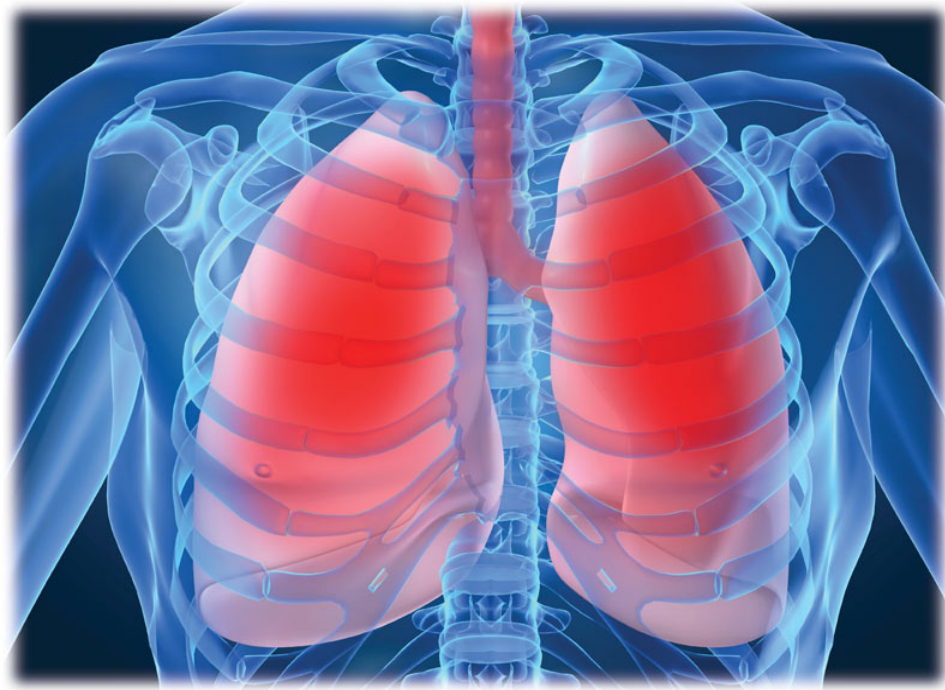




# **NATIONAL ASSOCIATION FOR CONTINUING EDUCATION**



Alpha-1 Antitrypsin Deficiency:  
Evidence for Efficacy

**Final Outcome Report**

## **Challenges in Pulmonary and Critical Care: 2014**

**Presented at:  
Cleveland Clinic Florida  
Weston, Florida  
December 6, 2014**

Report Date: January 13, 2015

# Course Director

**Franck Rahaghi, MD, MHS, FCCP**

Director, Pulmonary Hypertension Clinic  
Director, Pulmonary Education and Rehabilitation  
Cleveland Clinic Florida  
Weston, FL

## Course Accreditation

The National Association for Continuing Education is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The National Association for Continuing Education designates this live activity for a maximum of 7 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should only claim the credit commensurate with the extent of their participation in the activity.

National Association for Continuing Education is approved as a provider of nurse practitioner continuing education by the American Association of Nurse Practitioners. AANP Provider Number 121222. This program has been approved for 7.0 contact hours of continuing education (which includes 1.25 pharmacology hours).

\* This applies to the full day CME activity entitled Challenges in Pulmonary and Critical Care: 2014.

# Commercial Support

Challenges in Pulmonary and Critical Care: 2014 CME activity was supported through educational grants from the following companies:

Actelion

Boehringer Ingelheim Pharmaceuticals, Inc.

CSL Behring

Grifols

Intermune

VITAS Innovative Hospice Care

United Therapeutics

# Agenda

7:00-8:00	Continental Breakfast and Registration	12:25- 1:10	Lunch Break/Exhibits
8:00-8:10	Welcome Remarks Franck Rahaghi, MD, MHS, FCCP	1:10-2:10	Transition to End of Life Care: The How and Why Nydia Martinez Galvis, MD
8:10-9:10	Pulmonary Hypertension: New Horizons and New Perspectives Robert Schilz, DO, PhD	2:10-3:10	Idiopathic Pulmonary Fibrosis: A New Hope Franck Rahaghi, MD, MHS, FCCP
9:10-10:10	Sleep Apnea: Changes in Practice, Hope for better outcomes Laurence Smolley, MD	3:10-3:25	Break/Exhibits
10:10- 10.25	Break/Exhibits	3:25-4:25	Update in Interventional Bronchoscopy 2014 Eduardo Oliveira, MD, MBA, FCCP
10:25-11:25	COPD: New Developments, New Treatment Horizons Anas Hadeh, MD, FCCP	4:25-4:30	Concluding Remarks Franck Rahaghi, MD, MHS, FCCP
11:25-12:25	Alpha-1 Antitrypsin Deficiency: Evidence for Efficacy Robert A. Sandhaus, MD, PhD		

