Challenges in Pulmonary and Critical Care

NACE

LIVE CME CONFERENCE

Pulmonary Hypertension: New Definitions, New Approaches

Final Live Outcome Report

Prepared For Actelion Pharmaceuticals US, Inc.: Grant ID 55783073

January 21, 2020

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Executive Summary

- This activity focused on improving the diagnosis of Pulmonary Arterial Hypertension (PAH) with updated guidelines, using risk stratification to adjust therapy and addressing adverse effects while improving patient adherence.
- 917 attendees in multiple professional specialties were reached in this program.
- Improvement across all learning domains was noted ranging from 29% to 65%.
- Overall, the program improved the ability of learners to recognize how to diagnosis and manage PAH.

Persistent Educational Gaps

- Though improvements were observed, learners demonstrated persistent gaps in the several areas including:
  - Diagnosing PAH and interpreting the impact of pulmonary pressures
  - Recognizing the difference between Ventilation-Perfusion scanning and CT Pulmonary Angiogram for the diagnosis of CTEPH
  - Treatment strategies for PAH and how to further adjust treatment based on risk
  - Management of medication related adverse events

The post-test scores, and self reported confidence regarding the management of patients with PAH, signifies a clear gap in knowledge and an unmet need among clinicians. It continues to be an important area for future educational programs.

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*These numbers represent the total number of attendees, irrespective of assessment participation

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Learning Objectives

1. Describe new definitions of PAH and approaches to improving diagnosis
2. Outline an approach to rule out and appropriately manage chronic thromboembolic pulmonary hypertension (CTEPH), if present
3. Utilize risk stratification for selecting and escalating therapy in patients with PAH
4. Describe the management of adverse events with PAH therapies and strategies to improve patient adherence

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*Presented PAH lecture

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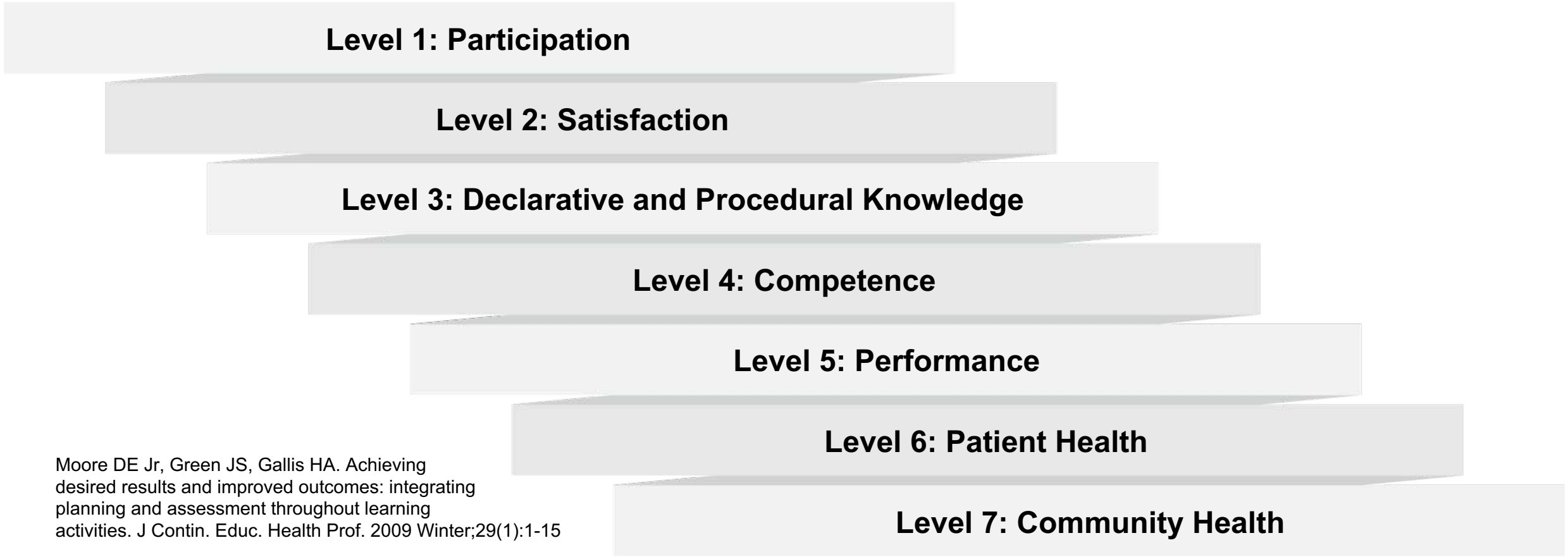
The Challenges in Pulmonary and Critical Care: 2019 CME activity was supported through educational grants or donations from the following companies:

