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### Relationship of Patient Self-Administered COPD Assessment Test (CAT) to Physician Standard Assessment of COPD in a Family Medicine Residency Training Program

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**Relationship of Patient Self-Administered COPD Assessment Test (CAT) to  
Physician Standard Assessment of COPD in a Family Medicine Residency  
Training Program**



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**Relationship of patient self-administered  
COPD Assessment Test (CAT) to physician  
standard assessment of COPD in a family  
medicine residency training program**

*Leigh Johnson, MD; Jessica Burchette, PharmD;  
Ivy Click, EdD; Alicia Williams, MA  
East Tennessee State University*



# Disclosures

- The authors have nothing to disclose.

# Objectives

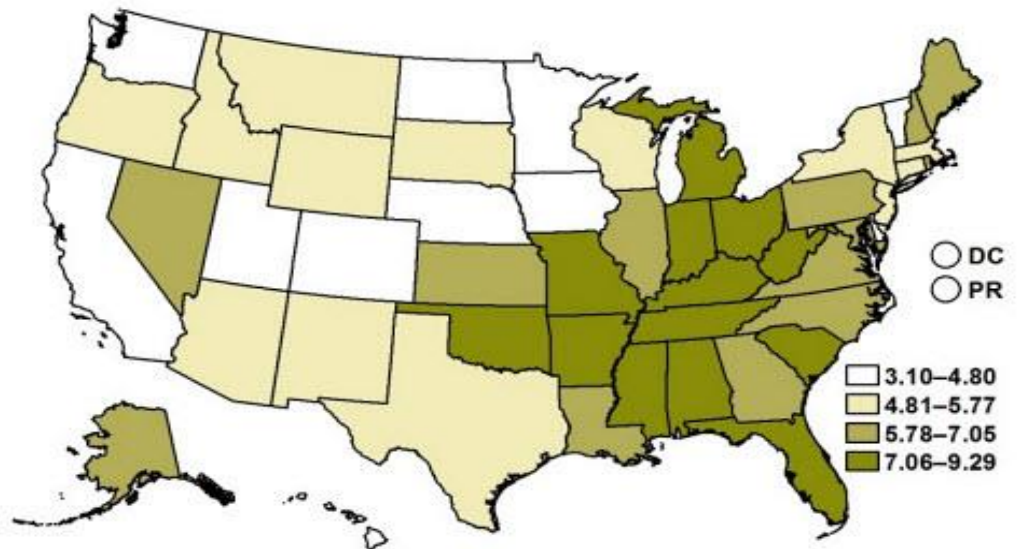
- Identify the wide variety of COPD symptoms that may impact a patient's daily life.
- Recognize the need for improved competency in COPD assessment among family medicine residents.
- Evaluate areas for COPD assessment improvement within clinical practice.

# Background

- 2007: U.S. ranked 2nd in world for COPD mortality<sup>1</sup>
- 2010: COPD ranked 3rd leading cause of death in U.S.<sup>2</sup>
- COPD accounts for more lost productivity days than any other chronic condition<sup>3</sup>

# Significance

- Frequent diagnosis in primary care
- High prevalence in TN
- How do we assess COPD?



Source: Behavioral Risk Factor Surveillance System, 2011

# Purpose of Study

- To compare a patient's self-assessment of COPD impact on daily life to a physician's standard assessment



# Study Criteria

## Inclusion Criteria

### Patients

- $\geq 18$  years of age
- Diagnosed with COPD
- Scheduled clinic visit

### Physicians

- All clinic physicians

## Exclusion Criteria

### Patients

- Acute COPD exacerbation within two weeks of scheduled clinic visit

### Physicians

- N/A



# COPD Assessment Test (CAT)

Your name:

Today's date:



## How is your COPD? Take the COPD Assessment Test™ (CAT)

This questionnaire will help you and your healthcare professional measure the impact COPD (Chronic Obstructive Pulmonary Disease) is having on your wellbeing and daily life. Your answers, and test score, can be used by you and your healthcare professional to help improve the management of your COPD and get the greatest benefit from treatment.

For each item below, place a mark (X) in the box that best describes you currently. Be sure to only select one response for each question.