# Levels of Evaluation

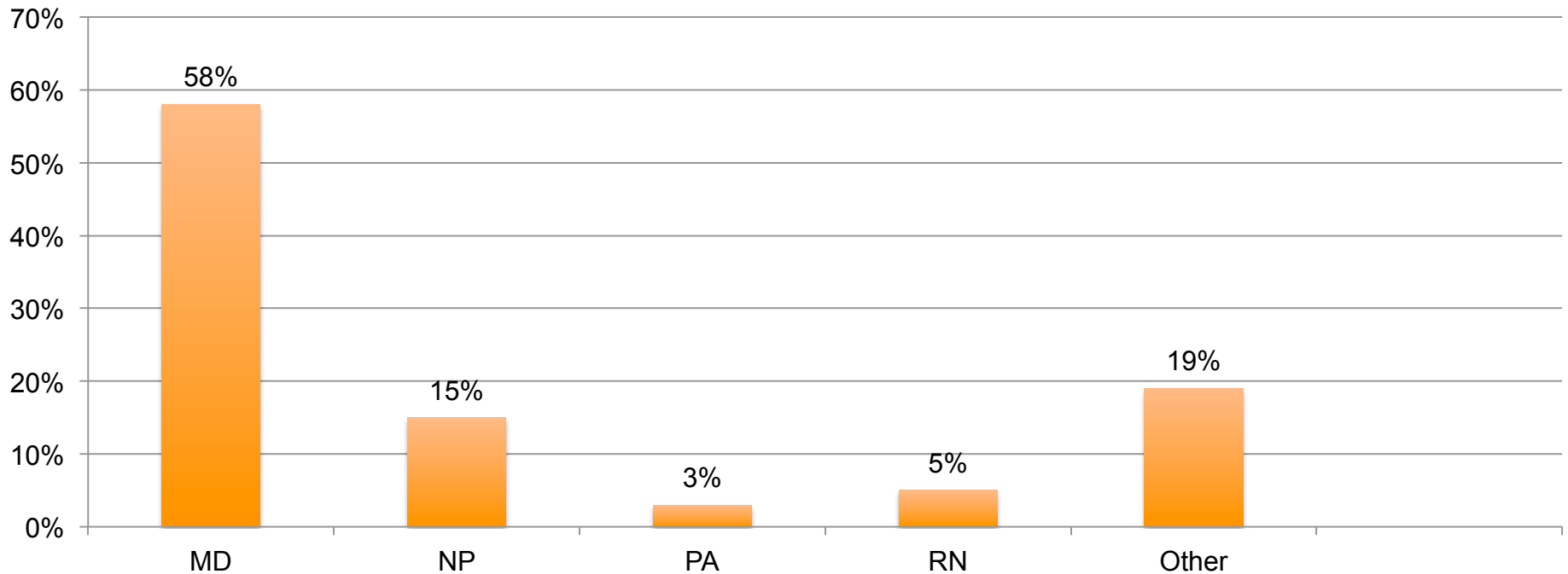
Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on the following model:

1. Participation
2. Satisfaction
3. Learning
  - A. Declarative Knowledge
  - B. Procedural Knowledge
4. Competence
5. Performance
6. Patient Health
7. Community Health

Moore DE Jr, Green JS, Gallis HA. Achieving desired results and improved outcomes: integrating planning and assessment throughout learning activities. J Contin Educ Health Prof. 2009 Winter;29(1):1-15.

# Level 1: Participation

- 101 attendees
- 58% Physicians; 15% NPs; 3% PAs; 5% RNs; 19% Other
- Over 62% in community-based practice
- 42% PCPs, 35% Pulmonologists; 2% Rheumatology; 3% Cardiology; 18% Other or did not respond



N =88

Did we reach the right audience? **Yes!**

## Level 2: Satisfaction

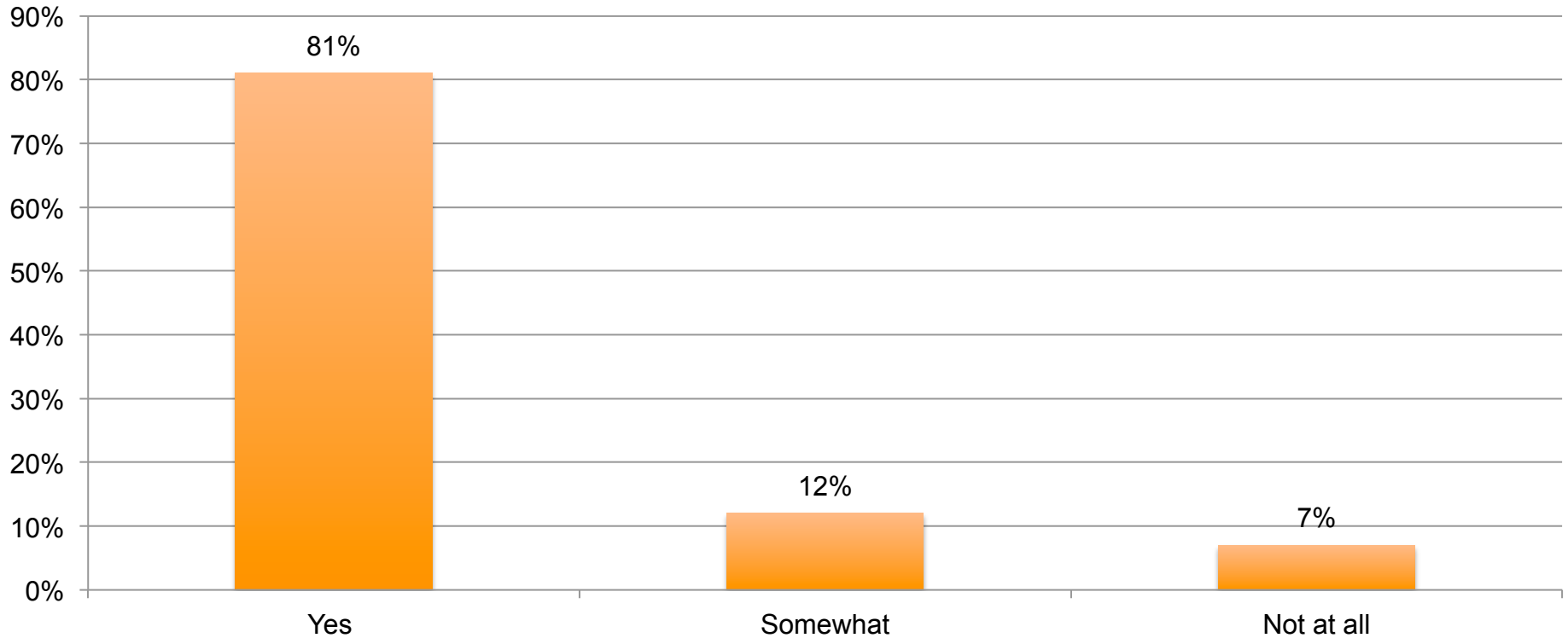
- 100% rated the activity as very good to excellent
- 100% indicated the activity improved their knowledge
- 100% stated that they learned new strategies for patient care
- 82% said they would implement new strategies that they learned in their practice
- 100% said the program was fair-balanced and unbiased