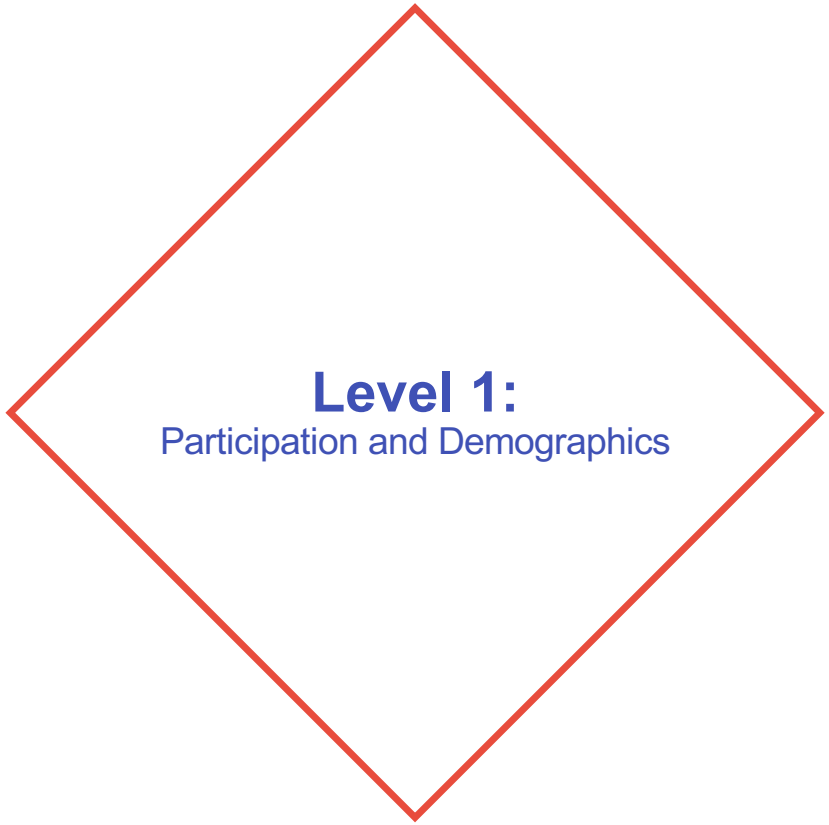
- Actelion Pharmaceuticals US, Inc.
- Genentech
- Novartis Pharmaceuticals Corporation
- CSL Behring, LLC.
- Grifols
- Mallinckrodt, LLC
- Shire

Levels of Evaluation

Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on Moore's model. This outcome study reaches Level 5.



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 and Demographics

Level 1:Participation

November 23, 2019 Coral Springs, FL

90%

Provide direct patient care

917 total attendees

On site: **97** attendees

National online simulcast : **820** attendees

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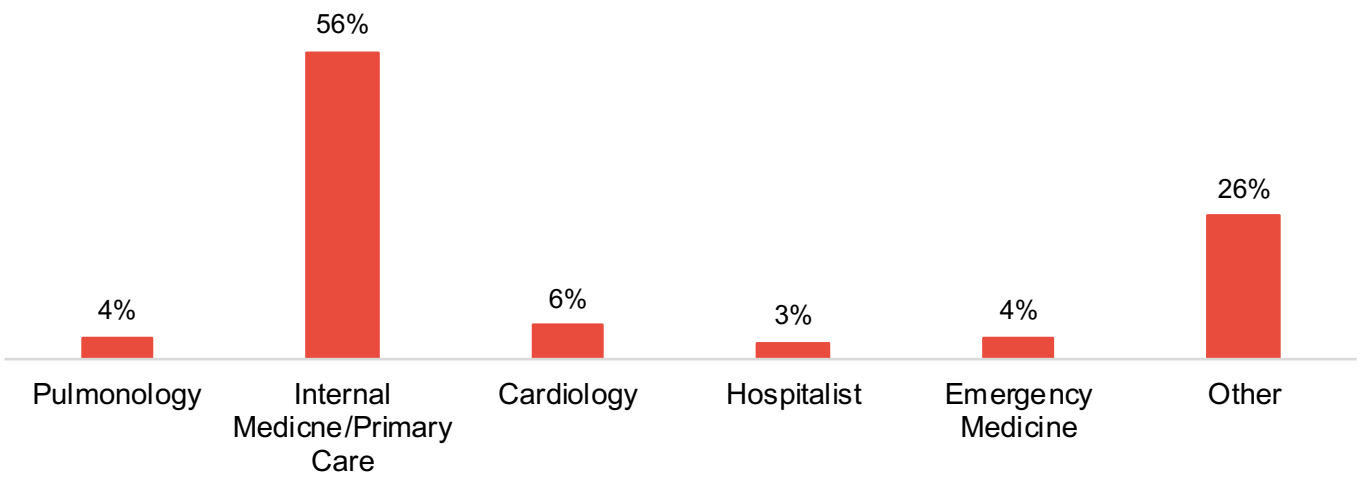
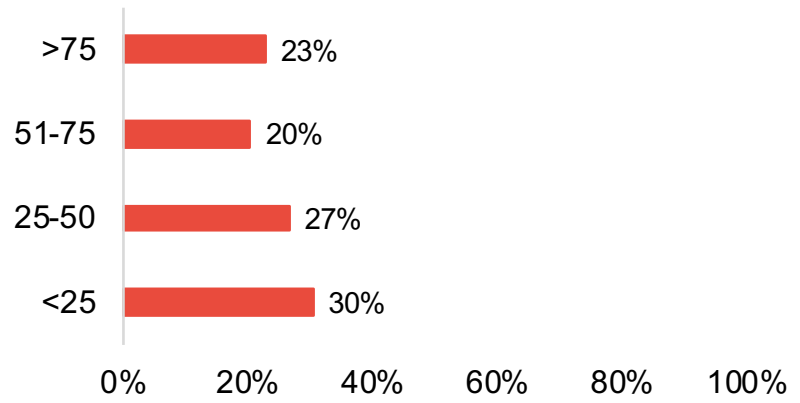
Level 1: Demographics and Patient Reach