**Example:** I am very happy (0)  (1) (2) (3) (4) (5) I am very sad

		SCORE
I never cough	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) I cough all the time	<input type="text"/>
I have no phlegm (mucus) in my chest at all	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) My chest is completely full of phlegm (mucus)	<input type="text"/>
My chest does not feel tight at all	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) My chest feels very tight	<input type="text"/>
When I walk up a hill or one flight of stairs I am not breathless	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) When I walk up a hill or one flight of stairs I am very breathless	<input type="text"/>
I am not limited doing any activities at home	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) I am very limited doing activities at home	<input type="text"/>
I am confident leaving my home despite my lung condition	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) I am not at all confident leaving my home because of my lung condition	<input type="text"/>
I sleep soundly	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) I don't sleep soundly because of my lung condition	<input type="text"/>
I have lots of energy	(0) <input type="radio"/> (1) <input type="radio"/> (2) <input type="radio"/> (3) <input type="radio"/> (4) <input type="radio"/> (5) I have no energy at all	<input type="text"/>
<b>TOTAL SCORE</b>		<input type="text"/>

COPD Assessment Test and the CAT logo is a trade mark of the GlaxoSmithKline group of companies.  
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Last Updated: February 24, 2012

- Introduced in 2009 by GlaxoSmithKline
- Validated measure of disease impact
- Score range 0 – 40
  - < 10 = Low impact
  - 10 – 20 = Medium impact
  - 21 – 30 = High impact
  - > 30 = Very high impact
- Minimum clinically important difference = 2 points

# COPD Assessment Test (CAT)

- Possible benefits
  - Open dialogue between patients and providers
  - Provide consistency in measuring disease impact
  - Identify more obscure symptoms of COPD
  - Monitor disease progress over time
  - Validated in multiple languages
- Current issues
  - Not currently universally available in the US
  - GSK ownership → CAT Governance Board

Governance Board for COPD Assessment Test Press Release. Available at: <http://www.gsk.com/en-gb/media/press-releases/gsk-gold-and-the-copd-foundation-announce-formation-of-a-new-external-expert-governance-board-for-the-copd-assessment-test-cat/>. Accessed April 20, 2017.



## Patient Demographic Form

Relationship of patient self-administered COPD Assessment Test to physician standard assessment of COPD in a family residency-training program

Enrollment Number: \_\_\_\_\_

**Instructions:** Please answer the following questions to the best of your ability. You may choose not to answer a question if you prefer not to respond.

Age: \_\_\_\_\_ (please do NOT provide full date of birth)

Gender (check one):

- \_\_\_\_\_ Male
- \_\_\_\_\_ Female
- \_\_\_\_\_ Choose not to identify

Smoking history (check one):

- \_\_\_\_\_ Everyday smoker
- \_\_\_\_\_ Sometimes smoker
- \_\_\_\_\_ Former smoker
- \_\_\_\_\_ Never a smoker

Have you needed steroids or antibiotics for your COPD, emphysema, or chronic bronchitis in the last three months?

- \_\_\_\_\_ Yes
- \_\_\_\_\_ No
- \_\_\_\_\_ I don't know

## Physician Assessment Form

Relationship of patient self-administered COPD Assessment Test to physician standard assessment of COPD in a family residency-training program

Enrollment Number: \_\_\_\_\_

**Physician Instructions:** Please fill out this form AFTER you have completed this patient encounter and the patient has left the room. Return this form to **XXXX** when complete.

How would you rate the impact of COPD on this patient's wellbeing and quality of daily life? (select one)

- \_\_\_\_\_ Low impact
- \_\_\_\_\_ Medium impact
- \_\_\_\_\_ High impact
- \_\_\_\_\_ Very high impact

Please indicate your current position within the program:

- \_\_\_\_\_ PGY1
- \_\_\_\_\_ PGY2
- \_\_\_\_\_ PGY3
- \_\_\_\_\_ Faculty physician

Gender:

- \_\_\_\_\_ Male
- \_\_\_\_\_ Female
- \_\_\_\_\_ Choose not to identify



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Please indicate your current position within the program:

