Reducing 30-Day Readmission Rates for COPD Patients: A Care Standardization & Quality Improvement Project

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INTRODUCTION

- Chronic obstructive pulmonary disease (COPD) affects millions of Americans and accounts for nearly 700,000 hospitalizations per year.[1]

- On average, about 20% of patients hospitalized for acute exacerbation of COPD are readmitted to the hospital within 30 days of discharge.[2]

- According to the American Thoracic Society, the quality of care delivered to patients with COPD is known to be suboptimal across the care continuum and may contribute to high rates of readmissions and unfavorable patient outcomes.[3]

- Clinical variability and unmet patient needs are modifiable risks for poor patient outcomes and 30-day readmissions for patients with comorbid conditions.[4]

OBJECTIVES

The goal of this Doctorate of Nursing Practice (DNP) quality improvement project was to reduce 30-day readmissions by developing and implementing a standardized Discharge Care Bundle for COPD patients in the inpatient setting at an urban academic medical center.

Project Aims

1. Developed a Discharge Care Bundle for COPD patients in the inpatient setting based on evidence-based standards for clinical care.

2. Implemented and evaluated the use of the COPD Discharge Care Bundle.

3. Made recommendations for sustainability and scalability.

METHODS

This DNP project was implemented at Mount Sinai Beth Israel (MSBI), in New York City. MSBI is part of the Mount Sinai Health System (MSHS), along with 7 other hospitals, the Icahn School of Medicine, and an extensive ambulatory footprint.

Aim 1 An interdisciplinary COPD Discharge Care Bundle was developed based on evidence-based practice. The interventions included in the bundle were pulmonary consultation, spirometry (if not completed within the last 1 year), patient education, smoking cessation evaluation, medication reconciliation, post-discharge phone call within 72 hours of discharge, and scheduling of follow-up appointment within 14 days of discharge.
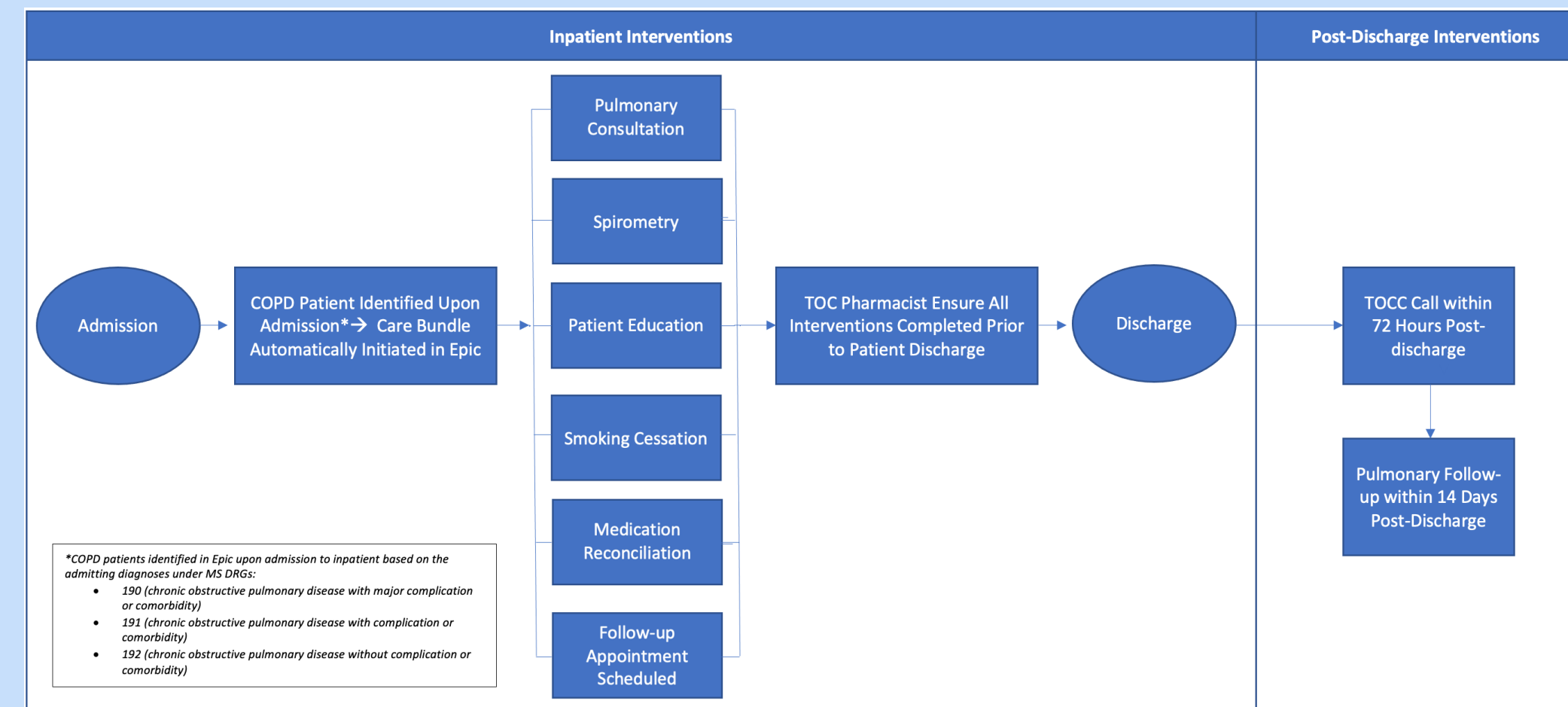
Aim 2 Project participants were 30 inpatients with MS-DRG of 190, 191 or 192 – Chronic Obstructive Pulmonary Disease, during a 3-month implementation period. The COPD Discharge Care Bundle was operationalized in Epic. Participants were enrolled upon inpatient admission, with the TOC Pharmacist ensuring all interventions were completed prior to discharge. Data collection was facilitated through Epic. Evaluation included descriptive and bivariate statistics.

Aim 3 Based upon the results, the COPD Discharge Care Bundle was made standard of care for the MSBI hospital system and has regional/national potential. The interdisciplinary care bundle standardization process has broader implications to reduce readmissions of other priority disease groups, such as Congestive Heart Failure or Pneumonia, using modified bundles.

RESULTS

The COPD Discharge Care Bundle results were reported to the MSBI COPD Taskforce and **accepted as standard of care for implementation across all 7 hospitals in the MSHS system**.

Demographic/Clinical Characteristics of Project Participants
- Mean age of participants was 69 years old; 57% were male
- 63% of participants had one or more comorbidities or prior medical conditions: hypertension, congestive heart failure, fluid and electrolyte imbalances, diabetes
- 75% of the readmitted participants (n=4) were smokers

Results demonstrate **a decrease in the 30-day readmission rate, 13.3% post-implementation (p=0.01340) as compared to 45.5% in the baseline period,** using Fisher's Exact Test.

Frequency Table for 30-day Readmissions				
	Group			
Readmission within 30-days	Baseline (n=22)		Program (n=30)	
	Volume	Percentage	Volume	Percentage
No	12	54.5%	26	86.7%
Yes	10	45.5%	4	13.3%

This DNP project demonstrated the importance of standardization of interdisciplinary clinical care processes in reducing 30-day readmissions for COPD.

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