Specialty

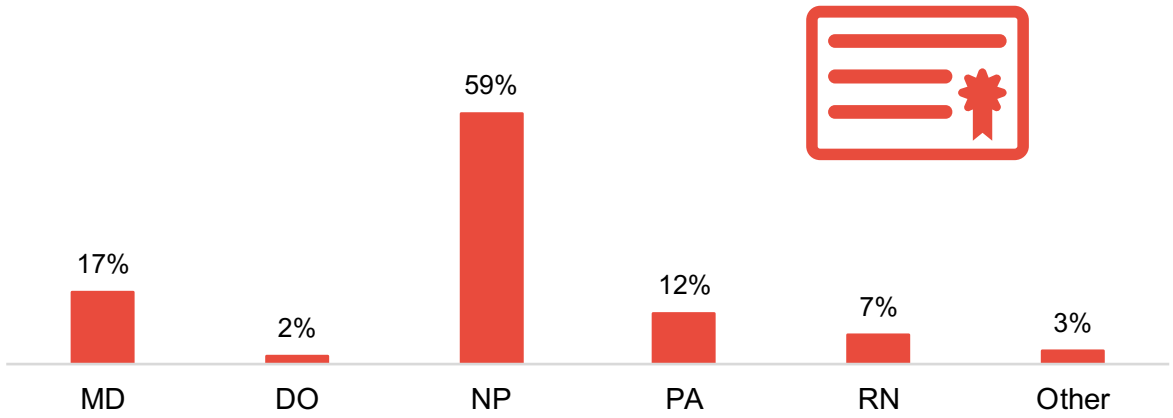


Patients seen each week, in any clinical setting:

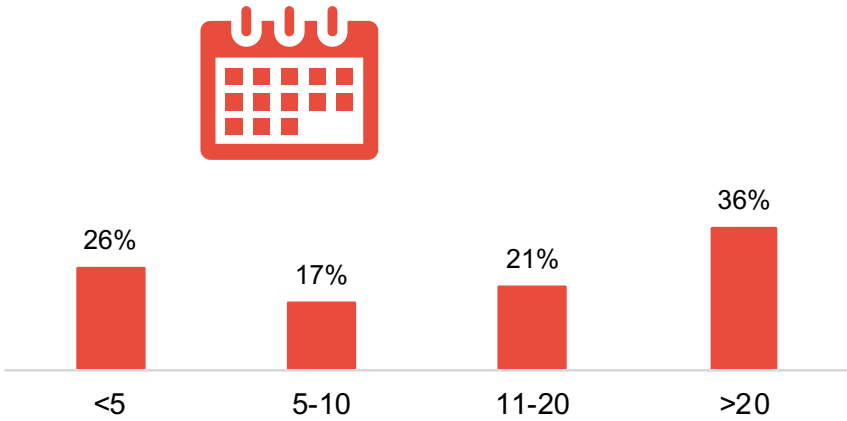


Patient Care Focus: 90%

Profession



Years in Practice



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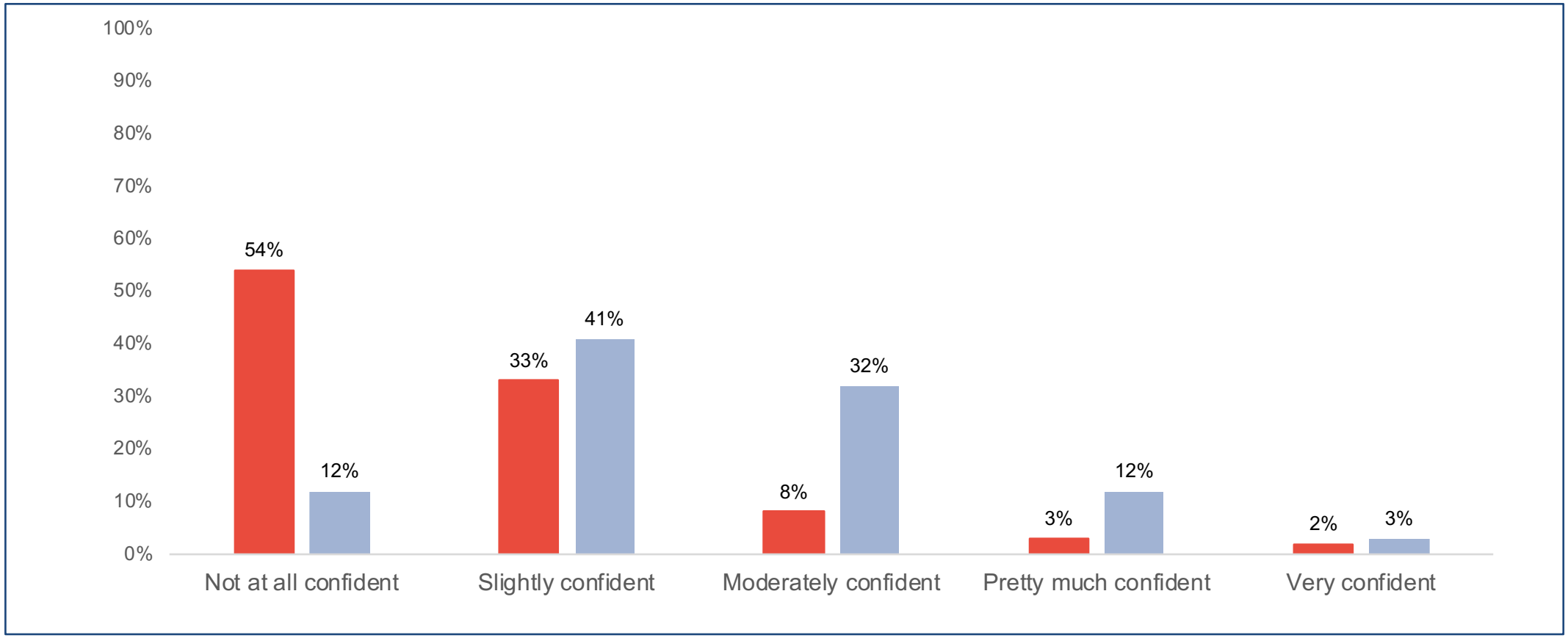
Level 2-5:
Outcomes Metrics

Level 2: Satisfaction

- **88%** rated the activity as excellent
- **89%** indicated the activity improved their knowledge
- **88%** stated that they learned new and useful strategies for patient care
- **91%** said they would implement new strategies that they learned
- **98%** said the program was fair-balanced and unbiased

Please rate your confidence in your ability to manage patients with PAH: (Learning Objectives 2, 3, 4)

