified as high risk is not an official mandatory process, there is a continued drive to promote utilization of the discharge unit from the department and Patient Care Units (PCUs).

The CTC is charged with two specific goals: (1) reduce readmission rates in high-risk patients, and (2) facilitate patient flow and admissions through the Emergency Department (ED) by decompressing the inpatient units and expediting bed availability. The CTC provides services weekdays from 10:00 AM to 7:30 PM. Located on the 1st floor of the hospital, the CTC serves as a pick-up location for family and ambulance transport. The CTC has 10 individual bays and a waiting area where designated ambulatory patients await education and prescription services. Patient discharge time through the CTC

depends on patient needs, required education, need for pharmacist intervention, requisition of prescription services and transportation scheduling. Patient time spent in the CTC varies from 15 minutes to several hours; official discharge takes place once provisions of educational services are rendered and transportation arrives.

The interdisciplinary, collaborative CTC staff consists of a pharmacy team, two nurses, two patient care assistants, and a unit secretary. The pharmacy team is led by a clinical specialist, and assisted by pharmacy post-graduate year 1 (PGY-1) residents and Advanced Pharmacy Practice Experience (APPE) students. The pharmacy team is responsible for conducting medication education, addressing barriers to adherence, reconciling medications, facilitating prescription filling, clarifying discharge orders, addressing therapy optimization, and communicating discharge plans and orders with outpatient providers and retail pharmacies. Care Transition Center nurses provide disease management education, ensure home care services, follow up on laboratory tests, schedule follow-up appointments, and facilitate provider communication.

Follow-up phone calls are also completed by the CTC staff post-discharge to assess the continuity of care and patient adherence with their care plan at three and 10 days. Phone calls at three days are prioritized for pharmacists to assess and address medication non-adherence and/or issues obtaining prescribed prescriptions. A standardized phone script ensures continuity of information gathered by staff.

Objective

The objective of the study was to determine the effect of a centralized, interdisciplinary transitional care center on all-cause PNA and AMI readmission rates as compared to the standard hospital discharge. Secondary outcomes include 30-day all-cause ED visits, and 30-day all-cause observation visits.

Methods

Study Design & Location

The study was an IRB approved retrospective chart review conducted at a single center, 643-bed tertiary academic medical center serving central New Jersey. At the time of data collection, the study center was one of five hospitals in the health system. A nonprofit institution, and one of the busiest medical centers in the state, the institution served 82,000 emergency department visits and 26,000 inpatient admissions in 2015.

Study Population

Study participants were reviewed as two separate cohorts: 1) PNA Cohort; and 2) AMI Cohort. The PNA cohort included adults at least 18 years of age, admitted between November 1, 2014, and April 30, 2015, with a diagnosis of community-acquired PNA as per the physician's documentation in the EHR, tagged as "high risk for readmission" and treated with at least one antibiotic during hospital course. Patients were excluded if they expired, were transferred to another hospital, had cystic fibrosis, or were diagnosed with hospital-acquired PNA or ventilator-associated PNA. The AMI cohort included adults at least 18 years of age, admitted between January 1, 2014, and December 31, 2015, with a diagnosis of AMI and tagged as "high risk for readmission." Patients were excluded if they expired, were transferred to another hospital, placed on hospice, or had a diagnosis of unstable angina or type II secondary MI unrelated to coronary artery disease. All diagnoses were verified through

physician progress notes and/or diagnosis code(s).

Intervention

For all patients meeting the inclusion criteria, a review of the EHR was conducted to compare patients discharged from the CTC to those discharged from the standard adult PCU. Discharge process through the CTC includes detailed disease management instruction, medication education, prescription services, follow-up appointment scheduling, social and home care services coordination, facilitation of communication with outpatient providers and community pharmacists, and post-discharge follow-up phone calls. Discharge from the PCU is currently not standardized at our institution. Typically, nursing is solely responsible for discharge education without pharmacy assistance. A one-page handout is provided that details disease-specific recommendations relating to monitoring, diet, medication, activity, and a reminder to follow up with the physician.