Were our learners satisfied? **Yes!**

# Level 2: Satisfaction

**Upon completion of this activity, I can now –**

Discuss the etiology of alpha-1 antitrypsin deficiency (AATD); Explain the treatments for AATD; Discuss how to change your office flow to incorporate testing for AATD, utilization of ancillary staff, and the pulmonary function lab



N =90

Did learners indicate they achieved the learning objectives?

**Yes! 93% believed they did.**



# Outcome Study Methodology

## Goal

To determine the effect this CME activity had on learners with respect to competence to apply critical knowledge, confidence in treating patients with diseases or conditions discussed, and change in practice behavior.

## Dependent Variables

### 1. Level 3-5: Knowledge, Competence, and Performance

Case-based vignettes and pre- and post-test knowledge questions were asked with each session in the CME activity. Identical questions were also asked to a sample of attendees 4 weeks after the program to assess retention of knowledge. Responses can demonstrate learning and competence in applying critical knowledge. The use of case vignettes for this purpose has considerable predictive value. Vignettes, or written case simulations, have been widely used as indicators of actual practice behavior.<sup>1</sup>

### 2. Practitioner Confidence

Confidence with the information relates directly to the likeliness of actively using knowledge. Practitioner confidence in his/her ability to diagnose and treat a disease or condition can affect practice behavior patterns.

### 3. Level 5: Self-Reported Change in Practice Behavior

Four weeks after CME activity, practitioners are asked if they changed practice behavior.

1. Peabody, J.W., J. Luck, P. Glassman, S. Jain, J. Hansen, M. Spell and M. Lee (2004). *Measuring the quality of physician practice by using clinical vignettes: a prospective validation study*. Ann Intern Med 14(10): 771-80.

# Outcome Study Methodology (Cont.)

## 4. Readiness to Change Behavior (Prochaska and DeClemente Model)

CME activities can motivate providers to move through different stages of change which can ultimately lead them to take action and modify their practice behavior in accordance with the objectives of the education. Movement through these stages of change is an important dependent variable to consider in evaluating the impact of CME. Participants were asked to evaluate their stage of change with respect to specific topics being presented.

- **Pre-contemplation stage:** I do not manage (XXX illness), nor do I plan to this year.
- **Contemplation stage:** I did not manage (XXX illness) before this course, but as a result of attending this course I'm thinking of managing it now.
- **Pre-contemplation/confirmation stage:** I do manage patients with (XXX Illness) and this course confirmed that I do **not** need to change my treatment methods.
- **Preparation for action stage:** I do manage patients with (XXX illness) and this course helped me change my treatment methods.

# Alpha-1 Antitrypsin Deficiency: Evidence for Efficacy

## Faculty

Robert A. Sandhaus, MD, PhD  
Professor of Medicine  
Director, Alpha 1-Antitrypsin Deficiency Program  
National Jewish Health  
Denver, CO

## Learning Objectives

- Discuss the etiology of alpha-1 antitrypsin deficiency (AATD)
- Explain the treatments for AATD
- Discuss how to change your office flow to incorporate testing for AATD, utilization of ancillary staff, and the pulmonary function lab

