



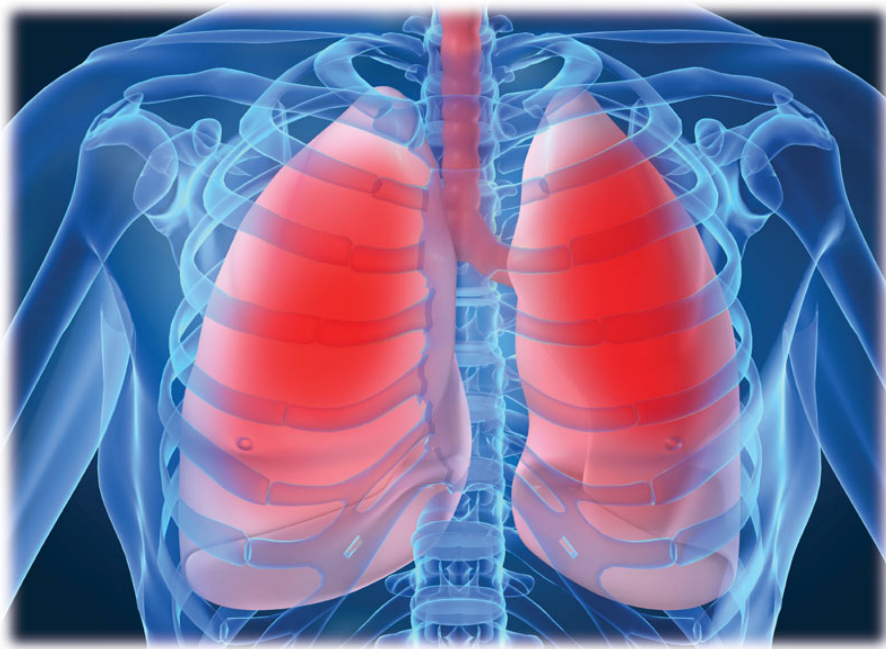
NATIONAL ASSOCIATION FOR CONTINUING EDUCATION

**Pulmonary Hypertension:
State of the Art**

Outcome Report

Challenges in Pulmonary and Critical Care: 2011

Report Date: 12/31/11



**Presented at:
Cleveland Clinic Florida
Weston, Florida
December 3, 2011**

Course Director

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Director, Pulmonary Hypertension Clinic
Director, Pulmonary Education and Rehabilitation
Chair of Quality
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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 educational activity for a maximum of 4 *AMA PRA Category 1 Credits*[™].

*The Cleveland Clinic Florida designates this educational activity for a maximum of 2 *AMA PRA Category 1 Credits*[™].

* This applies to the full day CME activity entitled Challenges in Pulmonary and Critical Care: 2011.

Commercial Support

Challenges in Pulmonary and Critical Care: 2011 CME activity was supported through educational grants or donations from the following companies:

Actellion

Boehringer Ingelheim

CSL Behring

United Therapeutics Corporation

Agenda

7:20-7:50	Continental Breakfast and Registration	12:00- 1:00	Lunch/Exhibits
7:50-8:00	Welcome Remarks Franck Rahaghi, MD,MHS, FCCP	1:00-2:00	*Pulmonary Hypertension: State of the Art Franck Rahaghi, MD, MHS, FCCP
8:00-9:00	What is New in Lung Cancer: Diagnosis and Management Eduardo Oliveira, MD, MBA	2:00-3:00	*Alpha-1 Antitrypsin Deficiency: Future of Diagnosis and Treatment Franck Rahaghi, MD, MHS, FCCP
9:00-10:00	COPD: New Developments Charlie Strange, MD	3:00-3:15	Break/Vendor Area
10:00- 10.30	Break/Vendor Area	3:15-4:15	Sleep Medicine: Latest Advances in Sleep Medicine: Diagnosis and Treatment Laurence Smolley, MD
10:30-11:00	Keynote Speaker: Representative Debbie Wasserman Schultz, Florida's 20 th District –Health Care in the United States	4:15-4:30	Closing Remarks Franck Rahaghi, MD, MHS, FCCP
11:00-12:00	Anticoagulation: What is New Victor Tapson, MD		

