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### Evaluation of triple therapy use for COPD

Jessica Offerle PharmD

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# Evaluation of Triple Therapy Use for COPD

Speaker: Jessica Offerle, PharmD  
PGY2 Ambulatory Care Pharmacy Resident  
Parkview Health

## Mentors:

Sarah Pfaehler, PharmD, MBA, BCPS, PACS, Parkview Health

Alicia Owen, PharmD, BCPS, BCACP, Parkview Health

Ashley Parrott, PharmD, MBA, BCACP, BCPS, Parkview Health



The speaker and mentors have no actual or potential conflict of interest in relation to this presentation

# Value-Based Contracts (VBCs)

Improve  
individual  
care

Improve  
provider  
satisfaction

Enhance  
population  
health

Lower  
overall  
healthcare  
costs

# Measure Types

## Quality

- Structure
- Process
- Outcome

## Economic

- Ambulatory encounters
- Inpatient encounters
- Long-term-care visits
- Medication utilization

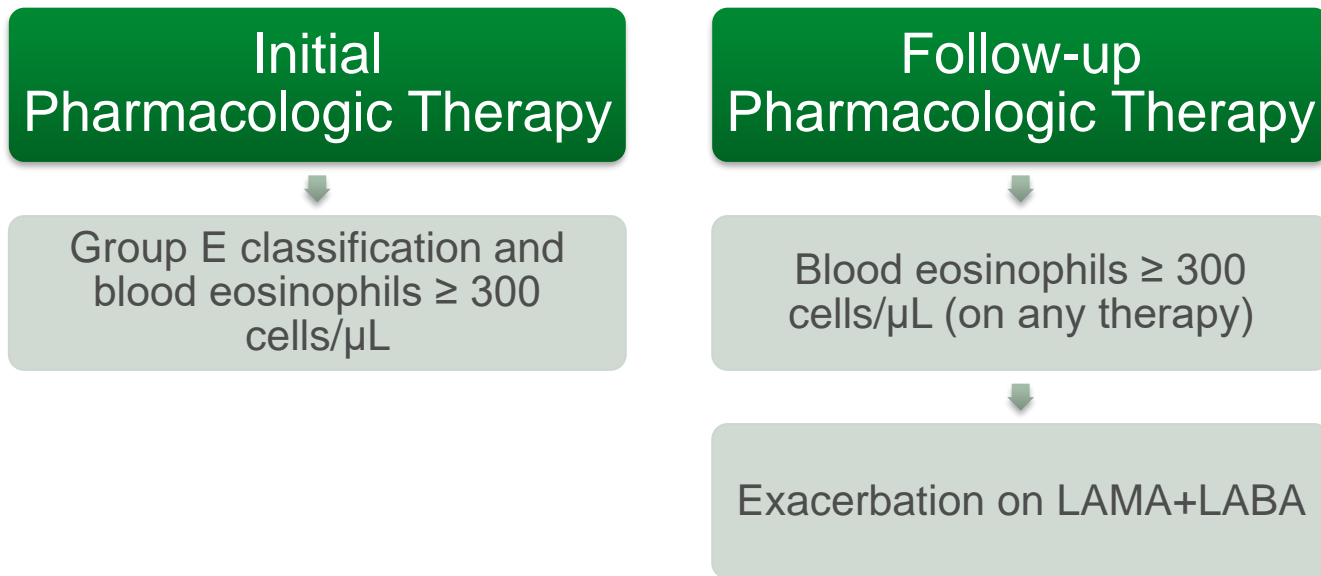
# Which component of value-based contracts is most closely related to inhaler use?

- a. Inpatient Admission Rate
- b. STARS Medication Adherence Rate
- c. Skilled Nursing Facility Length of Stay
- d. Prescription Medication Utilization

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# Triple-Therapy-Inhaler Initiation<sup>1</sup>



# van der Valk, et al.<sup>2</sup>

Conducted a randomized, double-blind, single-center study

Investigated the effect of inhaled corticosteroid (ICS) discontinuation on exacerbations

Exhibited an exacerbation rate of 38% vs 6% after withdrawal of an ICS

Associated with more rapid onset and higher reoccurrence of exacerbation



# Suissa, et al.<sup>3</sup>

Conducted an observational study utilizing the Clinical Practice Research Datalink (CPRD) to compare triple versus dual therapy

Exhibited a HR of 1.08 (95% CI: 1.00-1.16) when comparing first exacerbation among triple therapy versus dual therapy