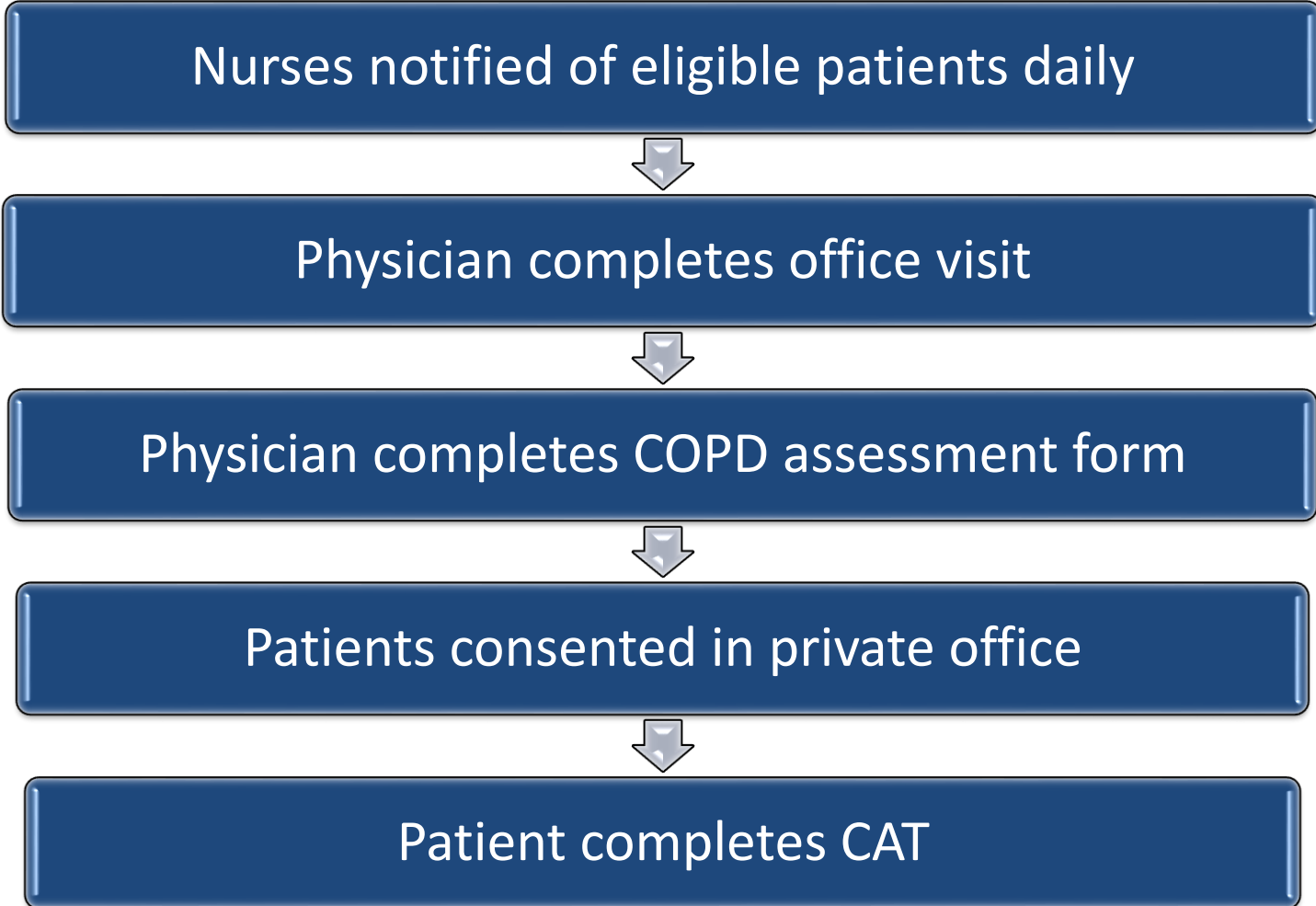
- \_\_\_\_\_ PGY1
- \_\_\_\_\_ PGY2
- \_\_\_\_\_ PGY3
- \_\_\_\_\_ Faculty physician

Gender:

- \_\_\_\_\_ Male
- \_\_\_\_\_ Female
- \_\_\_\_\_ Choose not to identify



## Daily Clinic Flow



## Methods

- Institutional Review Board approved – December 2016
- Project presentation to faculty and staff
- Physician consent obtained
- Weekly list of scheduled patients with COPD obtained from EHR
- List reviewed for inclusion and exclusion criteria
- Physician assessment and CAT coded for matched comparison
- Nurses notified daily of scheduled eligible patients
- Nurse rooms the patient and places physician rating form in exam room door. Matching coded CAT given to social health specialist