# Key Findings

## Alpha-1 Antitrypsin Deficiency: Evidence for Efficacy

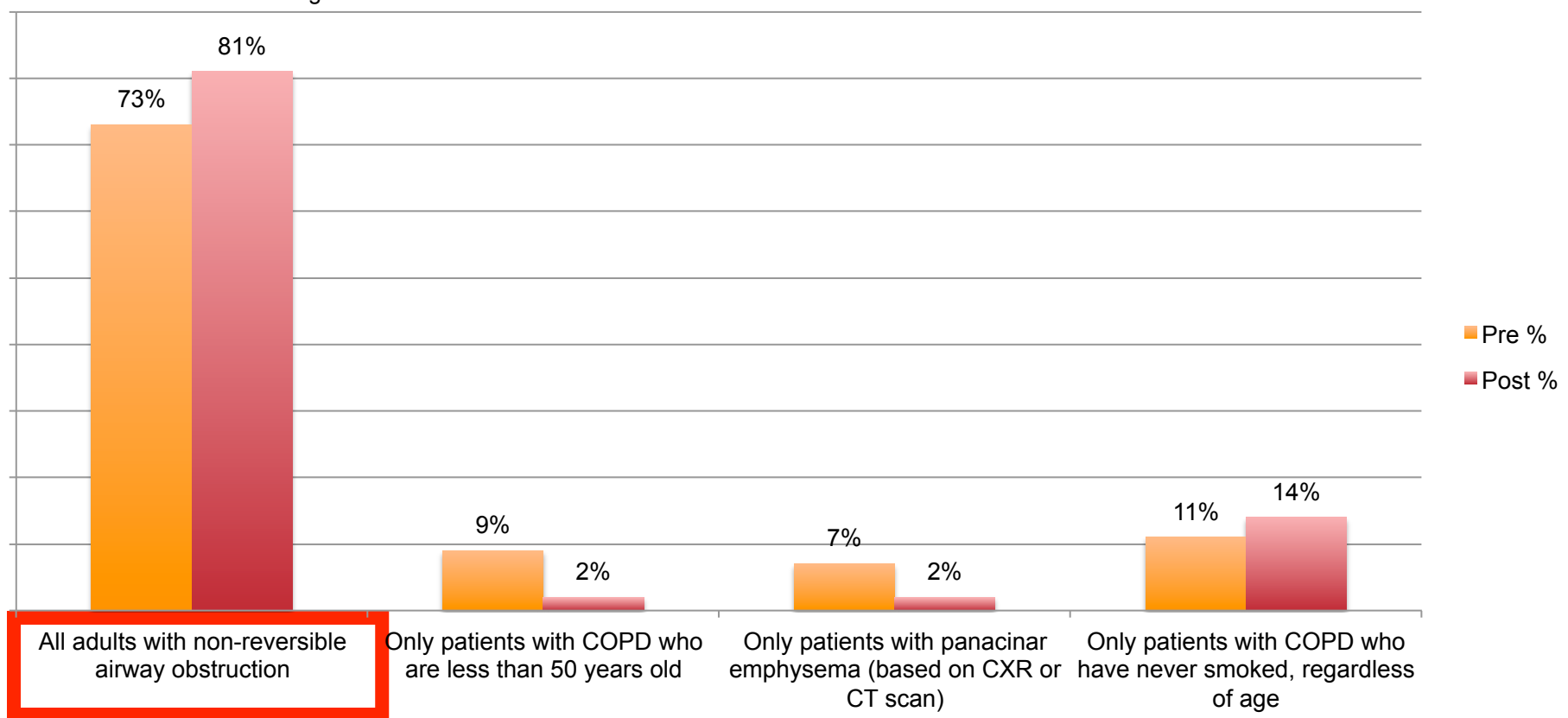
Knowledge/Competence	Learners demonstrated improvement from pre to post-testing in their answers to one out of four of the case-based questions regarding Alpha-1 Antitrypsin Deficiency.
Confidence	Whereas the majority of learners rated themselves as having very low confidence in their understanding of treating Alpha-1 Antitrypsin Deficiency before the education most of the learners showed gains in confidence after the program.
Intent to Perform	As a result of this program, 35% of learners who did not manage patients with Alpha-1 before are considering doing so, while 32% indicated that they will change their treatment methods.
Change of Practice Behavior	89% of learners who responded to our four week survey indicated that they had changed their practice behavior to implement the learning objectives of this program within four weeks after they attended the activity.

N=27

# Case Vignette Knowledge and Competence Assessment Questions presented before and after lecture. Boxed answer is correct

Who should be tested for alpha-1 antitrypsin deficiency (Alpha-1)?

P Value: >0.336 – Not Significant



Pre N = 44  
Post N = 43

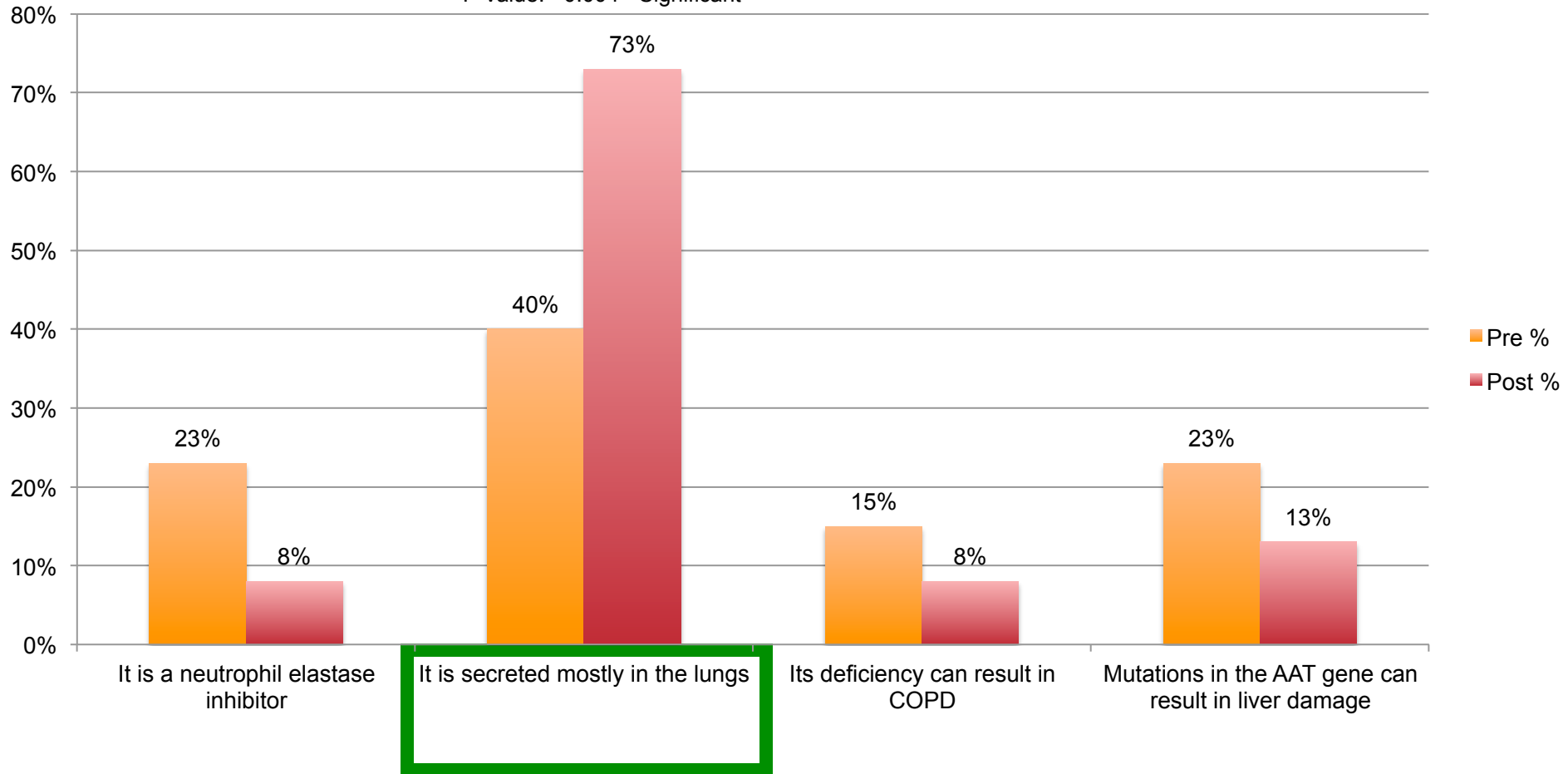
Red highlight indicates no significant difference between pre and post testing.