Levels of Evaluation

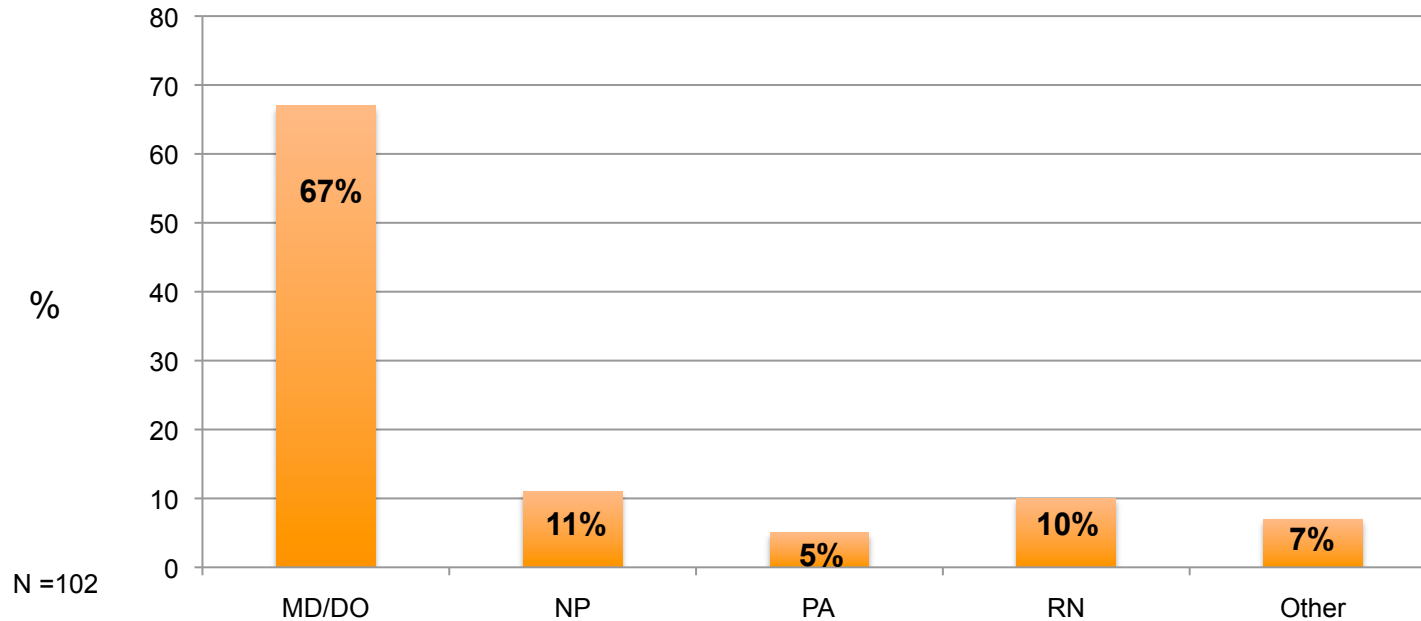
Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on the following model:

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

- 102 attendees
- 67% Physicians; 11% NPs; 5% PAs; 10% RNs; 7% Other
- Over 80% in community-based practice
- 47% PCPs, 21% Pulmonologists; 1% Endocrinologists; 1% Cardiologists; 2% Rheumatologist; 28% Other or did not respond