Endpoints

The primary outcome of the study was 30-day all-cause hospital readmission to any of the five health system hospitals. Secondary outcomes included 30-day all-cause emergency department (ED) visit, 30-day all-cause observation (OP) visit, percentage of patients receiving prescription services provided at discharge, percentage of follow-up appointment(s) scheduled, percentage of patients counseled by the CTC pharmacy team, percentage of patients requiring a clinical intervention prior to and post discharge by the CTC team, and percentage of patients successfully contacted on post-discharge phone call(s). Examples of clinical interventions by the pharmacist may include but are not limited to medication reconciliation (correction, deletion, or addition of therapy), optimizing medication therapy, or utilizing guideline-directed medical therapy for specific high-risk conditions. The reason for readmission was further stratified based on admitting diagnosis of PNA or AMI versus other causes. Data was collected for 30 days after discharge in order to determine readmission to any of the five health system hospitals.

Statistical Analysis

Statistical analyses were performed by a biostatistician at our institution utilizing SAS software Version 9.4 and the R language for statistical computing. Continuous measures were first summarized using mean, median, interquartile range, and standard deviation. After testing the assumption of normality using the Shapiro-Wilk test, either a t-test or Wilcoxon rank sum test was used to compare the two discharge groups. Categorical variables were summarized as frequencies and percentages and compared using Pearson's Chi-Square or Fisher Exact tests. A two-sided p-value was reported for each test using a potential Type 1 error of 0.05 to determine statistical significance.

Results

PNA Cohort

From November 1, 2014 to April 30, 2015, a total of 54 patients were indicated as "high risk for readmission" through the EHR and were reviewed. Three patients were excluded: two were diagnosed with ventilator-associated PNA and one with health care-associated PNA. Therefore, 51 patients were included in the final analysis with 21 patients discharged through the CTC and 30 patients discharged through the PCU. Baseline characteristics were similar between the groups (Table 1).

Table 1: Baseline Characteristics by High Risk Diagnosis and Discharge Route

	PNA Patients			AMI Patients		
	Full Cohort n=51	CTC n=21	PCU n=30	Full Cohort n=443	CTC n=202	PCU n=241
Baseline Characteristic						
Age, years ^a	69.3 ± 16.7	69.7 ± 14.4	69.1 ± 18.3	69.8 ± 13.2	68.5 ± 14.0	70.9 ± 12.4
Gender, n (%)						
Female	33 (64.7)	15 (71.4)	18 (60.0)	158 (35.7)	73 (36.1)	85 (35.3)
Male	18 (35.3)	6 (28.6)	12 (40.0)	285 (64.3)	129 (63.9)	156 (64.7)
Primary Insurance, n (%)						
CMS	44 (86.3)	18 (85.7)	26 (86.7)	305 (68.8)	127 (62.9)	178 (73.9)
Commercial	6 (11.7)	3 (14.3)	3 (10.0)	120 (27.1)	66 (32.7)	54 (22.4)
Uninsured	1 (2.0)	0 (0.0)	1 (3.3)	18 (4.1)	9 (4.4)	9 (3.7)

^a Age values are presented as mean ± standard deviation

PNA = Pneumonia; AMI = Acute Myocardial Infarction; CTC = Care Transition Center; PCU = Patient Care Units