Demonstrated a HR of 0.89 (95% CI: 0.76-1.05) when eosinophil count > 300 cells/ $\mu$ L in patients with multiple exacerbations

Found that triple therapy was not more effective at reducing incidence of exacerbation except when patients had multiple exacerbations

# Sethi, et al.<sup>4</sup>

Conducted a retrospective, observational study using claims

Compared exacerbations, pneumonia diagnoses, and resource cost of patients initiated on dual versus triple therapy

Exhibited a 7% lower risk of exacerbations with dual therapy in the overall group but no difference when maintenance-naïve

Observed lower annual costs among patients initiated on dual versus triple therapy (\$17,633 vs \$14,558;  $p < 0.001$ )

# Literature Review – Conclusions<sup>2-4</sup>

Discontinuation of ICS is associated with faster onset and higher reoccurrence of exacerbation

Deterioration of lung function, shortness of breath, and quality of life were exhibited with abrupt ICS withdrawal

Choosing dual therapy initially can reduce risk of exacerbations while also reducing cost

# Parkview Health

- 12 hospital health system
- More than 100 Parkview Physicians Group locations
- Greater than 700 providers in 66+ specialty areas
- Provides care to Northeast Indiana, Northwest Ohio, and Southern Michigan



# Purpose Statement

This study evaluates the appropriateness of triple-therapy inhaler initiation in patients with Chronic Obstructive Pulmonary Disease (COPD).

# Methods



Retrospective analysis conducted over one year



Value-based contract data collected using prescription claims



Various data points identified using ICD10 diagnosis codes



Patients on appropriate therapy classified as such but were not excluded

# Study Criteria

## Inclusion Criteria

- Active patient of Parkview Physicians Group
- VBC payer coverage
- Confirmed diagnosis of COPD
- Active order for triple-therapy inhaler during the study period

## Exclusion Criteria

- Diagnosis of asthma
- Diagnosis of pneumonia

Which of the following classifications would be appropriate for inhaled triple therapy according to GOLD guidelines?

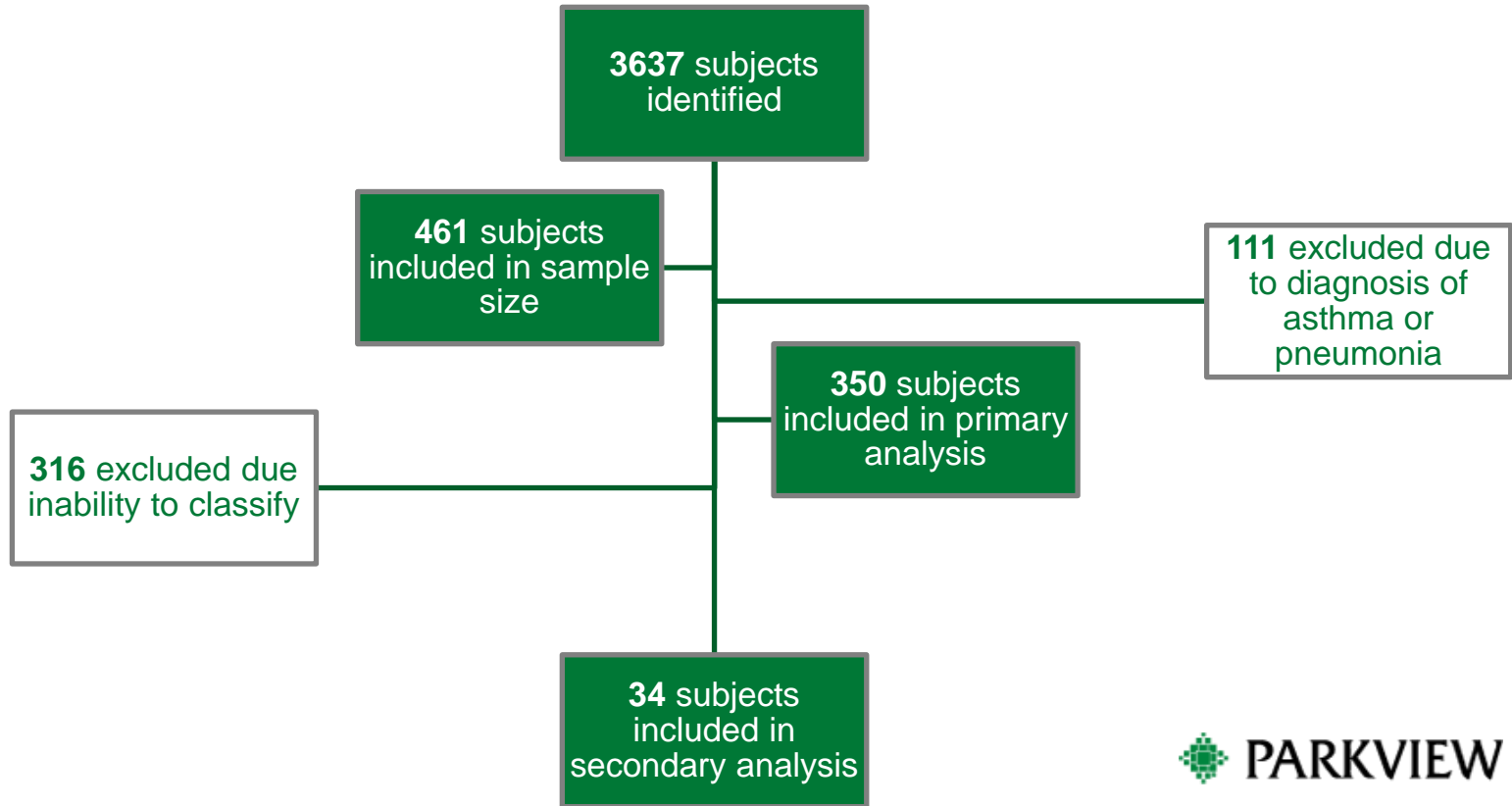
- a. Group A classification and eosinophils  $\geq 300$  cells/ $\mu$ L
- b. Group A classification and eosinophils  $\leq 300$  cells/ $\mu$ L
- c. Group E classification and eosinophils  $\geq 300$  cells/ $\mu$ L
- d. Group E classification and eosinophils  $\leq 300$  cells/ $\mu$ L