# Case Vignette Knowledge and Competence Assessment Questions

(Presented before and after lecture. Boxed answer is correct.)

All of these statements about alpha-1 antitrypsin (AAT) are true EXCEPT?

P Value: <0.004 - Significant



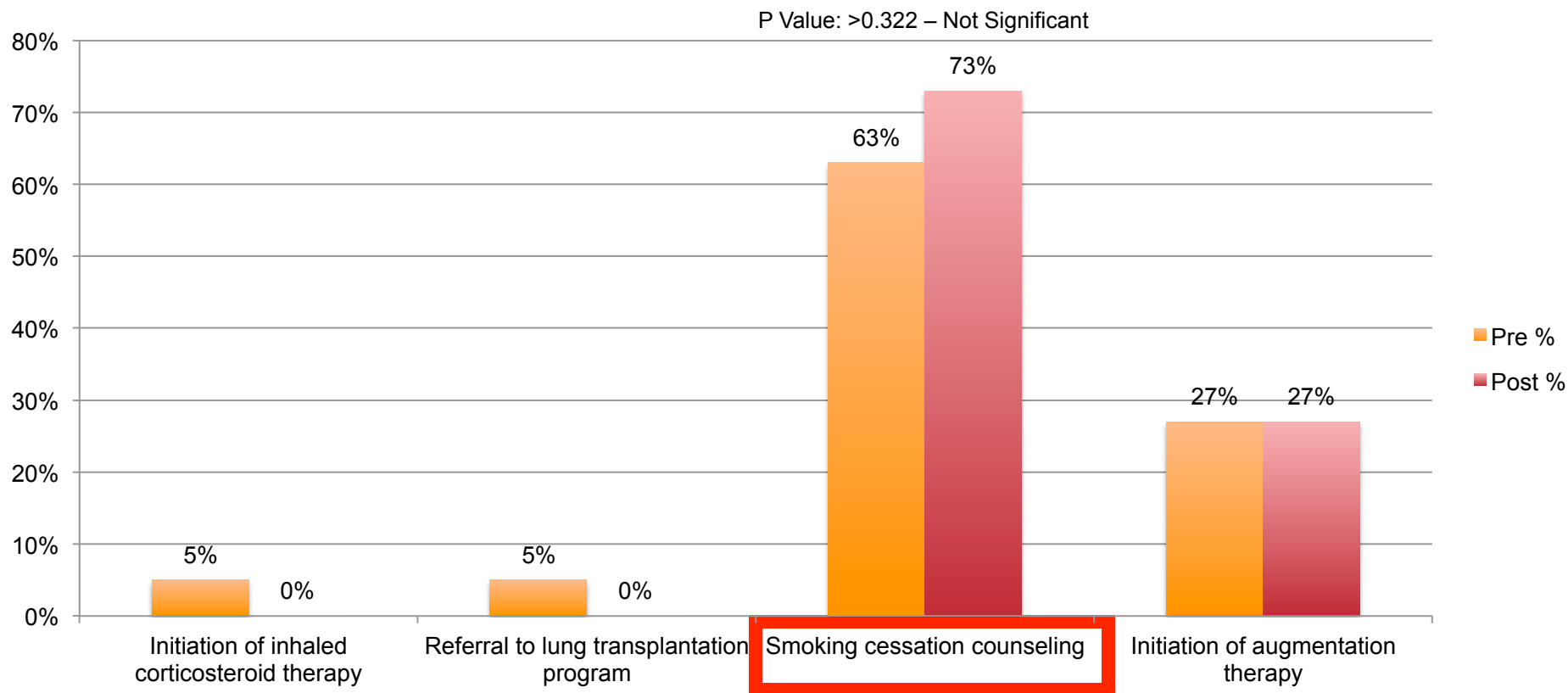
Pre N =40  
Post N = 40

Green highlight indicates significant difference between pre and post testing.

# Case Vignette Knowledge and Competence Assessment Questions

(Presented before and after lecture. Boxed answer is correct.)

In the management of those diagnosed with Alpha-1, what is the most important first step?