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

Level 2: Satisfaction

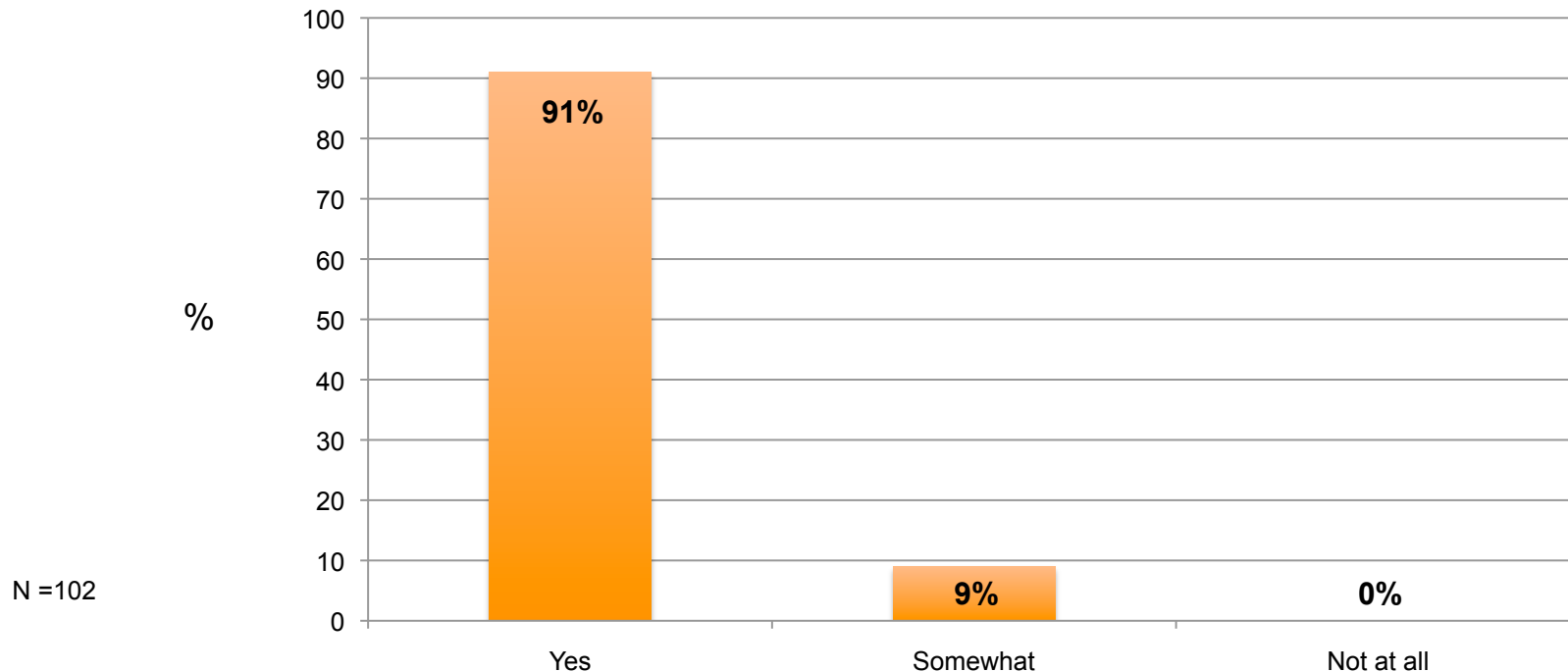
- 97% rated the activity as very good to excellent
- 99% indicated the activity improved their knowledge
- 95% stated that they learned new strategies for patient care
- 89% said they would implement new strategies that they learned in their practice
- 99% said the program was fair-balanced and unbiased

Were our learners satisfied? **Yes!**

Level 2: Satisfaction

Upon completion of this activity, I can now –

Explain the pathophysiology of pulmonary arterial hypertension (PAH); Discuss the workup of patients suspected of having PAH; Discuss criteria for diagnosis and accurate assessments of disease severity in patients with PAH; List therapeutic options in the management of patients with PAH and discuss effective use of targeted treatment options for PAH.



Did learners indicate they achieved the learning objectives?

Yes! 100% 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

- **Level 3: Competence to Apply Critical Knowledge**
Case-based vignettes and pre- and post-test knowledge questions were asked with each session in the CME activity. 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. ¹
- **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.
- **Level 4: Self-Reported Change in Practice Behavior**
Intent to change and change four weeks after CME activity.

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.

Pulmonary Hypertension: State of the Art
Franck Rahaghi, MD, MHS, FCCP

Faculty

Franck Rahaghi, MD, MHS, FCCP

Director, Pulmonary Hypertension Clinic

Director, Pulmonary Education and Rehabilitation

Cleveland Clinic Florida

Weston, FL

Learning Objectives

- Explain the pathophysiology of pulmonary arterial hypertension (PAH)
- Discuss the workup of patients suspected of having PAH
- Discuss criteria for diagnosis and accurate assessments of disease severity in patients with PAH
- List therapeutic options in the management of patients with PAH and discuss effective use of targeted treatment options for PAH

