Background

- Acute exacerbation of COPD (AECOPD) is an acute worsening of respiratory symptoms where antibiotics are recommended if 2-3 cardinal symptoms are present.
- St. Paul’s Hospital (SPH) AECOPD pre-printed order (PPO) was updated in February 2015:
  - Simple AECOPD: cefuroxime
  - Complex AECOPD: amoxicillin/clavulanate or moxifloxacin
  - Pseudomonas suspected: ciprofloxacin or piperacillin/tazobactam

Objective

- To describe prescriber adherence to PPO antibiotic recommendations
- Primary outcome: proportion of antibiotics adherent to the PPO
- Secondary outcomes:
  - Proportion of additional antibiotic use for coverage of atypical bacteria and MRSA
  - Proportion of oral antibiotics as compared to IV used as initial treatment
  - Median duration of antibiotic therapy
  - Proportion of patients with sputum cultures ordered
  - Proportion of patients with positive viral nasopharyngeal swabs

Methods

- Retrospective chart review of SPH medicine admissions between March 1, 2015 to March 1, 2017, with ICD-10 code for AECOPD
- Exclusion: admission to ICU; diagnosis of pneumonia based on imaging or physician documentation
  - Descriptive statistics

Results

- 378 patients screened from ICD-10 code: 149 included in analysis
  - Median age ± IQR: 66 ± 15 years
  - Severity of exacerbation
    - Simple: 47 (31%)
    - Complex: 99 (67%)
    - Pseudomonas history: 3 (2%)

Primary outcome:

- Proportion of antibiotics adherent to PPO: 47% (n=70)

Secondary outcomes:

- Proportion of additional atypical coverage: 39% (n=58)
- Proportion of additional MRSA coverage: 1% (n=2)
- Proportion of oral antibiotic use as initial treatment: 58% (n=86)
- Median duration of antibiotics: 7 days (range 2-11)
- Proportion of patients with sputum cultures ordered 91% (n=134)
  - 15% (n=20) had positive sputum cultures
  - Proportion of patients with viral swab ordered 63% (n=94)
  - 20% (n=19) had positive viral swab results

Conclusion

- Less than 50% adherence to AECOPD PPO antibiotics
- Additional coverage of atypical bacteria was prescribed frequently
- Additional MRSA coverage was rare
- Median duration of therapy was on the upper end of guideline-recommended range of 5-7 days
- Ceftriaxone was the most common antibiotic prescribed when the PPO was not used
- More information is needed to understand why prescribers do not adhere to the PPO