Approximately 65% of patients were female, with an average age of 69.3 years old and 86% insured by CMS. For the primary endpoint, 30-day all-cause readmission rate (Figure 1) was 4.8% versus 16.7% for patients discharged from the CTC and PCU respectively (p=0.38). Care Transition Center discharge was associated with a reduction in 30-day all-cause ED visits (4.8% vs. 23.3%; p=0.12). There were zero patients admitted for observation visits in both groups. For secondary endpoints (Table 2), prescription services, including filling at the hospital pharmacy or faxing to a retail pharmacy, were provided for 77% of eligible CTC discharges as compared to 0% of eligible PCU discharges. Appointments were scheduled more often for eligible CTC discharges (47% vs. 14%). Patients were deemed ineligible for prescription services and scheduling of appointments if they were discharged to a facility or left against medical advice (AMA). Patients were also considered ineligible for prescription services if they were not discharged with prescription(s) for the treatment of PNA. A total of 16 patients were deemed ineligible in the PCU group, and eight patients were deemed ineligible in the CTC group. Additional services (Table 3) were provided, including pharmacist education provided to 81% of CTC discharges with 52% requiring at least one intervention during discharge or follow-up. In addition, 80% (12 of 15) of eligible CTC discharges were successfully contacted on both post-discharge telephone calls.

AMI Cohort

From January 1, 2014, to December 31, 2015, a total of 536 patients tagged as “high risk for readmission” were reviewed. Ninety-three patients were excluded: three patients expired, five patients were transferred to another hospital, five patients were placed on hospice, nine patients had a diagnosis of unstable angina, five had a diagnosis of type II secondary MI unrelated to coronary artery disease, one patient left against medical advice, three patients were not admitted during the study time frame and 62 patients did not have a confirmed AMI diagnosis. Thus, a

total of 443 patients were included in the analysis. Baseline characteristics were similar amongst the groups (Table 1). Approximately 64% of patients were male, with an average age of 69.8 years old and 69% insured by CMS. For all endpoints (Figure 1), there was no significant difference amongst groups. Care Transition Center discharge was associated with an increased number of 30-day all-cause ED visits (8.9% vs. 3.7%, p=0.02). There was also a slightly lower incidence of observation visits among patients discharged from the CTC (2.5% vs 3.3%; p=0.60), though the difference was not statistically significant. For secondary endpoints, prescription services (Table 2) were provided for 74% of CTC discharges as compared to 15% of PCU discharges. Appointments were scheduled more often for CTC discharges than PCU discharges (77% vs. 55%). Additional services (Table 3) were provided to 78% of CTC discharges with education by a pharmacist, with 22% of patients requiring at least one intervention.

Discussion

Discharge through an interdisciplinary, centralized discharge unit was associated with a 71% reduction in 30-day all-cause hospital PNA readmission rates and a 79% reduction in 30-day ED PNA visits when compared to standard PCU discharge at our institution. A reduction in readmission rates and ED visits was identified, although more PCU discharges were transferred to a facility where additional medical observation was provided. The CTC discharge process was also associated with an increase in appointment scheduling, fulfillment of prescription services and clinical intervention provided by the pharmacy team. Care Transition Center discharge did not reduce the primary endpoint for AMI discharges but contributed to increasing TOC services. Care Transition Center discharge was associated with increased AMI ED visits; the cause of this is unknown.

Table 2: Discharge Services Provided by Diagnosis and Discharge Route

	PNA Patients			AMI Patients		
	CTC	PCU	P-value	CTC	PCU	P-value
Prescription Services for Eligible Patients, n (%) ^a	n = 13	n = 14	< 0.01	n = 152	n = 173	< 0.01
Filled at Hospital Ambulatory Pharmacy	5 (38.4)	0 (0.0)		58 (38.2)	24 (13.9)	
Called into Pharmacy by Physician	2 (15.4)	0 (0.0)		4 (2.6)	1 (0.6)	
Faxed to Retail Pharmacy	3 (23.1)	0 (0.0)		60 (39.5)	1 (0.6)	
No Action Taken	3 (23.1)	14 (100.0)		39 (25.7)	147 (85.0)	
Follow-up Appointment(s) Made for Eligible Patients, n (%) ^a	n = 15	n = 14	0.10	n = 160	n = 185	< 0.01
No	7 (46.7)	12 (85.7)		36 (22.5)	83 (44.9)	
Yes	7 (46.7)	2 (14.3)		124 (77.5)	102 (55.1)	
Unknown ^b	1 (6.6)	0 (0.0)		0 (0.0)	0 (0.0)	