Which of the following classifications would be appropriate for inhaled triple therapy according to GOLD guidelines?

- a. Group A classification and eosinophils  $\geq 300$  cells/ $\mu$ L
- b. Group A classification and eosinophils  $\leq 300$  cells/ $\mu$ L
- c. Group E classification and eosinophils  $\geq 300$  cells/ $\mu$ L
- d. Group E classification and eosinophils  $\leq 300$  cells/ $\mu$ L

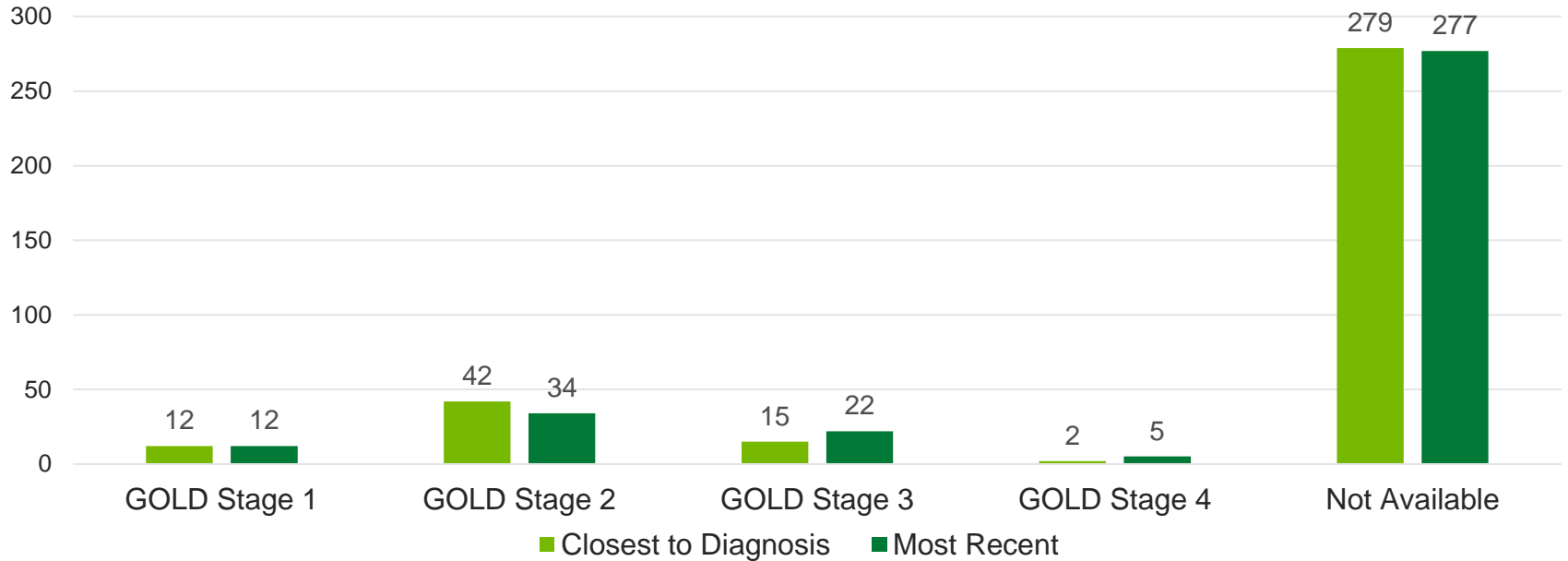