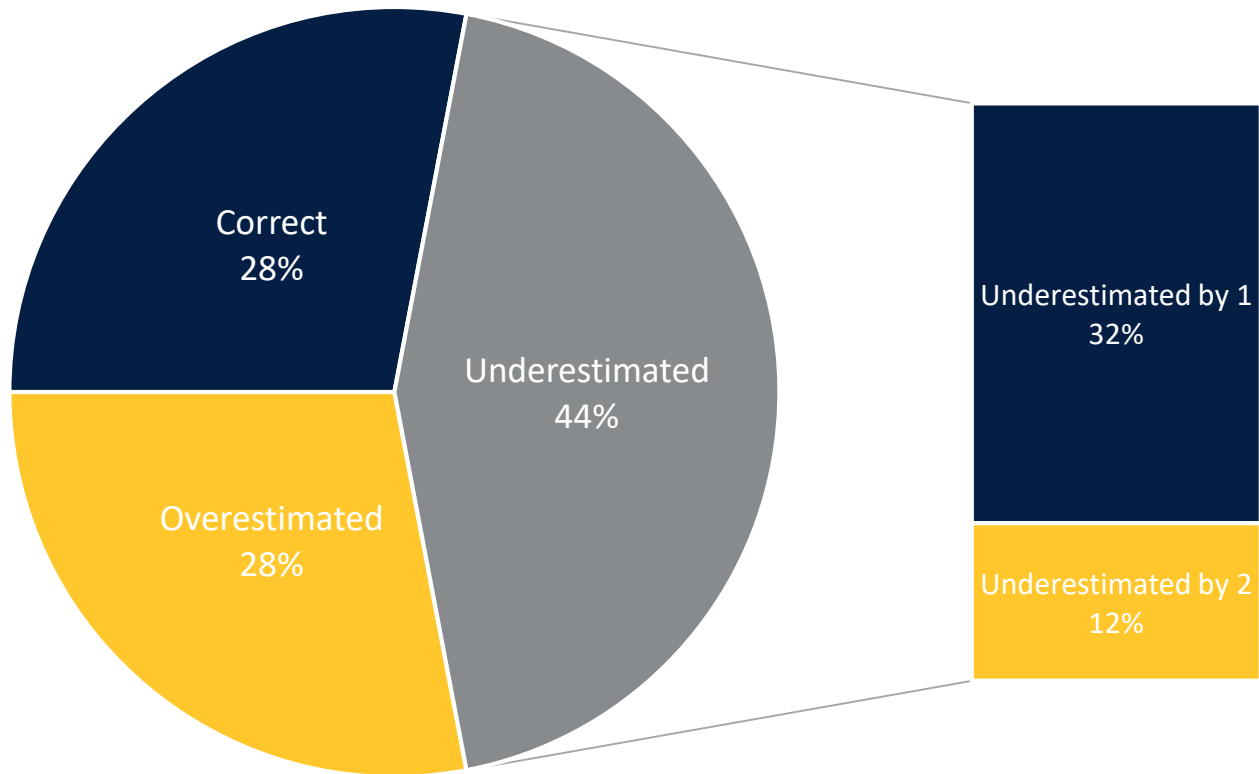
## Methods Cont.

- Physician completes the office visit for the scheduled problem and completes the assessment of impact of COPD on the patient's daily life
- Patients who are willing to participate escorted to a private office
- Patient's consent obtained
- Patient completes the CAT
- Coded physician assessment and matching coded CAT paired together
- CAT scored
- *Goal: 50 patient/physician pairs OR three months*