Pre N =41

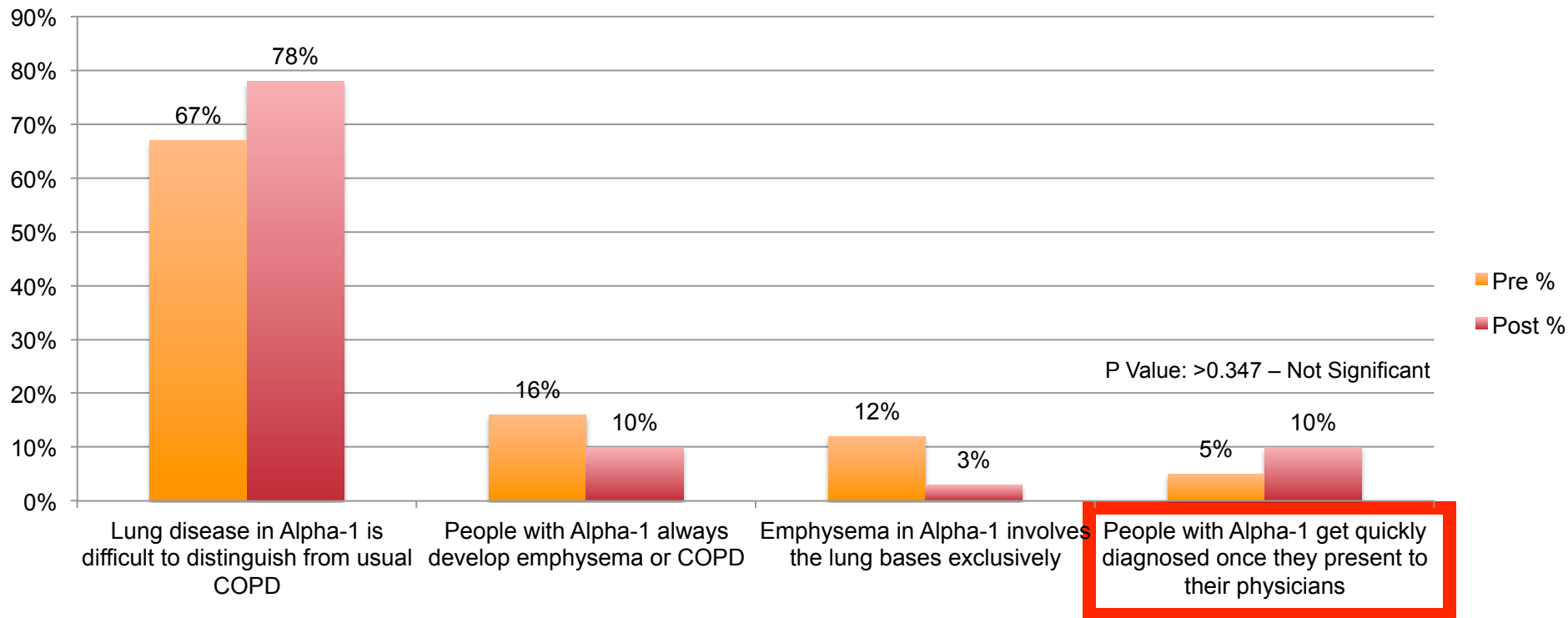
Post N = 45

Red highlight indicates no significant difference between pre and post testing.

# Case Vignette Knowledge and Competence Assessment Questions

(Presented before and after lecture. Boxed answer is correct.)

Which statement is true about patients with alpha-1 antitrypsin deficiency (Alpha-1)?



Pre N = 43  
Post N = 40

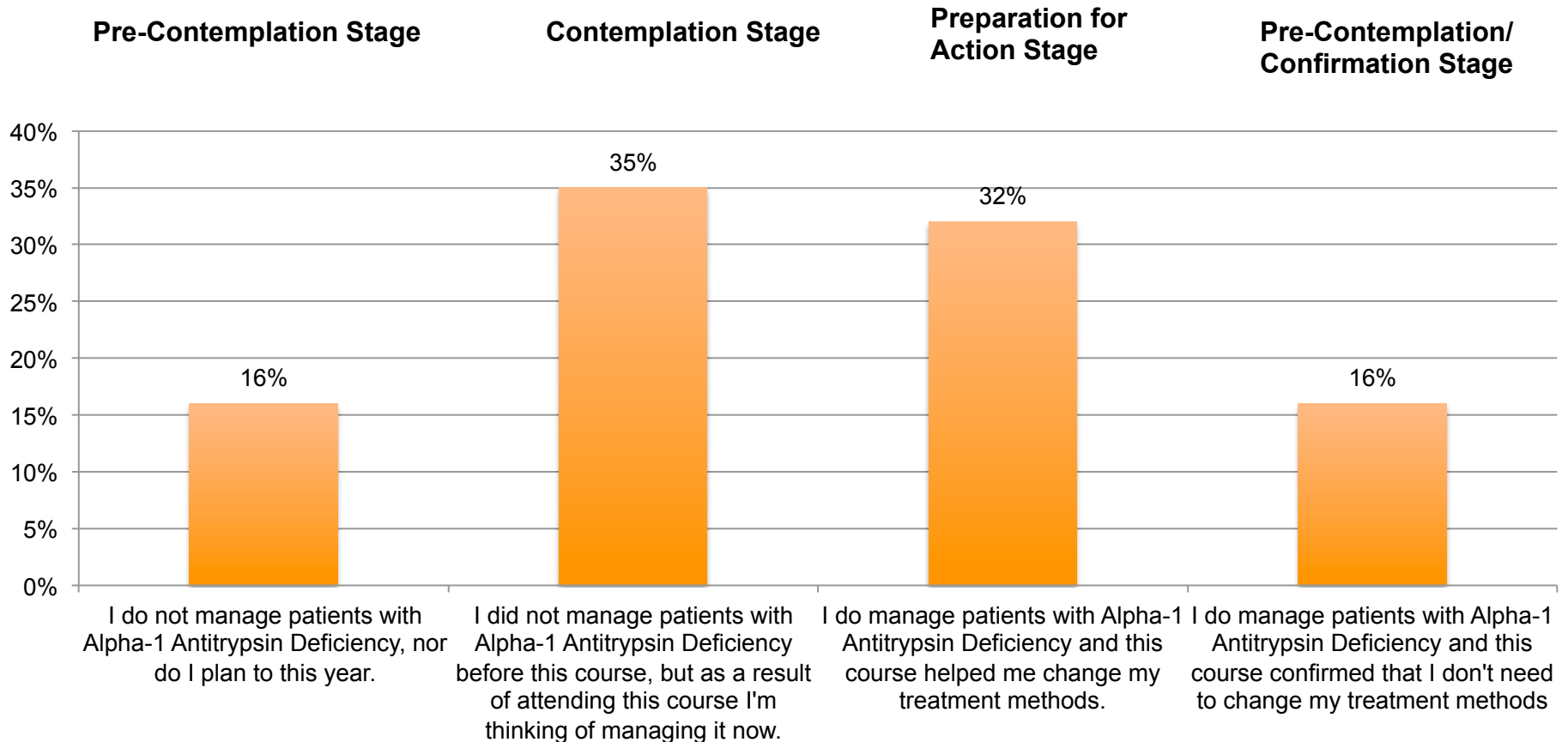
Red highlight indicates no significant difference between pre and post testing.