# Patient Population



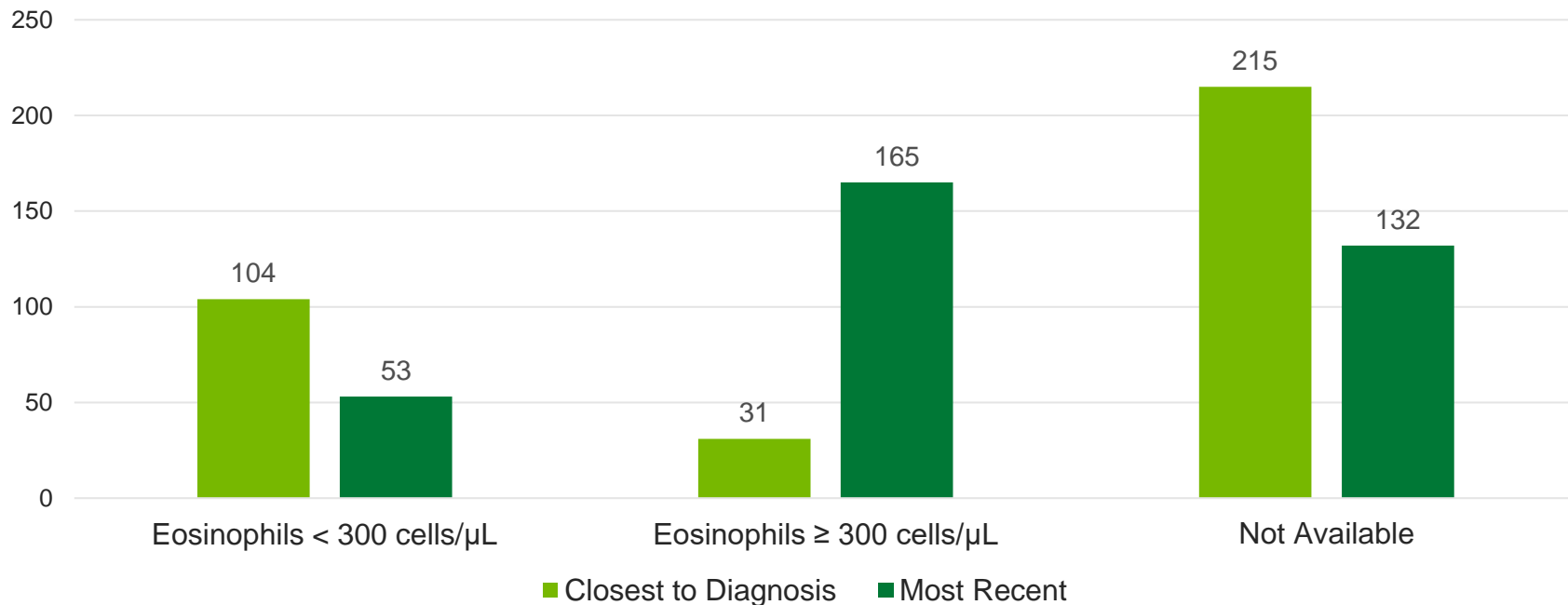
# Baseline Characteristics

Variables	Study Subjects (n=350)
Mean Duration of Diagnosis, year $\pm$ SD	6.06 $\pm$ 3.89
<b>Sex</b>	
Male, n (%)	167 (48%)
Female, n (%)	183 (52%)
<b>Diagnosis MD Specialty</b>	
Family Medicine, n (%)	121 (35%)
Internal Medicine, n (%)	23 (7%)
Pulmonology, n (%)	15 (4%)
Other, n (%)	71 (20%)
Unspecified, n (%)	120 (34%)