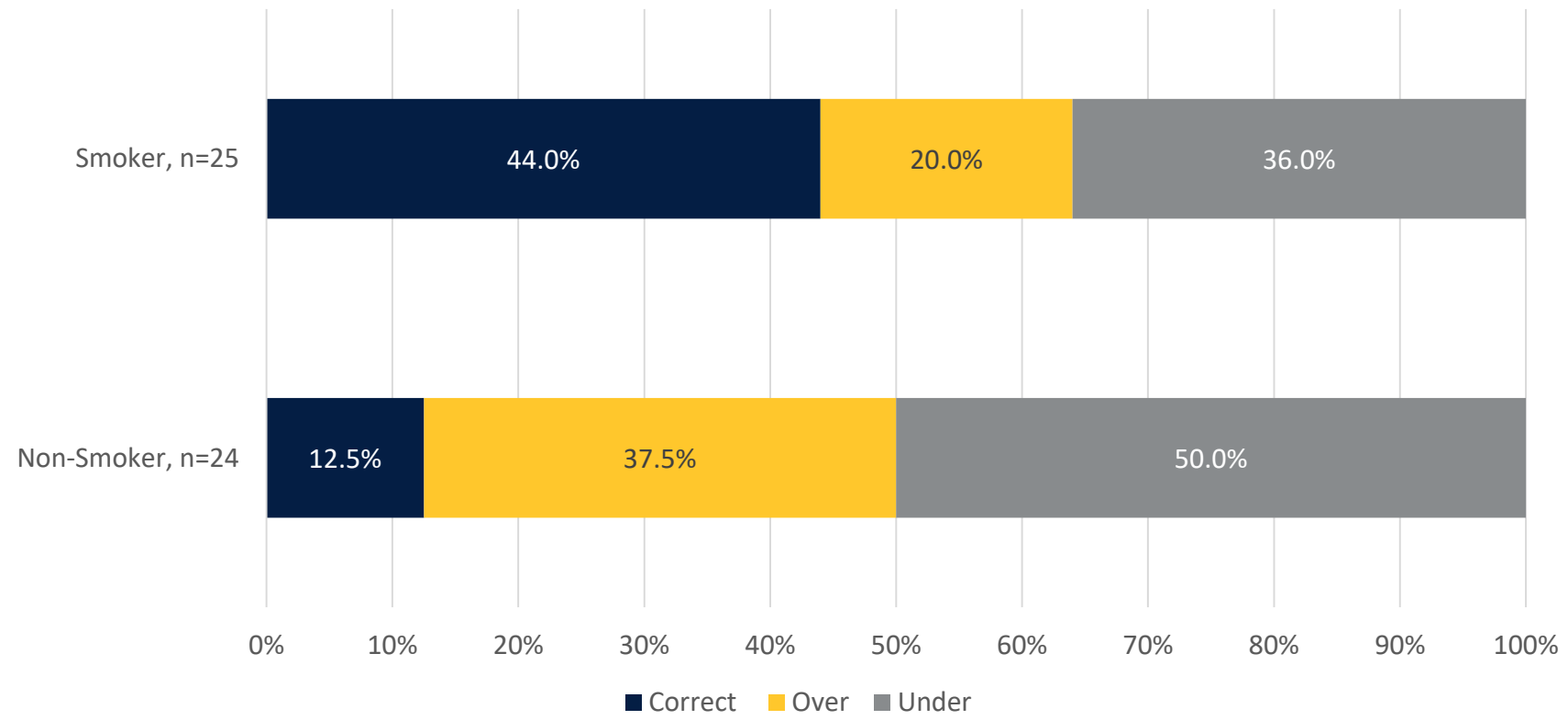
# Comparison of Physician Assessment vs Patient CAT Self-Assessment