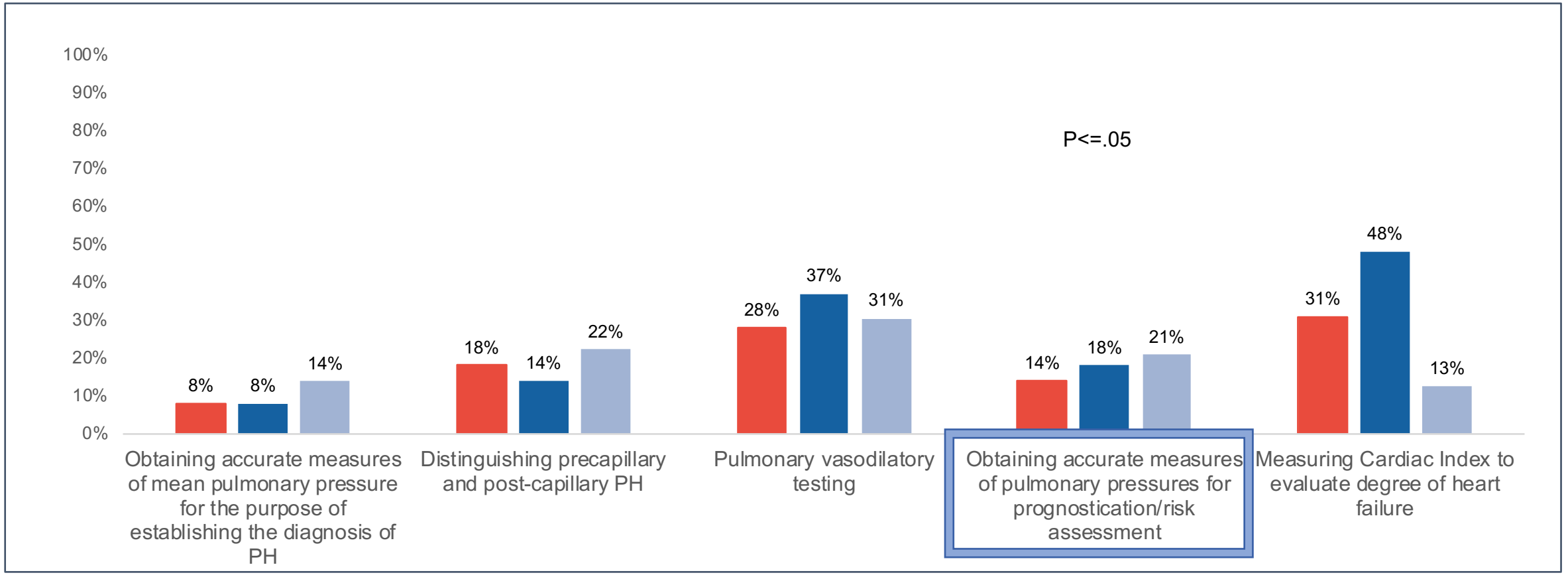


N= Pre: 342 PCA: 161

Knowledge Assessment

Which of the following is NOT a critical reason for the necessity of right heart catheterization in the diagnosis of PH?

(Learning Objective 1)



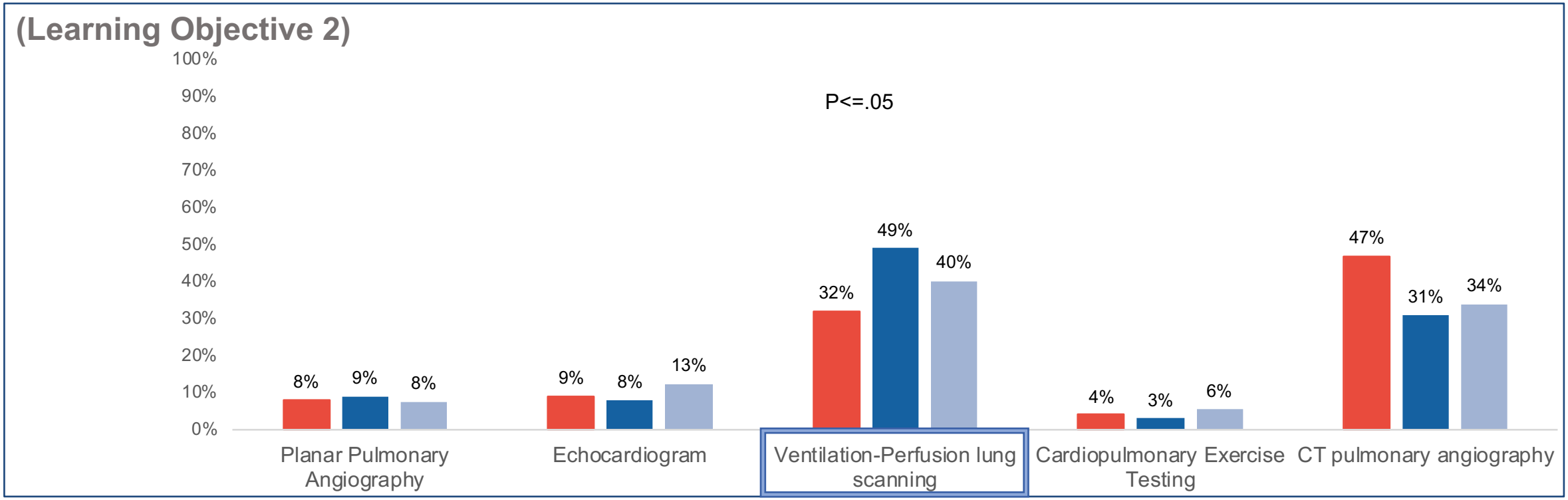
N= Pre: 246 Post: 249 PCA: 161

Pre to Post Change	**29%**
Pre to PCA Change	**49%**

Knowledge Assessment

25 y/o female with history of contraceptive use and obesity who was admitted for acute shortness of breath and diagnosed with acute pulmonary embolism comes in for follow up 6 month after the diagnosis. She has remained on anticoagulation and has been adherent to therapy. She says that although she feels better she still feels short of breath. Her chest x-ray remains clear. Which of the following tests would best rule out chronic thromboembolic disease.

(Learning Objective 2)