^a Fisher Exact Tests were used to determine statistical significance

^b Patient was excluded from statistical analysis

CTC = Care Transition Center; PCU = Patient Care Units; PNA = Pneumonia; AMI = Acute Myocardial Infarction

The overall reduced readmission rates of the CTC are comparably lower than national CMS rates for both diagnoses (4.8% vs. 16.9% for PNA and 13.9% vs 16.3% for AMI).⁽¹⁰⁾ The failure to produce a difference in the AMI cohort may be attributed to these already reduced readmission rates. This may suggest that the standard PCU discharge at our institution is adequate. Additionally, our institution employs an interdisciplinary AMI Quality Improvement team, which closely monitors several core measures, maintaining a consistent presence throughout the hospital and engaging the staff on preventing readmissions. Conversely, PNA does not have a dedicated team.

Care Transition Center discharge demonstrated an increase in key TOC services. Clinical intervention was required in 52% and 22% of PNA and AMI discharges, respectively, indicating the importance of pharmacist review at discharge. For the AMI cohort, 88% (40/45) of patients required pharmacist intervention before discharge. Although follow-up is an important aspect of TOC, our data indicates a significant number of interventions were required prior to discharge. In addition to pharmacist interventions, there was also an increase in prescription services and follow-up appointment scheduling provided at CTC discharge. This may result in improved medication compliance and overall continuum of care. As the majority of study participants in both cohorts were insured by CMS, reduction in readmission rates and an increase in transitional care services could positively influence hospital reimbursement and decrease medication-related readmissions.

Proposed Benefits of a Centralized Transition of Care Unit

To our knowledge, a centralized interdisciplinary CTC is a unique practice model that has not been previously described in past literature. Several advantages can be noted. The interdisciplinary nature of the CTC parallels other successful TOC interventions. In addition to the full-time CTC staff, nutrition, medicine, and social work frequent the unit to ensure appropriate discharge education and enhance interdisciplinary communication. The CTC also centralizes TOC team members, limiting travel across patient care units to coordinate discharge care. Conversely, it also serves as a point of contact for patients requiring assistance post-discharge. In addition to the transitional care benefits, the CTC also assists bed and patient flow management by decompressing the patient care units of patients awaiting discharge and ultimately increasing admission times from the ED to the PCUs.

The CTC also extends the opportunity for patients to receive standardized discharge education. Although not formally measured in this study, having a patient transferred to a new location for discharge procedures enhanced patient, family, and caregiver engagement. By relocating the patient from an enclosed inpatient room to an open, ambulatory bay, the CTC offers an approachable learning environment for all patients and caregivers, truly exemplifying the feeling of transitions.

Table 3: Additional CTC Services Provided Pre- and Post-Discharge by Diagnosis

	PNA CTC Patients n =21	AMI CTC Patients n =201 ^a
CTC Service		
Education by Pharmacist, n (%)		
No	4 (19.1)	45 (22.4)
Yes	17 (80.9)	156 (77.6)
Intervention by Pharmacist, n (%)		
No	10 (47.6)	156 (77.6)
Yes	11 (52.4)	45 (22.4)
Post-Discharge Telephone Call(s), n (%)		
Reached on Both Calls	12 (57.1)	99 (49.2)
Reached on One Call	2 (9.5)	36 (17.9)
Not Contacted	1 (4.8)	21 (10.5)
Not Eligible/Call(s) Refused	6 (28.6)	45 (22.4)

^a One patient had incomplete follow-up records

CTC = Care Transition Center; PNA = Pneumonia; AMI = Acute Myocardial Infarction

Limitations

This single center retrospective study has limitations worth noting. The primary endpoint was limited to readmission to the five health system hospitals, leaving readmission outside of the health system unaccounted for. Patients sent for CTC discharge were identified as “high risk for readmission” at the discretion of those involved in the patient’s care without objective criteria, which may have limited the number of patients identified. A standardized predictive risk tool was not implemented in this study. The rationale for this is twofold. The hospital was undergoing a merger and re-organization, with a transition of the EHR. Second, the available readmission risk tools have low predictive value in clinical practice and may include variables difficult to retrieve from the EHR. To this end, the CTC collaborates with social work to help identify high-risk patients.

