IMPLEMENTING AN EVIDENCE-BASED DISCHARGE BUNDLE FOR LUNG TRANSPLANT PATIENTS

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BACKGROUND AND SETTING

- Large Midwest academic medical center
- Performs 30-40 lung transplants annually

- This lung transplant program uses a care model which includes lifetime post-transplant medical care
- Inpatient lung transplant service covers end-stage lung disease patients, pre- and post-lung transplant patients
PROBLEM AND POPULATION

• All lung transplant recipients hospitalized at the center, including transplant hospitalization and any subsequent hospitalization
• 30-day hospital readmission rate in 2018 was 29%
• Hospital has QI goal to reduce 30-day hospital readmissions
• Discharge process for transplant hospitalization is standardized
• Hospital readmissions after transplant hospitalization do not include standardized discharge process
GAP ANALYSIS

- Semi-structured focus groups with lung transplant team members:
  - Nurse practitioners
  - Pulmonologists
  - Pulmonary fellows
  - Nurse coordinators
  - Social workers
  - Pharmacist
GAP ANALYSIS

• Themes from focus groups
  • No established way of tracking 30-day readmissions beyond initial transplant hospitalization
  • Attending pulmonologists are responsible for determining timing of discharge. Nurse practitioners and pulmonary fellows perform the discharge planning and logistical tasks
  • Follow-up phone calls and appointments are standardized for patients being discharged from their transplant hospitalizations.
  • For subsequent hospitalizations, the follow-up process is not as standardized.
GAP ANALYSIS

• Communication from inpatient to outpatient team is not standardized

• Nurse follow-up phone calls after discharge are very standardized for transplant hospitalization but any subsequent readmissions do not have a standardized phone call protocol.

• Some patients receive medication schedule; others receive EHR printout
PICO

In a lung transplant population does implementation of a standardized discharge bundle reduce 30-day hospital readmission rates?
LITERATURE REVIEW

• Lung transplant hospital readmissions
• Costly ~ $87,000 per unplanned readmission (Courtwright et al., 2017)
• Can increase risk of complications (Osho et al., 2017; Lushaj et al., 2016)
• Causes of lung transplant readmissions are variable (Alrawashdeh et al., 2017)
• Paucity of literature regarding strategies for reducing readmissions for lung transplant patients specifically
• Discharge bundles to reduce readmissions
  • A discharge bundle is a standardized discharge process or order set
  • Significant reduction in readmission rates for COPD patients (Pederson, Ersgard, Sorensen, and Larsen, 2017)
  • Some results indicate that intervening in both pre-discharge and post-discharge phases better than one or the other (subgroup analysis) (Braet, Weltens, & Sermeus, 2016)
QUALITY IMPROVEMENT INITIATIVE

Introduction of a discharge bundle for all lung transplant recipients

- Friday progress note states that team has discussed potential for weekend discharge
- Standardized medication schedule for all patients at discharge
- Scripted communication sent by inpatient team within 24 hours of discharge to transplant nurse coordinator and primary outpatient pulmonologist
- Patient follow-up clinic appointment scheduled and attended within 7-10 business days
- Three scripted follow-up phone calls within 7 business days, one from a nurse practitioner or pulmonologist
Primary outcome: readmission rate

Individual readmissions within 30 days of discharge

Total discharges

*Only post-lung transplant patients discharged to home setting eligible for readmission were included in the total number of discharges
OUTCOMES

Secondary outcomes:
• Adherence to discharge bundle by staff performing discharges and follow-up care
• Semi-structured interviews with lung transplant team members to assess perceptions of discharges and readmissions
TIMEFRAME

• June 1, 2019 – August 31, 2019
30-Day Readmission Rate

Percent of Discharges Resulting in Readmission

Month and Year

June '18, July '18, August '18, June '19, July '19, August '19

Started QI initiative
THEMES FROM POST-INITIATIVE FOCUS GROUPS

- Team communication and planning for discharge improved and started earlier during hospital admission
- Improvement in communication between inpatient and outpatient teams
  - Increased thoroughness
  - More timely
- Writing discharge summary note more streamlined
IMPLICATIONS FOR NURSING PRACTICE

• Add to body of literature specific to lung transplant patients.
• Reinforce existing literature showing that standardizing the discharge process through the use of a discharge bundle can reduce readmissions.
• Produce valuable feedback from staff about standardization and integration with electronic health record and how this can contribute to increased efficiency and more streamlined workflow.
PLAN FOR SUSTAINABILITY

• Incorporation of discharge bundle items into electronic health record and discharge planning process
  • Transplant medication schedule
  • Communication scripts
• Data report for tracking monthly readmission rate
• Incorporation into monthly programmatic quality assurance evaluation
• Continuous quality improvement evaluation and amendment of discharge bundle
NEXT STEPS

• Team members will interview patients regarding their perceptions of discharge practices
• Evaluate readmission rates in the next 6-12 months
• Investigate other variables related to readmission rate
  • Immunosuppression level at time of discharge
  • Day of the week of discharge
  • Frailty score at time of discharge
  • Diagnosis at admission/diagnosis at discharge