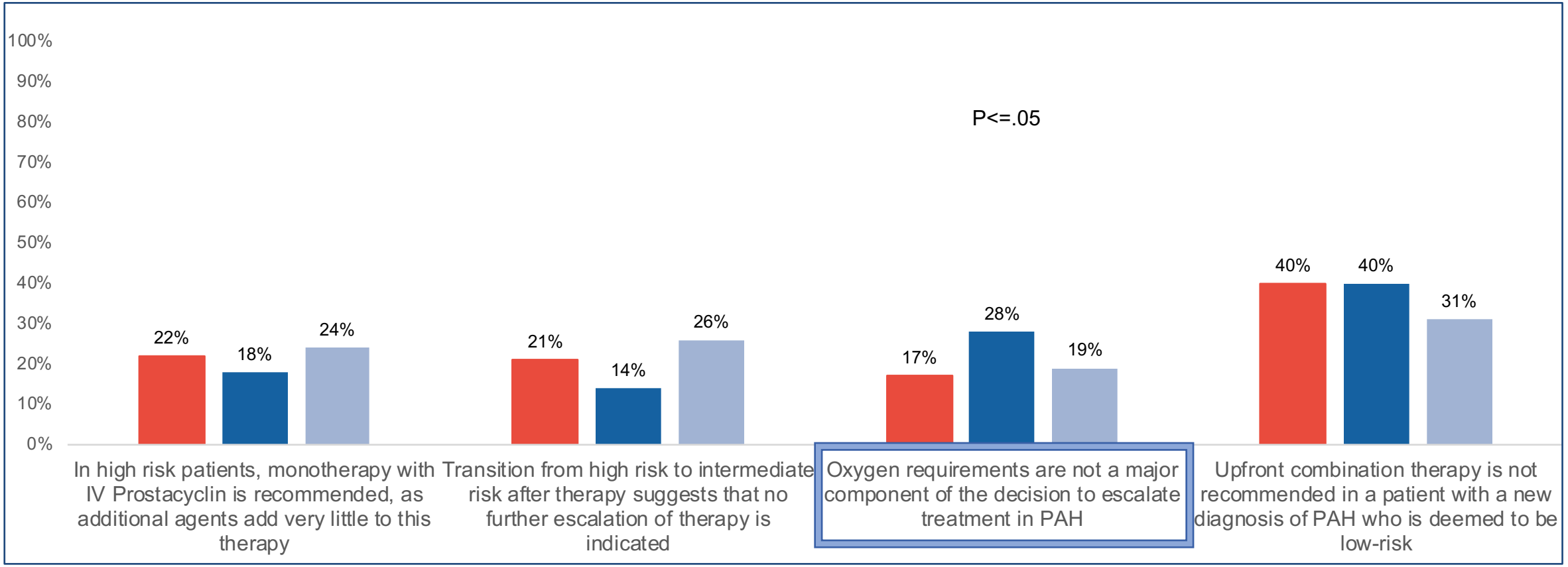
N= Pre: 257 Post: 259 PCA: 161

Pre to Post Change	53%
Pre to PCA Change	8%

Knowledge Assessment

Which of the following is true of therapies in patients with pulmonary arterial hypertension?

(Learning Objective 3)



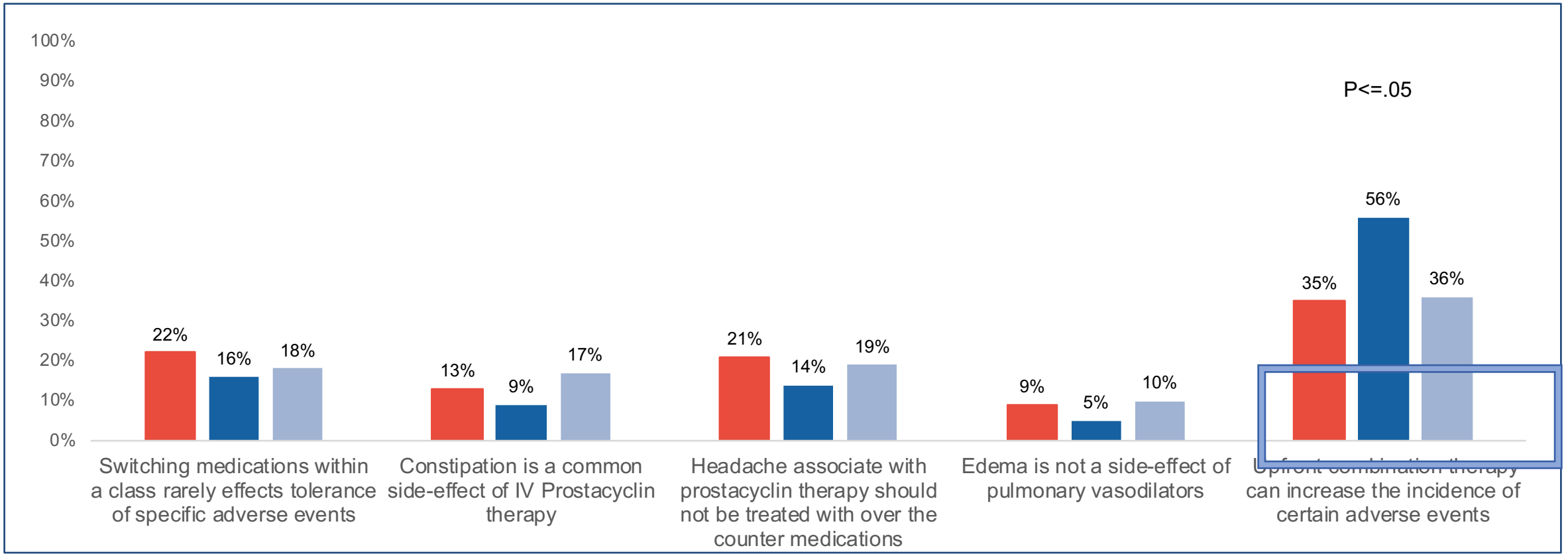
N= Pre: 249 Post: 251 PCA: 161

Pre to Post Change	**65%**
Pre to PCA Change	**12%**

Knowledge Assessment

Which of the following is true about adverse event management in treatments of PAH:

(Learning Objective 4)



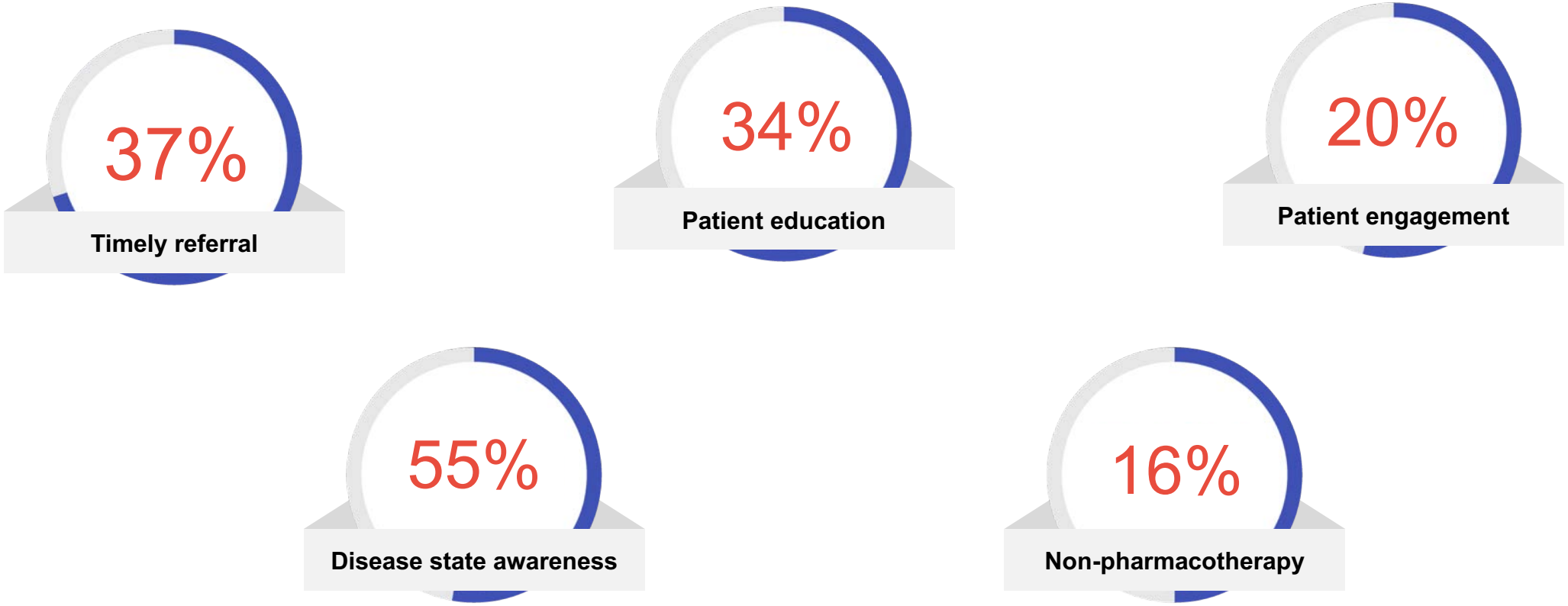
N= Pre: 175 Post: 162 PCA: 161

Pre to Post Change	60%
Pre to PCA Change	3%

(4-week Post Assessment)

Please select the specific areas of *skills, or practice behaviors*, you have improved regarding the screening, diagnosis and treatment of Pulmonary Arterial Hypertension since this CME activity. (Select all that apply.)