Lack of standardized discharge documentation from the PCUs also limited the amount of information made available to the investigators, potentially resulting in lower recorded rates of PCU discharge services such as prescription services. Specifically, for the PNA cohort, investigators were able to verify prescriptions were not filled in the hospital ambulatory pharmacy; however, documentation indicating other prescription services such as faxing prescriptions was unable to be verified due to lack of EHR documentation, resulting in 0% for this outcome. This lack of documentation highlights a gap in the standard discharge process. A lack of discharge documentation can precipitate ineffective handoff and miscommunications regarding plans of care. The CTC discharge is currently not a mandatory process; therefore, not all patients tagged as high risk were transferred despite the urging of hospital staff. The PNA cohort consisted of a small sample size due to lack of standardized high-risk identification, which may have limited the power analysis despite clinical relevance. Moving forward, the authors plan to review patient perception of the CTC discharge process and its impact on readmissions and transitional care

measures for heart failure and chronic obstructive pulmonary disease.

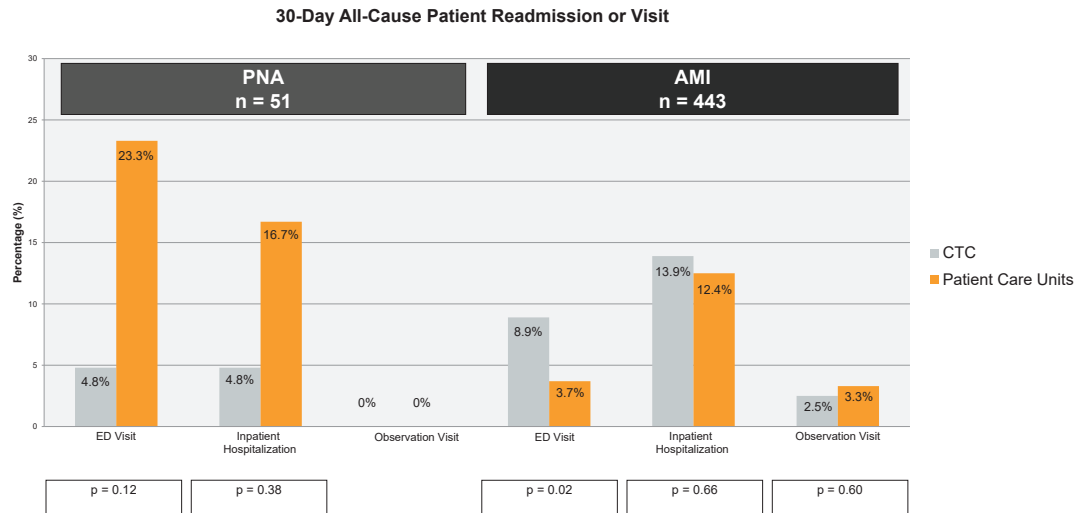
Clinical Implications

If this type of unit is incorporated by other institutions, the authors recommend expanding hours of operation and adding more pharmacy team members to ensure all patients receive comprehensive TOC services. Additionally, the standardization of high-risk scoring and/or readmission risk may aid facilities in triaging patients.

Conclusion

A centralized, interdisciplinary transitions of care unit dedicated to discharge services was associated with a reduction in all-cause PNA hospital readmission rates and ED visits when compared to standard hospital discharge. Discharge through this unit did not reduce these endpoints in AMI. Transitional care services were increased in both patient populations, which could result in improved adherence with medications and discharge care plans.