Key Findings

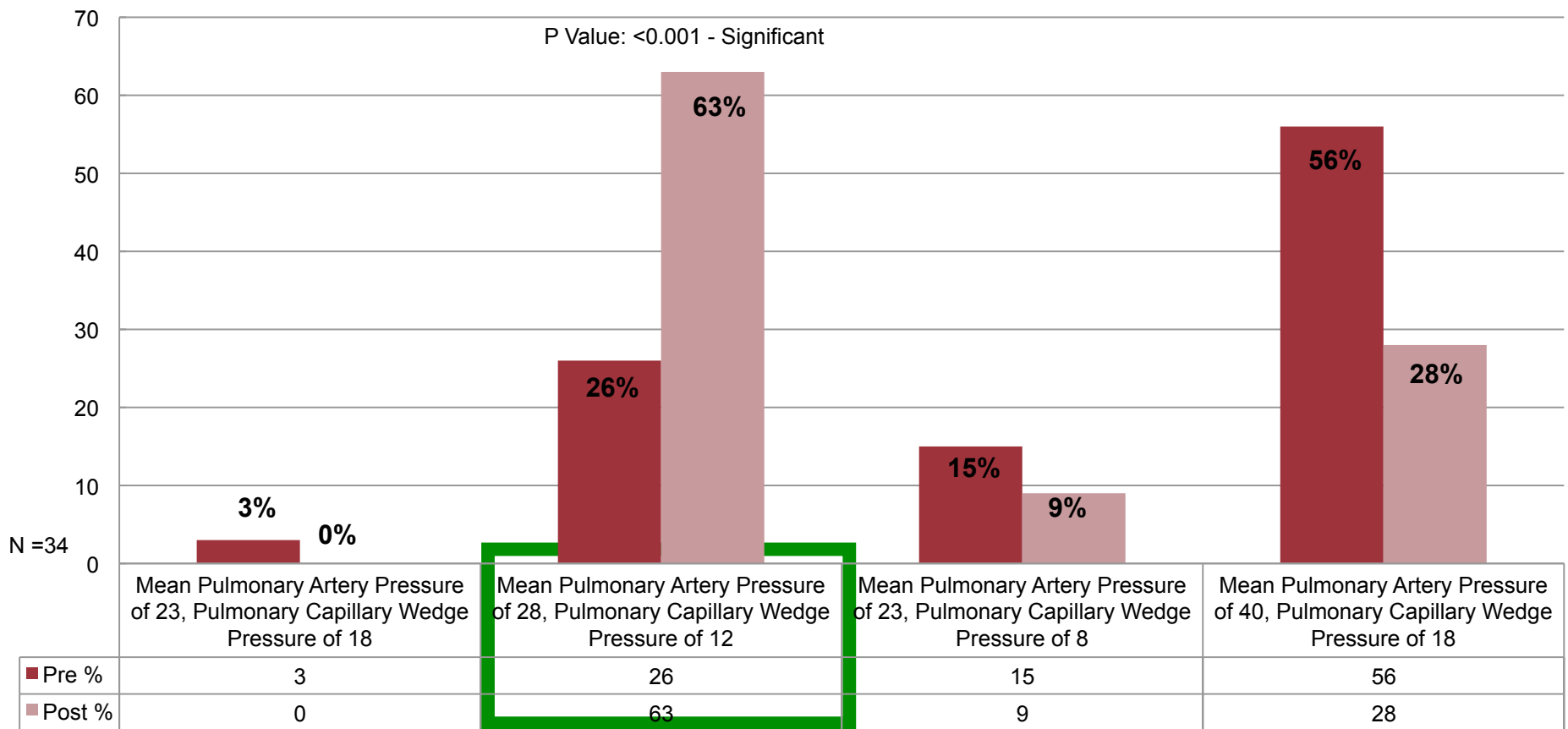
Pulmonary Hypertension: State of the Art

Knowledge/Competence	Learners demonstrated improvement in their answers from pre to post-testing on all three case-based questions regarding Pulmonary Hypertension, but significance was reached in only one of the three questions.
Confidence	Participants reported higher confidence levels in providing care to patients with this condition following the education.
Intent to Perform	Learners stated that they were very likely (63%) to somewhat likely (28%) to implement strategies learned at this session in their practice.

Case Vignette Knowledge and Competence Assessment Questions

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

Four patients had elevated right sided pressures on echocardiogram, there are no other pulmonary abnormalities. Patients were then sent for right heart catheterization for verification- Which one has Pulmonary Arterial Hypertension?

