Assessment of Provider Compliance Using an ED Protocol to Improve Care of COPD

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Assessment of provider compliance and patient outcomes using an ED protocol to improve care of COPD patients

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Disclosure Statement

• We have no financial disclosures or other relevant conflicts of interest pertaining to this quality improvement project and presentation.
Background

• Henry Ford Wyandotte Hospital (HFWH) serves a population with a high prevalence of COPD
• High rates of admission and re-admission in this patient population place a large medical and financial resource burden on HFWH
• It is currently unclear what strategies will effectively reduce COPD re-admissions
• A respiratory therapy bronchodilator protocol (RTBP) was implemented to address this issue
Respiratory Therapy Bronchodilator Protocol

- Order in EPIC that notifies RT to initiate protocol with COPD patient
- RTs write a note scoring a patient based on the severity of their COPD
- Higher scores correlate with a more severe disease
- Identification of medication, equipment, or pulmonary rehab referral needs

| Respiratory Therapy Bronchodilator Protocol Key |
|-----------------|-----------------|-----------------|-----------------|
| **Score**       | **Frequency**   | **Level**       |
|-----------------|-----------------|-----------------|-----------------|
| 15 – 17         | q3 hours        | 5               |
| 12 – 14         | q4 hours        | 5               |
| 9 – 11          | QID and Q6 prn  | 4               |
| 6 – 8           | TID and Q6 prn  | 3               |
| 3 – 5           | BID and Q6 prn  | 2               |
| 0 – 2           | Q6 pm           | 1               |

- COPD Assessment
  - Why did you come to the hospital? SOB
  - Do you use a home nebulizer? Y
  - Medication and frequency? Albuterol TID
  - Does your nebulizer machine work and do you have supplies? Y
  - Do you use inhalers? Y
  - Medication and frequency? SPIRIVA and ADVAIR
  - Do you use a spacer? N/A
  - Oxygen at home? Y
  - Liter flow? 2-21/2
  - Oxygen provider and does your equipment work? Y
  - CPAP/BIPAP/AVAPS at home? N
  - Settings?
  - CPAP/BIPAP/AVAPS provider and does your machine work?
  - Have you attended pulmonary rehab in the last 6 months? N
    - If "no" suggest pulmonary rehab consult to physician
  - Pulse ox @ rest: 97
  - Pulse ox with ambulation:

Frequency number determined by bronchodilator protocol: TID and PRN
Background

- RTBP initiated in November 2017
- 12 months of data after initiation of protocol were promising in that it resulted in a decrease in COPD inpatient admissions (29.8%)
- QI project
  - Poor provider compliance in ordering RTBP
  - Will increased compliance translate to additional decreases in COPD inpatient admissions?
- Ongoing prospective observational study
Methods

- Survey of providers assessing current knowledge and utilization of protocol collected in late 2018
- Retrospective medical record chart review
- Subjects
  - 18 and older presenting to HFWH ED, received Duo-Neb (ipratropium-albuterol) therapy, and had specific ICD-10 codes relevant to COPD
- Educational interventions aimed at ED providers implemented in 2019
  - Email, staff and resident presentations, and face-to-face
- COPD admission rates reassessed in the immediate months following educational intervention and will continue to be assessed for several months post-intervention
Results

• RTBP compliance following educational intervention increased 18.6%, from 41.4% to 60%

• Preliminary data in January 2019, month of intervention, shows decreased number of inpatient admissions when compared to January of prior years
  – Suspected secondary to educational intervention and subsequent increased compliance

• Ongoing prospective observational study that will continue to be followed for several months with expected continued decline in COPD inpatient admissions
  – Anticipate future inpatient admissions will continue to decrease and surpass the current reduction of 29.8%
Limitations

• Have not yet defined the proportion of patients admitted to observation
  – More patients potentially being admitted to observation status
  – However, these patients are being correctly admitted and do not require change in admission status during their stay

• A certain portion of our sample with known histories of COPD were admitted for multi-factorial respiratory pathologies including pneumonia and CHF
References

• LaRoché K, Hinkson C, Thomazin B, Minton-Foltz P, Carlbom D. Impact of an Electronic Medical Record Screening Tool and Therapist-Driven Protocol on Length of Stay and Hospital Readmission for COPD. Respiratory Care Sep 2016, 61 (9) 1137-1143; DOI: 10.4187/respcare.04588.