



Gaps in Quality Measures Among COPD Patients at the Alvernon Family Medicine Residency Clinic

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Introduction

Background: The diagnosis and management of COPD occur mostly in primary care settings. Evidence-based clinical practice guidelines for COPD are well established, including the widely recognized Global Initiative for Chronic Obstructive Lung Disease (GOLD)^{2,5,6}. However, major gaps have been identified between COPD guidelines and their use in the clinical setting^{1,4}. Identifying quality measures that require improvement is imperative in providing guideline-based care in order to reduce misdiagnosis, prevent exacerbations, and promote risk reduction.

Objective: The purpose of this project is to assess the rate of guideline-based care provided to COPD patients at a family medicine residency clinic.

Methods

Clinical information was gathered from patients with a clinical encounter diagnosis of COPD, who were treated at the University of Arizona Family Medicine Residency Alvernon Clinic between 10/2015 – 10/2016. Data was requested from the University of Arizona’s Center for Biomedical Informatics and Biostatistics from the EMR.

The clinical data obtained from each patient with a clinical encounter diagnosis (ICD 9 or 10) of COPD from 10/2015 – 10/2016 included the following:

- Influenza vaccine administered between 10/2015 - 10/2016
- PPSV 23 vaccine administered or prescribed at any date
- Pulmonary function testing ordered or completed at any date
- History of tobacco smoking use at any date
- History of tobacco smoking cessation or smoking cessation counseling at any date

