Improving Discharge Coordination for Abscess Drain Patients

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Introduction

- The hospital discharge process is a particularly vulnerable period for patients with a high potential for medical errors, estimated by one study to affect ~50% of discharged patients (Moore et al. 2003).
- Key areas where errors may result following discharge include attending follow-up appointments and completing recommended labs and imaging orders.
- Estimates of the percentage of patients that do not complete the recommended imaging in these cases range from approximately 30% up to approximately 60% in actionable incidental radiologic findings (Cho et al. 2019, Hansra et al. 2021).
- Notably, no relevant published studies specifically addressing our problem of missed follow-up imaging following hospital discharge for intraabdominal abscesses were identified.

Objective

Understand and improve missed follow-up imaging/ provider appointments following hospital discharge for patients with abscesses that require outpatient management of drains.

Materials and Methods

- Initial data review measured a 40% 30-day readmission/ ED visit rate & a 67% error/near miss rate was found

PDSA Cycle 1

- multidisciplinary team of stakeholders in hospital medicine, infectious disease, interventional radiology, transitions of care nursing team, and medical trainees
- implantation of specific AVS material and initial care coordination of TOC nursing as well as categorization of discharge follow-up for patients.
- Categorized most common discharge pathways for patient population

Category	Description
A	record drain output and followed removal of drain in clinic by outpatient IR.
B	sinogram of fluid collection prior to removal by outpatient IR
C	CT scan & sinogram prior to drain removal by outpatient IR
D	CT scan prior to removal by outpatient IR
E	managed by surgical teams where IR signed off on drain management

Results

Drain Catogories
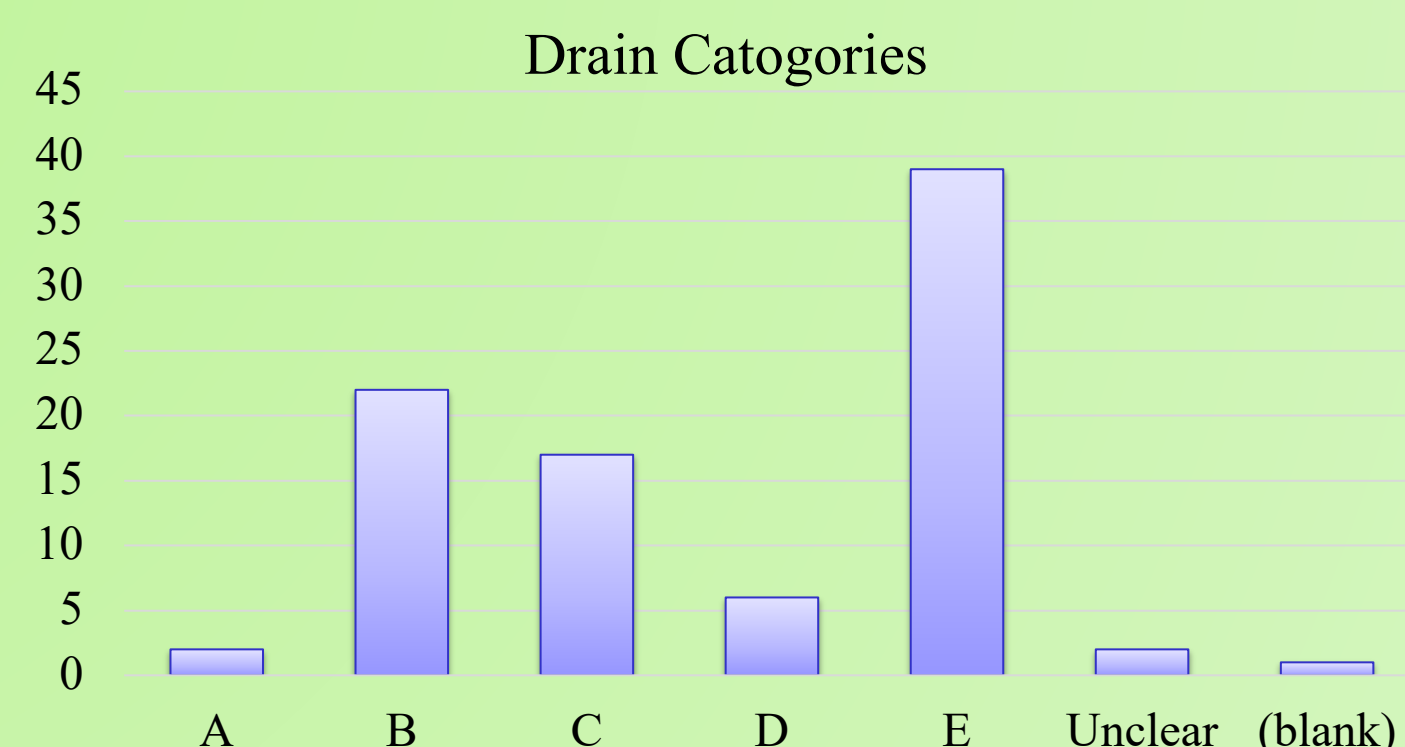
- Quantity of patients discharged to specific drain discharge category of data collected in PDSA cycle 1(total n=89). 44% of patients were identified as category E.