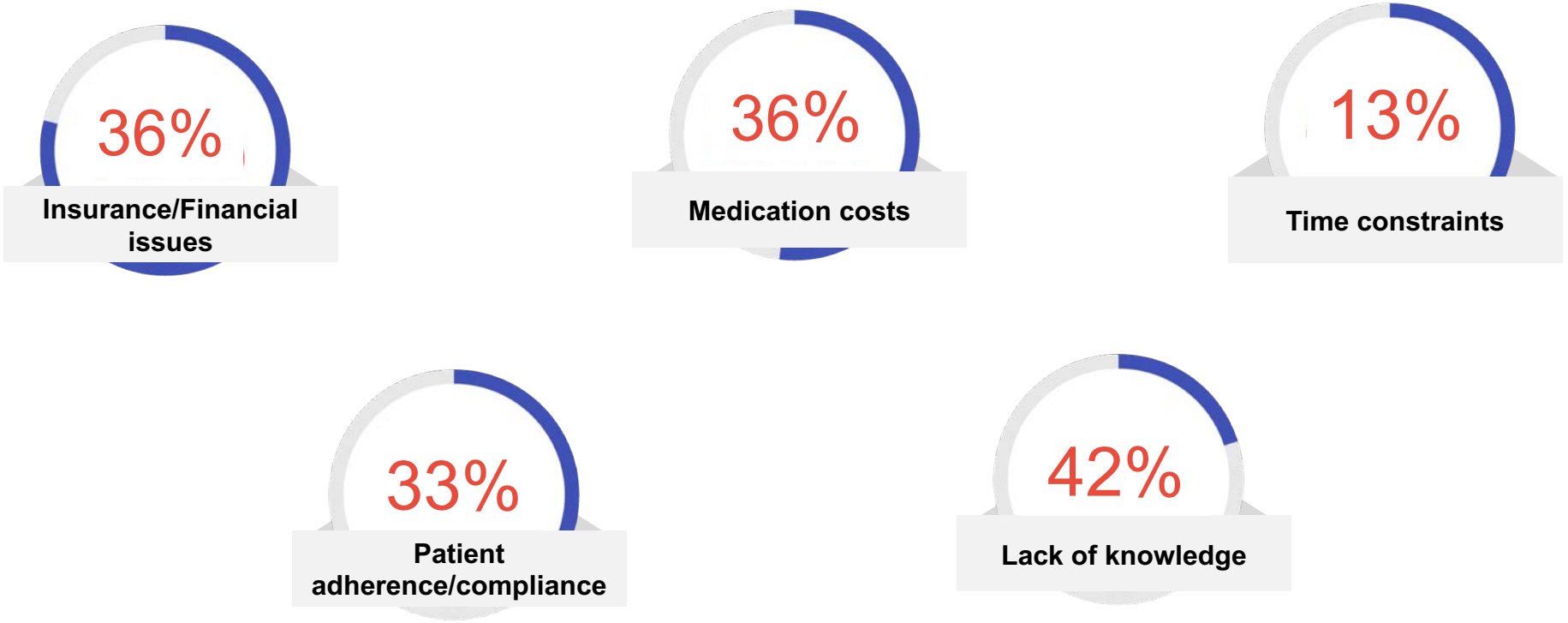
N=117



(4-week Post Assessment)

What specific *barriers* have you encountered that may have prevented you from successfully implementing screening, diagnosis and treatment of Pulmonary Arterial Hypertension since this CME activity? (Select all that apply)

N=117



Persistent Educational Gaps After 4 Weeks

Diagnosing PAH and interpreting the impact of pulmonary pressures

Recognizing the difference between Ventilation-Perfusion scanning and CT Pulmonary Angiogram for the diagnosis of CTEPH

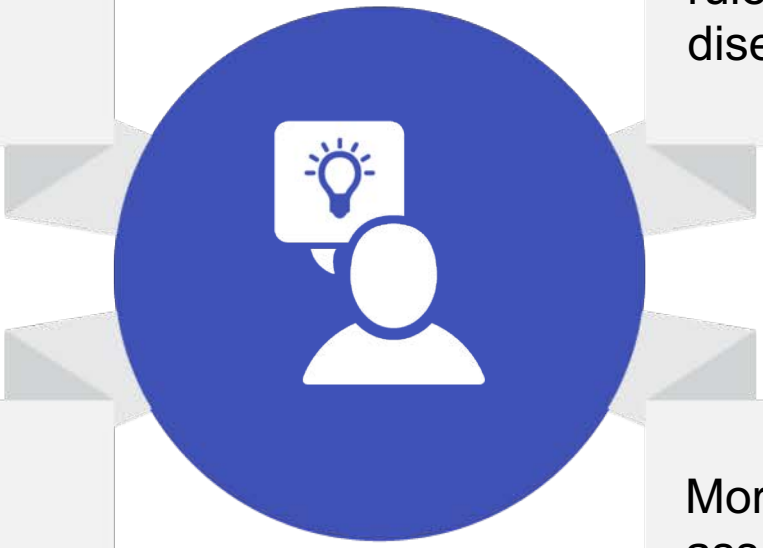
Treatment strategies for PAH and how to further adjust treatment based on risk

Management of medication related adverse events

Participant Educational Gains

Greater recognition of the benefits of right heart catheterization in the diagnosis of PAH but that it is not required for prognostication/risk stratification

More aware that Ventilation-Perfusion lung scanning is most appropriate to rule out chronic thromboembolic disease



Greater awareness that oxygen requirements are not a major component of the decision to escalate therapy in PAH

More aware of adverse events associated with PAH therapy and how to manage it

Key Take-home Points

Significantly improved learner confidence in the ability to manage patients with PAH

After 4 weeks, participants reported the following improved skills regarding the screening, diagnosis and treatment of PAH: 55% disease state awareness,37% timely referral, and 34% patient education

90% of learners are engaged in direct patient care and 91% reported that they will implement new strategies they learned

After 4 weeks, participants reported the following barriers regarding the screening, diagnosis and treatment of PAH: 42% lack of knowledge, 33% patient adherence/compliance, 36% insurance/financial issues