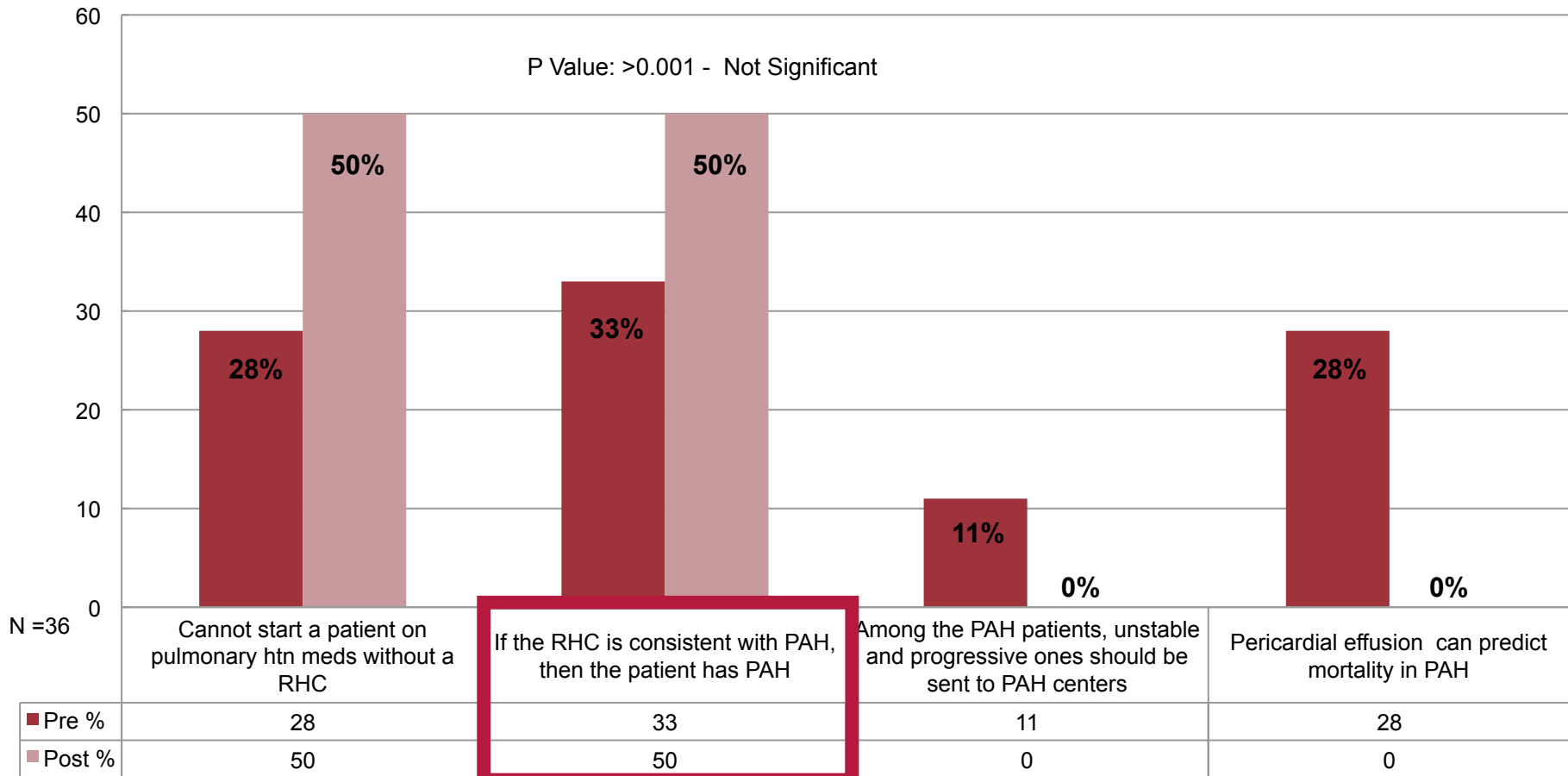


Green highlight indicates significant difference between pre and post testing.