$\chi^2 = 11, p=.012$



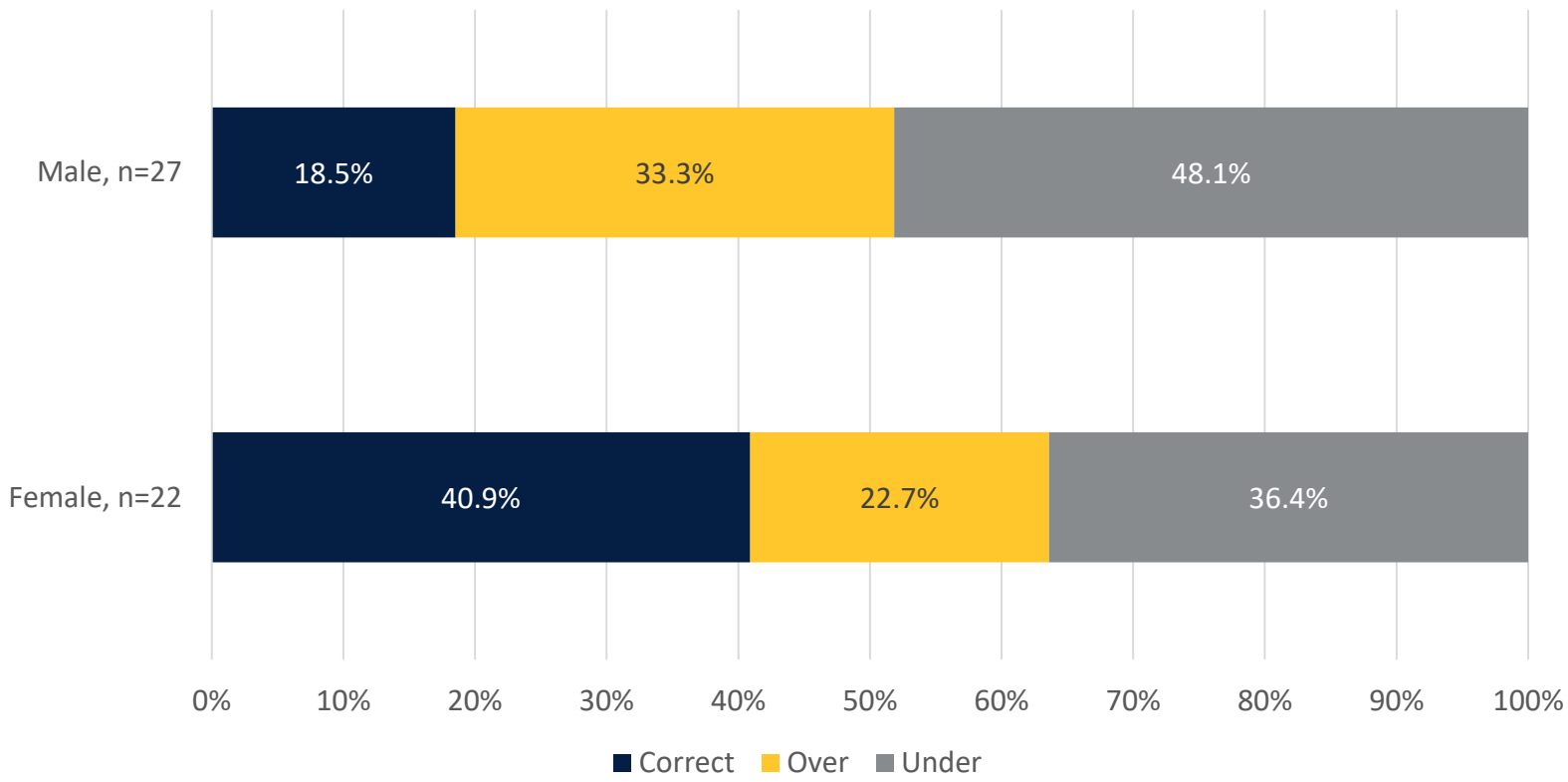
# Patient Smoking Status and Physician Assessment Outcome



$\chi^2 = 6.13, p=.047$



# Physician Gender and Assessment Outcome



$\chi^2 = 2.98, p = .084$

# Limitations

- Small sample size (convenience sample)
- Impossible to eliminate all physician bias once study began
- Unable to assess familiarity of physician with patient
- Categorical assessment for physicians vs continuous data assessment for patients


# Conclusions

- Discrepancy in physician and patient ratings of the impact COPD has on patients' daily lives
- Highlight the need for a more formalized patient self-assessment process
- Patient assessment can create discussion between providers and patients
- Curricular implications include the need for additional COPD assessment training as well as integration of the CAT into resident training.

# References

1. National Heart Lung and Blood Institute. Morbidity and Mortality: Chart Book on Cardiovascular, Lung, and Blood Disease. 2009.
2. Centers for Disease and Prevention. National Center for Health Statistics. National Vital Statistics Report. "Deaths: Final Data for 2010." May 2013; 61(04).
3. "Chronic Obstructive Pulmonary Disease and Social Security Disability." Disability Benefits Help.



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