# Change in Practice Behavior Question

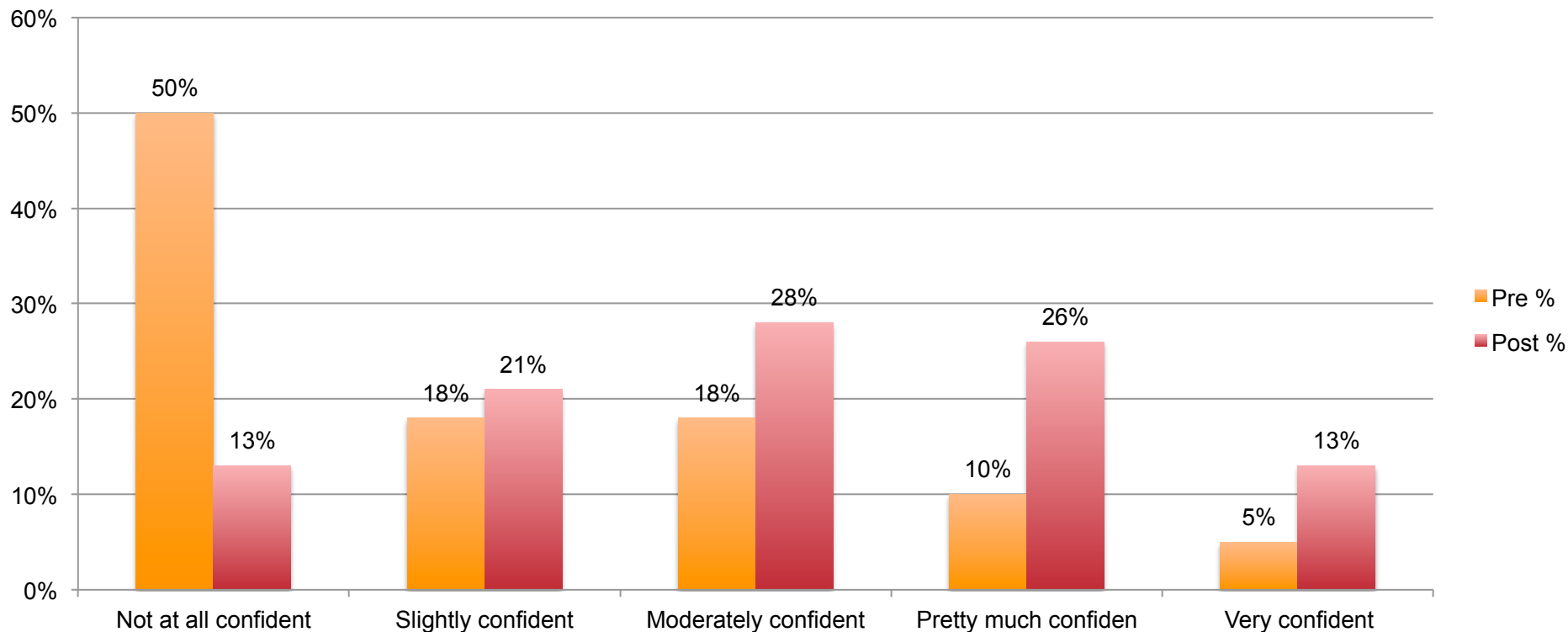
Presented after lecture.

Which of the statements below describes your approach to diagnosing and treating patients with Alpha-1 Antitrypsin Deficiency?