Case Vignette Knowledge and Competence Assessment Questions

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

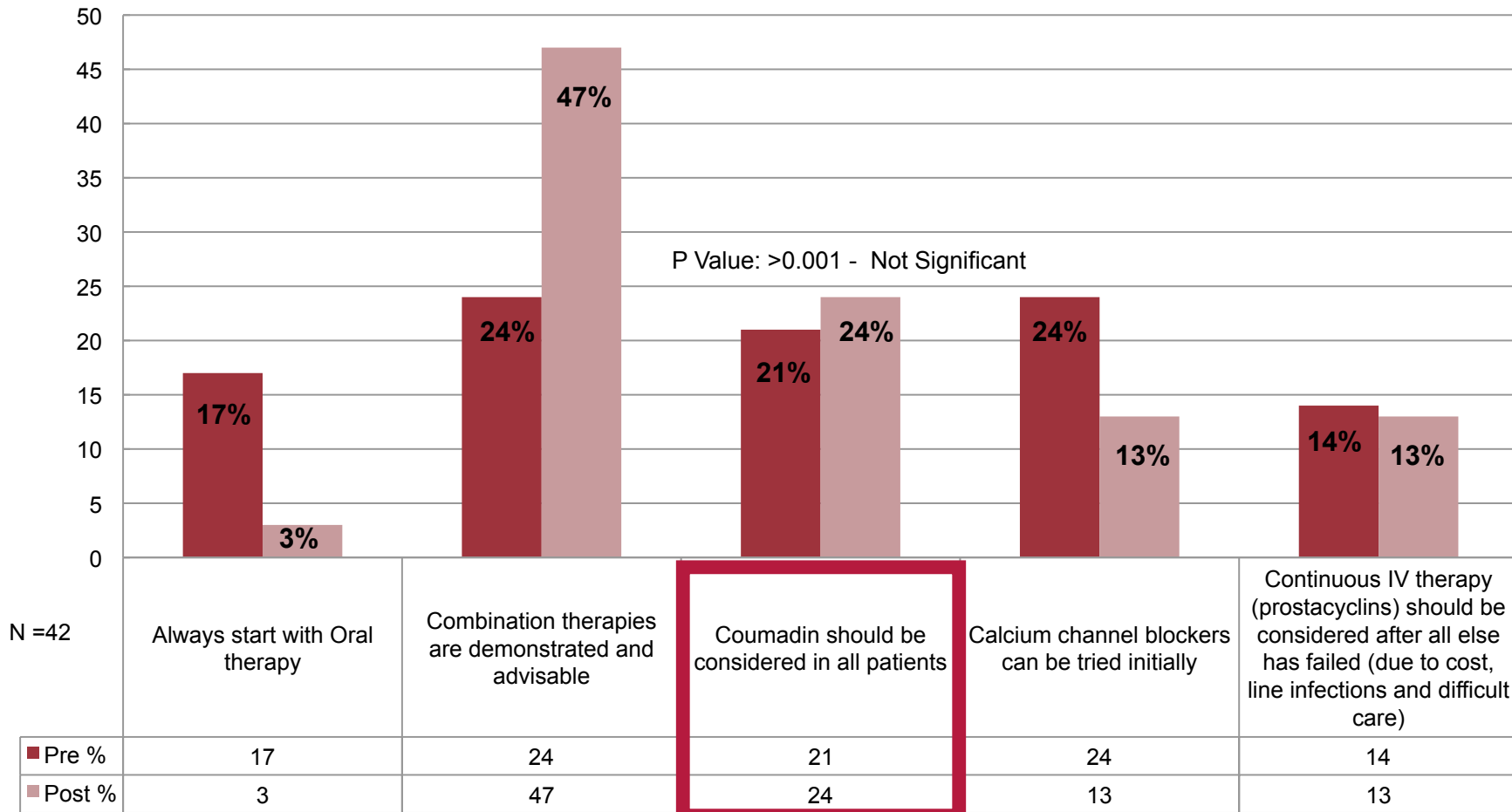
Which statement is incorrect?



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.)