Proportion of Errors/Near Misses
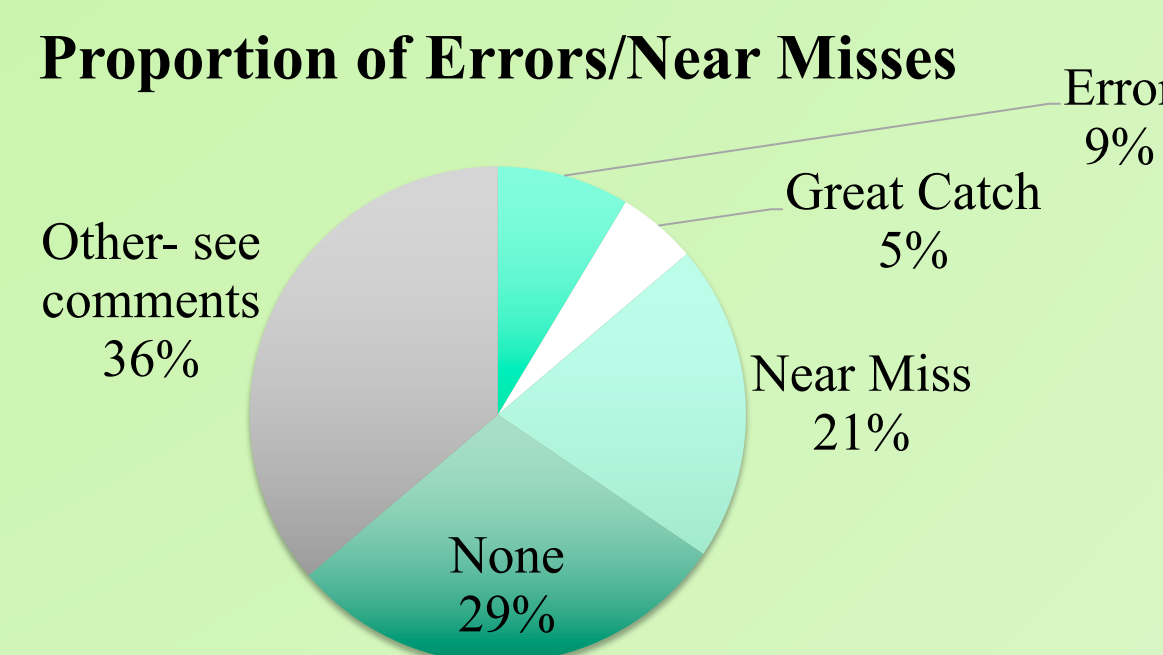
- Outcome measures of near miss/ error rates were noted to be 21% & 9% respectively (Graph 2.), which is a decrease from initial data review. A separate "other" option was included due to capturing more qualitative data that could help guide future PDSA cycles

14-day ED visit rate		%
No	52	64.20
Yes	29	35.80
Total	81	
30-day ED visit rate		**%**
N/A	27	38.57
No	40	56.34
Yes	4	5.63
Total	71	

14-day Readmission Rate		%
No	62	76.54
Yes	19	23.46
Total	81	
30-day Readmission Rate		**%**
N/A	26	36.62
No	42	59.15
Yes	3	4.23
Total	71	

- 81 patients at the end of PDSA 1 where data was collected for 14 post discharge for ED visits and readmissions and 71 patients for 30-day post discharge outcome measures
- ED visit rates post discharge were noted to be 35% for 14 & 5% for 30-day intervals at the end of PDSA cycle 1
- Readmission rates post discharge were noted to be 23% & 4% respectively for 14 day & 30-day rates at time of data collection

Conclusions

- Reduction in ED visit/ readmission rates with the implantation of AVS & care coordination TOC nursing phone calls.
- Initial data review was conducted with readmission rates of 40% for readmission at a 30-day interval which as decreased to 27%(combined 14- & 30-day readmission rates).
- Combined 14- & 30-day ED visit rates are 41%. This suggests that current interventions are helping reduce admissions rates but not having as much impact on ED visits
- Reduction of near miss/ error occurrences. Decreasing from a rate of 67% to 30%. While our interventions have not currently helped ED outcomes, we are seeing effects in reducing TOC errors & readmission rates .

Future Directions/Limitations

- Plan to include surgical stakeholders as 89 patients discharged with drains, 39 patients were discharged by a general surgery team within the university
- Next PDSA cycle will include a more developed role for TOC nursing
  - Educate patients predischarge with drainage care instructions, follow-up outpatient imaging appointments and be a point of contact for any questions or concerns for patients
- Create an order set for patients with drains on discharge. This would appear upon discharge with all the orders that may be needed for the patients. Act as an efficient tool for ensuring patients are being discharged with appropriate follow-up orders and as a memory tool for the discharging physicians to that drain care should be considered prior to discharge.
- A limitation of this project is the patient population and assessment of outcomes. The University of Colorado hospital in the Anschutz Medical Campus is a quaternary care facility that encompasses patients of all levels of pathology, including patients that have terminal disease progressions. These patients already require significant amounts of care; including multiple readmissions and ED visits due to underlying pathophysiology. This is a potential limitation of our project that readmissions of our drain patients might not be related to issues with TOC and follow up care regarding the drains but rather due to the nature of patients and their progressing pathologies that require additional healthcare. We plan to continue recording readmission and ED visit rates for our study population but also further assess whether it is due to problems with drain management and TOC or the result of underlying pathology.