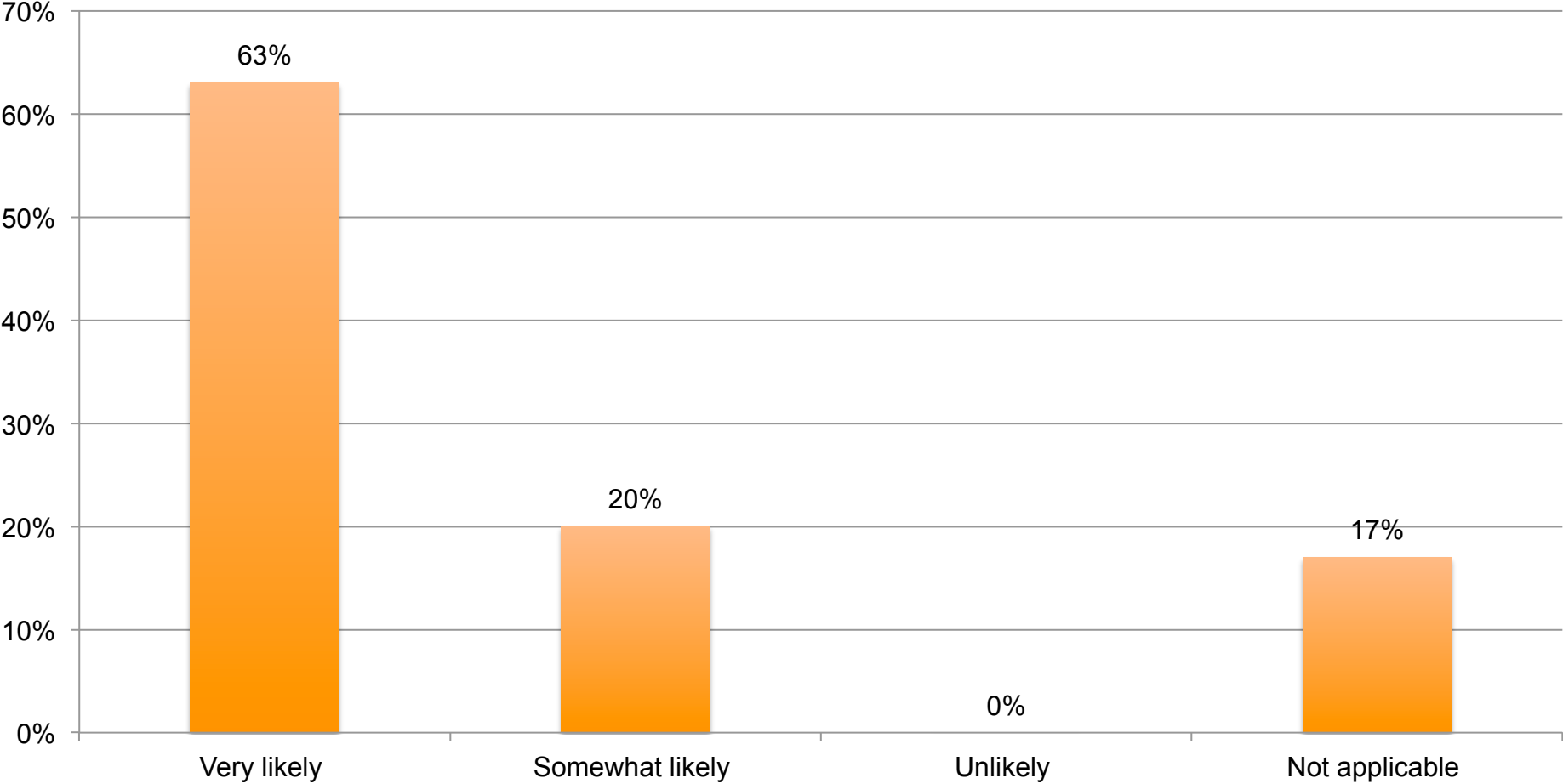
# Changes in Confidence from Pre to Post-Testing Alpha-1 Antitrypsin Deficiency: Evidence for Efficacy

On a scale of 1 to 5: Please rate how confident you would be treating a patient with Alpha-1 Antitrypsin Deficiency:



Pre N = 40  
Post N = 39

# Intention to Change Practice Behavior and Implement Learning



N =89

# Discussion and Implications

## Alpha-1 Antitrypsin Deficiency: Evidence for Efficacy

Alpha-1 Antitrypsin Deficiency (AATD) is an under-diagnosed condition. The need for continued education in the area of AATD was established in a comprehensive needs assessment and gap analysis completed prior to the symposia. Planners sought to help primary care providers better explain the prevalence of alpha-1 antitrypsin deficiency (AATD), be better able to discuss AATD testing by ancillary staff and the pulmonary function lab, and enable them to explore novel approaches to increase AATD testing.

**Knowledge/Competence:** Attendee knowledge was assessed at two points for this activity: prior to the activity and immediately following the activity using the case vignettes and knowledge questions listed above. The results indicated some improvement in knowledge of the areas tested as measured by positive changes in pre to post-test scores on three of the four questions asked.

**Readiness to Change:** Thirty-eight percent of attendees noted that they currently screen or test patients for AATD and that this course provided information that would lead to further changes in their care of patients with AATD. Thirty-eight percent indicated that they did not screen or test patients for AATD prior to participating in this activity, but would consider doing so after having been exposed to the information taught.

**Confidence:** Participants indicated a strong overall increase in self-reported confidence levels in assessing patients for AATD. Attendees who reported that they felt very confident rose from 4% to 32% by the end of the activity.

**Intention for Practice Change:** Sixty-four percent of the attendees indicated that they were very likely to change their practice with respect to caring for patients who may have AATD after the activity, and 21% suggested that they would be likely to do so.

This activity was successful in the goal of improving understanding of AATD to primary care providers and pulmonologists and had a positive impact in terms of self-reported likelihood of practice change. There appears to be a need for further education on this topic with respect to understanding of AATD and screening patients who may have risk factors for this condition.