Impact of a Reduced Patient to Pharmacist Ratio on Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Scores

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Background

- Hospital Consumer Assessment of Healthcare Provers and Systems (HCAHPS) is a standardized, publicly reported survey of patients' perspectives of the quality of care received at the respective institution.
- Studies have demonstrated that increased pharmacist involvement in patient education positively impacts medication-related HCAHPS scores [1,2]
- Current pharmacy practice at Northern Light Eastern Maine Medical Center involves a patient to pharmacist ratio ranging between 80 – 90 patients as pharmacists cover 2 or more floors. The workflow for pharmacists involves order verification, completion of medication consults and task boards, answering patient and provider questions and making meaningful interventions.

Methods

A reduced patient to pharmacist ratio pilot was conducted on a 52-bed cardiac telemetry floor at Northern Light Eastern Maine Medical Center between June 1st – June 30th, 2021. An additional pharmacist was added to traditional staffing which reduced the patient to pharmacist ratio from an average 90 patients to approximately 50 patients per pharmacist. The pharmacist was decentralized to the floor Monday – Friday from 0700 to 1530. Responsibilities included order verification, pharmacy consult tasks, a clinical surveillance worklist, and answering nurse and provider questions. Other duties of the pilot pharmacist included making pharmaceutical interventions and attending mandatory meetings.

Patients were identified as candidates for medication education if they were receiving an anticoagulant, antiplatelet, antiarrhythmic, or medications used for heart failure. After receiving counseling, patients were informed about a discharge medication to bedside program available within the hospital. The purpose of the reduced patient to pharmacist pilot was to increase pharmacy involvement in patient education and determine the impact of pharmacist-led patient education on HCAHPS scores related to communication about medications.

Objectives

Purpose
- To determine the impact of a reduced patient to pharmacist ratio on HCAHPS scores associated with the medication domain

Primary Outcome
- Compare monthly HCAHPS scores related to communication about medications before and after the implementation of a reduced patient to pharmacist model

Secondary Outcomes.
- Compare monthly enrollment numbers of meds to beds before and after the implementation of a reduced patient to pharmacist model
- Compare overall and heart failure specific 30-day readmission rates before and after the implementation of a reduced patient to pharmacist model
- Compare the number of monthly documented interventions before and after the implementation of a reduced patient to pharmacist model

Demographics

Patient medication counseling (June 1st, 2021 – June 30th, 2021)	
Patients counseled	33
Medications counseled	139
Total time (hours) educating patients	11
Patients offered Meds to Beds by the pharmacist	31
Number of patients pharmacist enrolled in Meds to Beds	7
Enrolled in Meds to Beds	27
Total time (hours) spent off pilot floor to attend mandatory meetings	33

Secondary Outcomes

Pilot Floor HCAHPS Top Box Scores Specific to Communication About Medication

	Pre-Pilot				Post-Pilot			P-Value
Month	02/21	03/21	04/21	05/21	06/21	07/21	08/21	
Medication Indication	77.78	54.25	72.73	78.95	62.16	61.29	91.3	0.48
Medication Side Effects	25.93	34.09	58.06	30	35.14	43.33	56.52	0.25
Domain Average	51.85	44.22	65.4	54.47	48.65	52.31	73.91	0.33

Secondary Outcomes

Pilot Floor 30-Day Readmission Rates

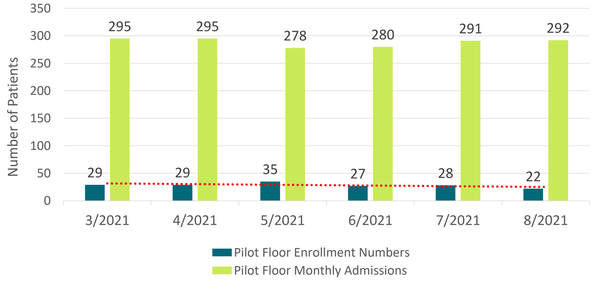
	Non-Pilot Data			Pilot Data	Non-Pilot Data		P-Value
Month	03/21	04/21	05/21	06/21	07/21	08/21	
Readmissions (#)	35	30	29	20	24	33	0.96
All Admissions (#)	295	295	278	280	291	292	
Rate of Readmission (%)	11.86	10.17	10.43	7.14	8.24	11.30	

Secondary Outcomes

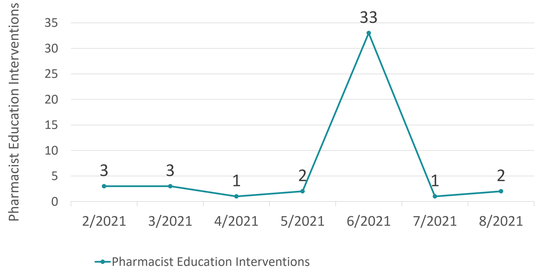
Pilot Floor 30-Day Heart Failure-Specific Readmission Rates

	Non-Pilot Data			Pilot Data	Non-Pilot Data		P-Value
Month	03/21	04/21	05/21	06/21	07/21	08/21	
Heart Failure Readmission (#)	12	5	1	6	2	4	0.35
All Admissions (#)	295	295	278	280	291	292	
Rate of HF-specific Readmission (%)	4.06	1.69	0.36	2.1	0.69	1.37	

Meds to Beds Enrollment Number



Documented Pharmacist-Led Patient Education Interventions



Limitations

- A limitation of the study included obtaining data only through August 2021. HCAHPS survey responses may be obtained any period after a patient receives a survey. Surveys collected from patients during the study may have been collected after August of 2021.
- HCAHPS surveys are anonymous which limits the ability to determine if an increase in HCAHPS scores is directly related to pharmacy interventions.
- A pharmacy resident conducted the pilot survey and recorded the number of hours off the floor. A total of 33 hours was recorded as time spent off the floor for mandatory residency meetings.
- Another limitation of this study was short study period. A longer pilot period would allow for more data collection and a larger number of patients receiving medication education through pharmacy.

Conclusions

- While not statistically significant, the increase in HCAHPS scores related to medication communication may have demonstrated a positive increase during the pilot period.
- Meds to Beds enrollment numbers did not demonstrate a significant increase during the pilot period. However, the pharmacist did enroll approximately 25% of the total number of patients enrolled during the month of June.
- Readmission reports suggest a reduced patient to pharmacist ratio does not have a definitive relationship with readmission rates.
- Deploying an additional decentralized pharmacist increased pharmacy involvement in patient education opportunities.

References

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2. *American Journal of Health-System Pharmacy*, Volume 71, Issue 9, 1 May 2014, Pages 739–745, https://doi.org/10.2146/ajhp130457

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