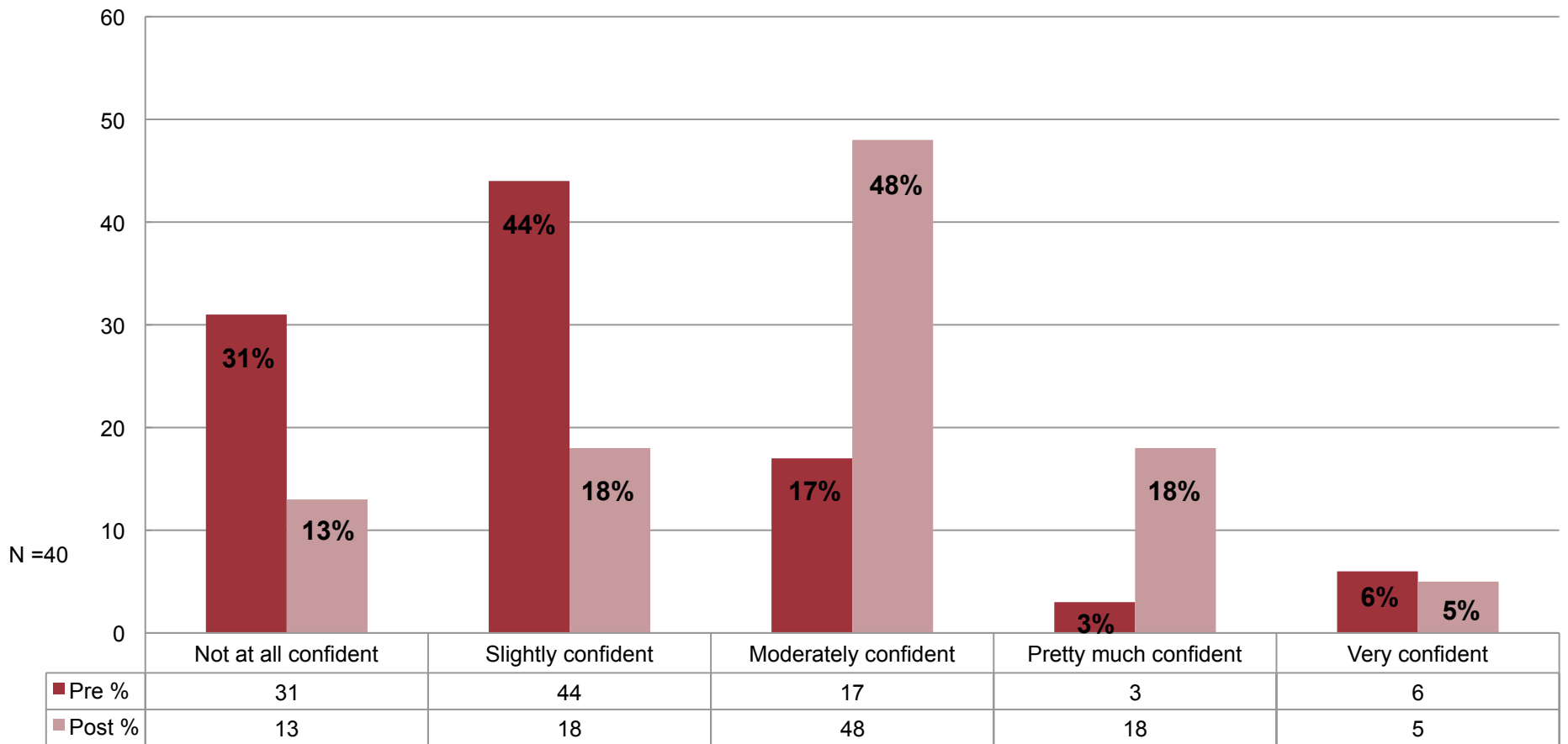
When treating patients with PAH:



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

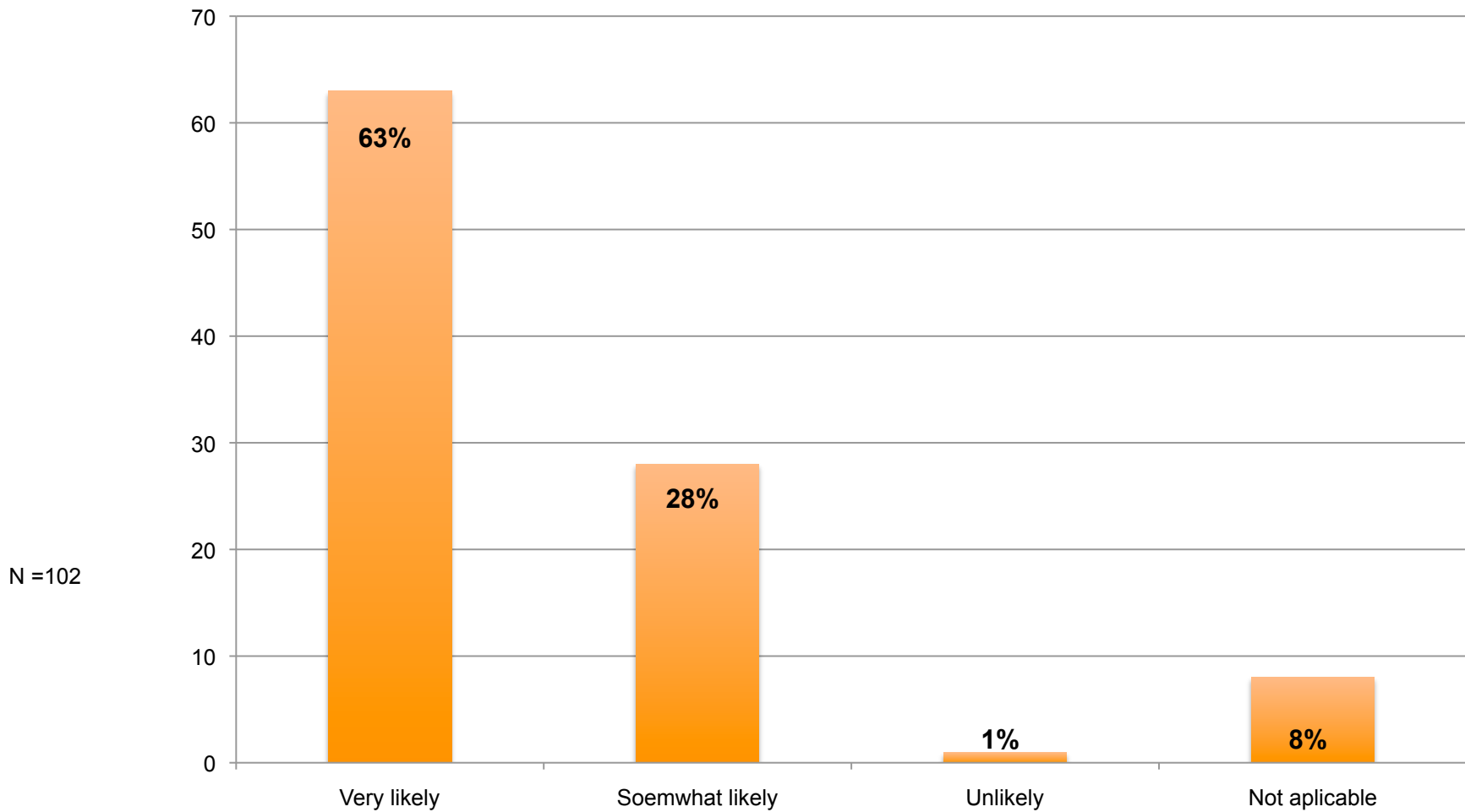
Changes in Confidence from Pre to Post-Testing Pulmonary Hypertension: State of the Art

On a scale of 1 to 5 please rate how confident you would be in treating patients with this condition.



Intention to Change Practice Behavior and Implement Learning Pulmonary Hypertension: State of the Art

How likely are you to implement strategies learned from this presentation in your practice?



Discussion and Implications

Pulmonary Hypertension: State of the Art

Pulmonary Hypertension is a complicated and specialized Topic, even for specialists.

- Explain the pathophysiology of pulmonary arterial hypertension (PAH)
- Discuss the workup of patients suspected of having PAH
- Discuss criteria for diagnosis and accurate assessments of disease severity in patients with PAH
- List therapeutic options in the management of patients with PAH and discuss effective use of targeted treatment options for PAH

In this case 91% of the attendees felt that they could use the

Discussion and Implications

Pulmonary Hypertension: State of the Art

The need for continued education in Pulmonary Arterial Hypertension (PAH) was demonstrated based on literature reviews and surveys completed prior to the conference series.

To assess the educational effectiveness of the activity, attendee knowledge was assessed at 2 points for this program: prior to the lecture and immediately following the lecture using the case vignettes and knowledge questions listed above. The results indicated an improvement in knowledge in all three questions asked. Specifically, as a result of this lecture, participants: are more aware of the cardiac pressure cutoffs required to diagnose PAH and are slightly more aware of the need to offer Coumadin to all patients with the disease.

These results suggest that the learning objectives for this activity have been effectively addressed with attendees. Participants indicated a strong overall increase in self-reported confidence levels in managing patients with this condition. Moderate to very confident levels rose from 26% to 71% by the end of the program and 63% of participants are likely to utilize information learned from this presentation in their practice.

The notable changes in post test scores signify a clear gap in knowledge and an unmet need among primary care clinicians. It continues to be an important area for future educational programs. Additional programming should continue to educate clinicians on interpretation of echocardiographic intracardiac pressures to make a diagnosis of PAH, the role of Coumadin and other medications in disease management, and appropriate follow up for a patient with PAH.

Based on the data collected at this educational activity, there appears to be a need for further education on this topic with respect to evolution in the classification of pulmonary hypertension, and the future of combination therapy.