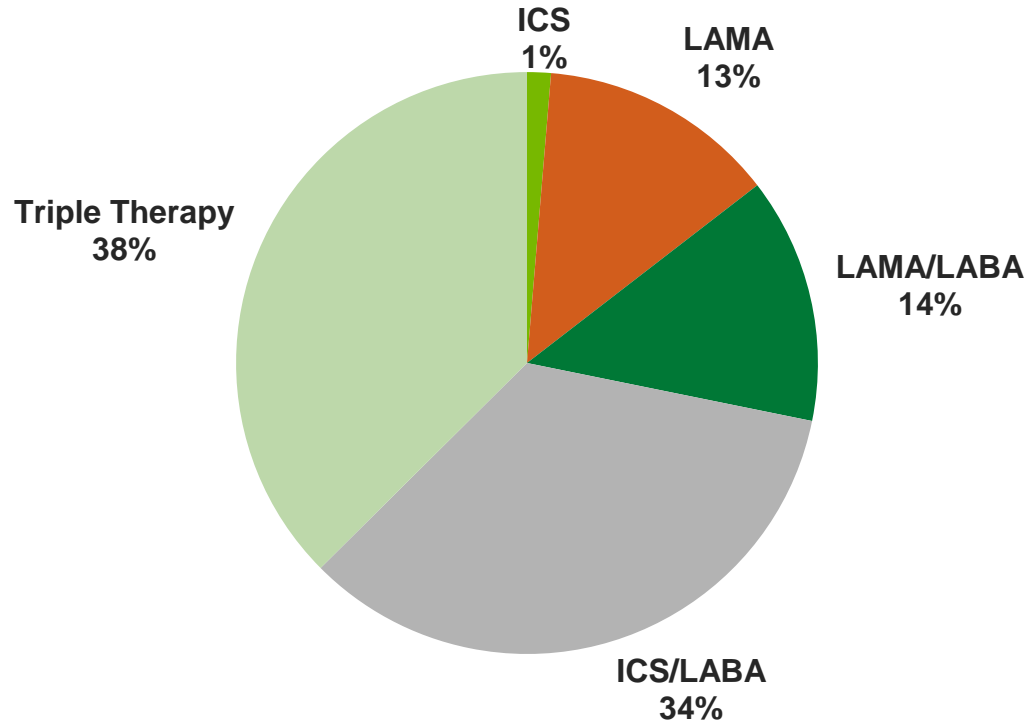
# Pulmonary Function Tests



# Eosinophil Count

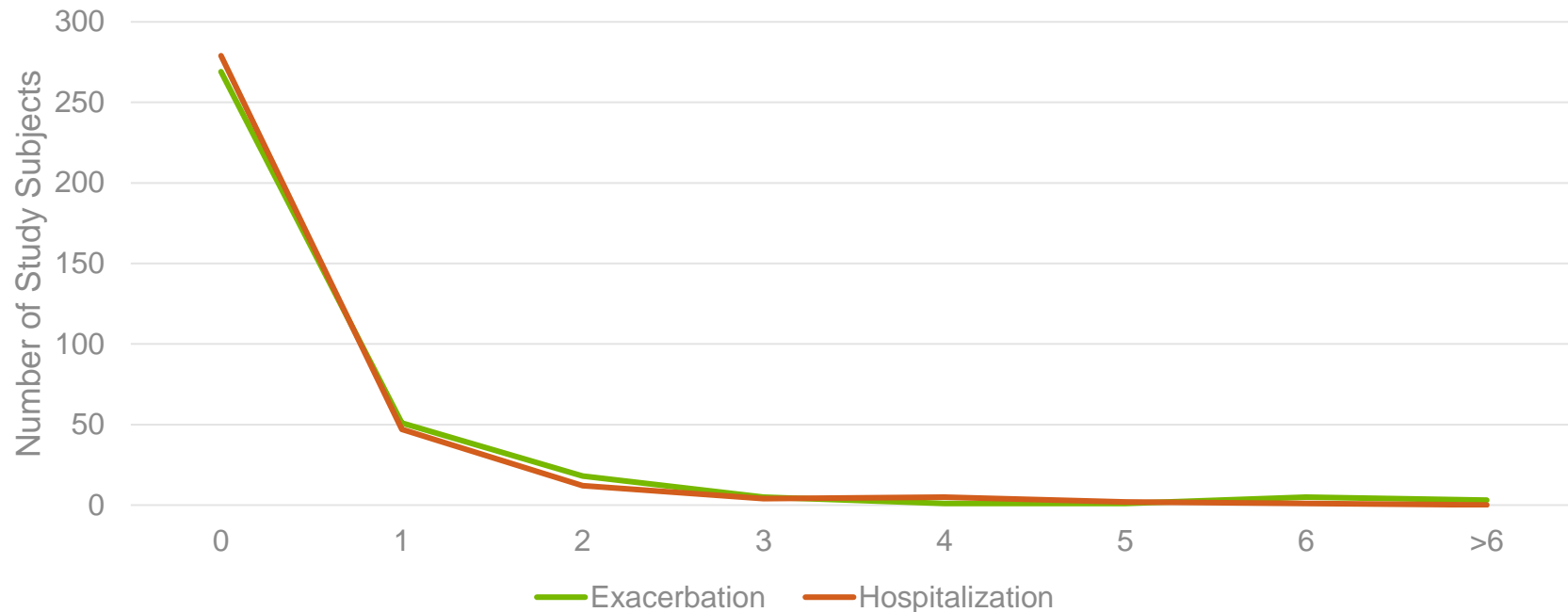


# Breakdown of Initial Therapy

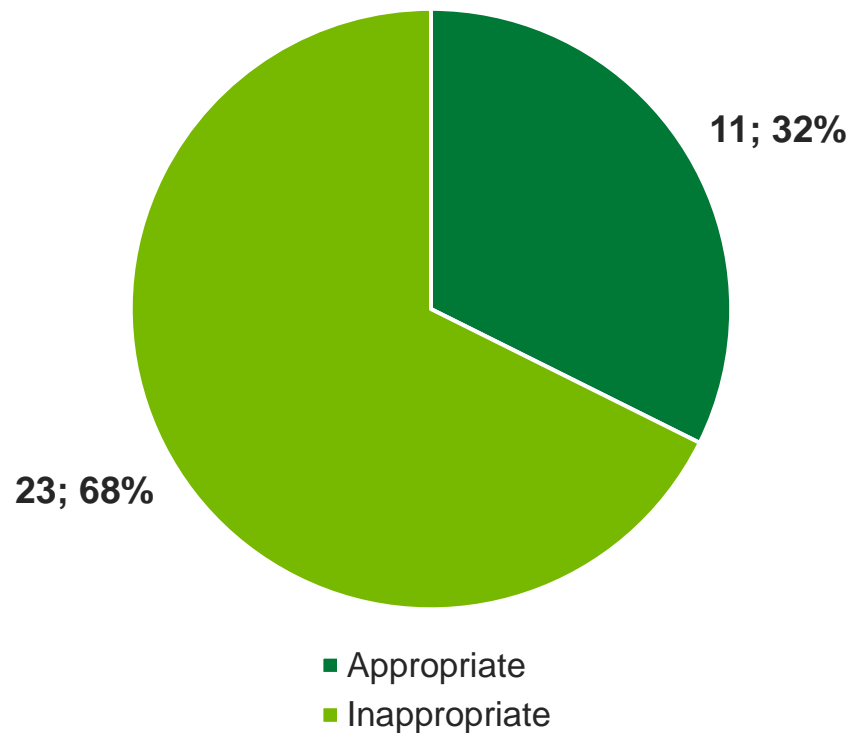


n=227

# Exacerbations and Hospitalizations



# Initial Therapy Appropriateness





# Discussion

Uncovered care gaps prior to and during order entry

Identified areas of improvement among documentation

Recognized opportunities for therapy optimization

# Limitations

- Group classification and staging
- Insufficient documentation
- Pulmonary function tests
- Therapy gap

# Future Directions

Provide education to providers and colleagues

Investigate alerts at ordering

Conduct a prospective study to analyze the intervention

Publish process and findings

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PGY2 Ambulatory Care Pharmacy Resident  
[Jessica.Offerle@parkview.com](mailto:Jessica.Offerle@parkview.com)

# References

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2. van der Valk P, Monninkhof E, van der Palen J, et al. Effect of discontinuation of inhaled corticosteroids in patients with chronic obstructive pulmonary disease: the COPE study. *Am J Respir Crit Care Med* 2002;166:1358-63.
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