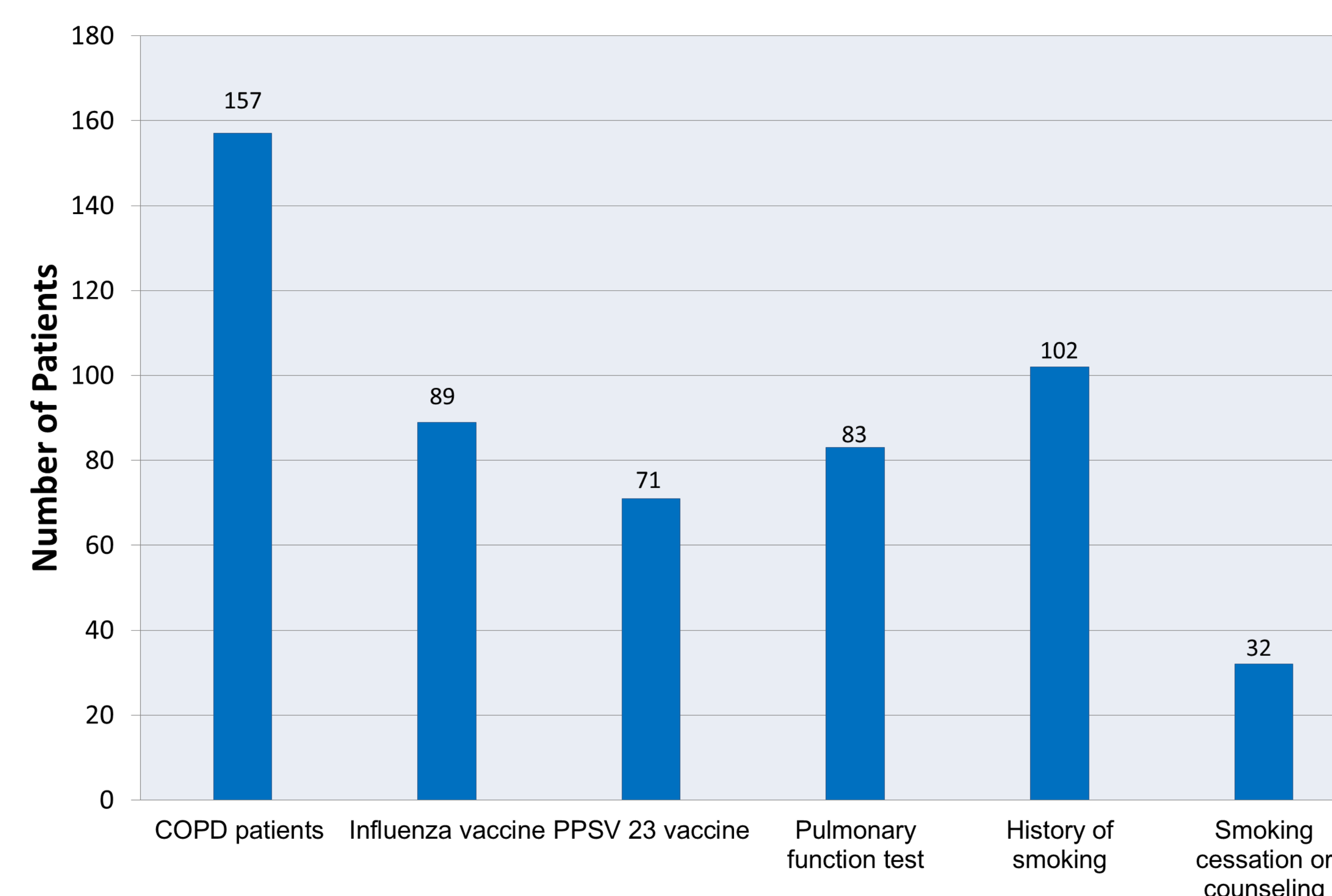
Results

There were 157 total patients with a clinical encounter diagnosis of COPD seen at the Family Medicine Clinic between 10/2015 – 10/2016. Of those patients, 89 (56.7%) received the influenza vaccine that year, 71 (45.2%) received the PPSV 23 vaccine, and 83 (52.9%) had a pulmonary test completed or ordered. 102 (65%) have a history of smoking and 32 (20.4%) have either a history of smoking cessation or have received smoking cessation counseling.

Table 1. COPD patients from 10-2015 - 10-2016 at the Alvernon Family Medicine Clinic

	Number	Percent
COPD patients	157	
Influenza vaccine	89	56.7
PPSV 23 vaccine	71	45.2
Pulmonary function test	83	52.9
History of smoking	102	65.0
Smoking cessation or smoking cessation counseling	32	20.4

Figure 1. COPD patients from 10-2015 to 10-2016 at the Alvernon Family Medicine Clinic



Conclusions

Just over half of patients diagnosed with COPD have received pulmonary function testing, leaving a significant portion of patients without diagnostic confirmation of COPD with spirometry. Vaccinations rates for influenza and pneumonia were low at 56% and 45.2%, respectively. Risk reduction with smoking cessation or counseling was the lowest at 20.4%.

Limitations: Accuracy of data relies upon input of vaccinations received outside of the Alvernon clinic and the addition of encounter diagnoses for the history of tobacco smoking, cessation, or counseling.

Implications:

- Demonstrates significant room for improvement in quality measures at the Alvernon Clinic.
- There is currently limited evidence regarding “best practices” for implementation of quality improvement measures.
- Current literature suggest provider auditing of baseline performance data, establishing benchmark targets, offering incentives and providing educational material on COPD evidence-based guidelines^{1,3,4}.
- Suggestions for the Alvernon Clinic:
 - Yearly auditing of COPD quality measures
 - Prizes for teams who meet benchmark targets
 - Creating EMR templates and/or checklists of guideline-based care for COPD patients.

References

1. Bourbeau J, et al., (2008). Practice patterns in the management of chronic obstructive pulmonary disease in primary practice: The CAGE study. *Canadian Respiratory Journal*. 15(1):13-19.
2. Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) (2016). www.goldcopd.org
3. Hull S, et al., (2014). Improving outcomes for people with COPD by developing networks of general practices: evaluation of a quality improvement project in east London. *Primary Care Respiratory Medicine*. 24:14082
4. Insights for improvement: Advancing COPD care through quality measurement. National Committee for Quality Assurance (NCQA) (2009). www.ncqa.org
5. Klerup E, (2007). Quality indicators for COPD in vulnerable elders. *Journal American Geriatrics Society*. 55:S270–S276
6. Quaseem A, et al., (2011). Diagnosis and management of stable chronic obstructive pulmonary disease: A clinical practice guideline update from the American College Physicians, American College of Chest Physicians, American Thoracic Society, and European Respiratory Society. *Annals of Internal Medicine*. 155:179-191

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