Figure 1. 30-Day All-Cause Patient Readmission or Visit



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References

- Gerhardt G, Yemane A, Hickman P, et al. Data shows reduction in Medicare hospital readmission rates during 2012. *MMRR*. 2013;3(2):E1-12.
- Healthcare Cost and Utilization Project. Conditions with the largest number of adult hospital readmissions by payer, 2011: statistical brief #172. Rockville, MD: Agency for Healthcare Research and Quality; 2014. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.pdf>.
- Jencks SF, Williams MV, Coleman EA. Rehospitalizations among Patients in the Medicare Fee-for-Service Program. *New Engl J Med*. 2009;360:1418-28.
- US Department of Health & Human Services. Centers for Medicare and Medicaid Services. National Health Expenditure Projections 2016 – 2025. Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/proj2016.pdf>. Accessed November 30, 2017.
- Medicare Payment Advisory Commission. Report to the Congress: promoting greater efficiency in Medicare. Accessed November 30, 2017. Available from: http://www.medpac.gov/docs/default-source/reports/Jun07_EntireReport.pdf?sfvrsn=0.
- Centers for Medicare and Medicaid Services. Hospital Compare. Accessed November 30, 2017. Available from: <https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/hospitalqualityinits/hospitalcompare.html>.
- Centers for Medicare and Medicaid Services. Readmissions Reduction Program (HRRP). Accessed November 30, 2017. Available from: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>.

8. Centers for Medicare and Medicaid Services (CMS) and HHS. Medicare program; hospital inpatient prospective payment systems for acute care hospitals and the long-term care hospital prospective payment system and fiscal year 2015 rates; quality reporting requirements for specific providers; reasonable compensation equivalents for physician services in excluded hospitals and certain teaching hospitals; provider administrative appeals and judicial review; enforcement provisions for organ transplant centers; and electronic health record (EHR) incentive program. Fed Regist. 2014;79(163):49853-50536.

9. Healthcare Cost and Utilization Project. National inpatient hospital costs: the most expensive conditions by payer, 2013: statistical brief #204. Rockville, MD: Agency for Healthcare Research and Quality; 2016. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb204-Most-Expensive-Hospital-Conditions.pdf>.

10. Healthcare Cost and Utilization Project. Trends in hospital readmissions for four high-volume conditions, 2009–2013: statistical brief #196. Rockville, MD: Agency for Healthcare Research and Quality; 2015. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb196-Readmissions-Trends-High-Volume-Conditions.pdf>.

11. US Department of Health & Human Services, Centers for Medicare & Medicaid Services. Transitional Care Management Services. http://www.acponline.org/running_practice/payment_coding/coding/tcm_factsheet.pdf. Updated June 2013. Accessed November 30, 2017.

12. US Department of Health & Human Services. Centers for Medicare and Medicaid Services. Transitional Care Management Services. Available from. <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/Transitional-Care-Management-Services-Text-Only.pdf>. Accessed November 30, 2017.

13. Hitch B, Parlier AB, Reed L, et al. Evaluation of a team-based, transition-of-care management service on 30-day readmission rates. N C Med J. 2016;77(2):87-92.

14. Li J, Young R, and Williams MV. Optimizing transitions of care to reduce hospitalizations. Cleve Clin J Med. 2014;81(5):312-20.

15. Society of Hospital Medicine. BOOSTing (Better Outcomes by Optimizing Safe Transitions). Accessed on July 7, 2017. Available from: http://www.hospitalmedicine.org/Web/Quality_Innovation/Implementation_Toolkits/Project_BOOST/Web/Quality___Innovation/Implementation_Toolkit/Boost/Overview.aspx?hkey=09496d80-8dae-4790-af72-efed8c3e3161. 2016.

16. Jack BW, Chetty VK, Anthony D, et al. A re-engineered hospital discharge program to decrease rehospitalization: a randomized trial. Ann Intern Med. 2009;150(3):178–87.

17. American Society of Health-System Pharmacists and American Pharmacists Association. ASHP-APhA medication management in care transitions best practices. 2013. Accessed on July 7, 2017. Available at: <http://www.ashp.org/DocLibrary/Policy/Transitions-of-Care/ASHP-APhA-Report.pdf>.