



*Emerging Challenges
in Primary Care: 2016*



**The Critical Role of Primary Care in Pulmonary Arterial Hypertension:
Diagnostic and Management Strategies to Improve Outcomes
Grant # ME201611908**

**Final Outcome Report
for 5 Cities**

Report Date: November 29, 2016

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Maintenance of Certification: Successful completion of this activity, which includes participation in the evaluation component, enables the participant to earn up to 7.25 MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. It is the CME activity providers' responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Through the American Board of Medical Specialties ("ABMS") and Association of American Medical Colleges' ("AAMC") joint initiative (ABMS MOC Directory) to create a wide array of Maintenance of Certification ("MOC") Activities, Emerging Challenges in Primary Care has met the MOC requirements as a MOC Part II CME Activity by the following ABMS Member Boards: American Board of Family Medicine and American Board of Preventive Medicine.*

* This applies to the full day CME activity entitled Emerging Challenges in Primary Care.



Commercial Support

The Emerging Challenges in Primary Care: Update 2016 series of CME activities were supported through educational grants or donations from the following companies:

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The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes is supported by an independent educational grant from Actelion Pharmaceuticals US, Inc.



Cities and Dates

Emerging Challenges in Primary Care: Update 2016 Conference Schedule

April 30, 2016
Miami, FL

June 18, 2016*
Raleigh, NC

September 17, 2016
Fort. Lauderdale, FL

May 7, 2016
Baltimore, MD

June 25, 2016
Tampa, FL

September 24, 2016
San Antonio, TX

May 14, 2016
St. Louis

August 13, 2016*
Denver, CO

October 8, 2016*
Uniondale, NY

May 21, 2016*
Atlanta, GA

August 20, 2016
Sacramento, CA

October 15, 2016
Nashville, TN

June 4, 2016
Birmingham, AL

August 27, 2016*
Troy, MI

October 22, 2016*
San Diego, CA

June 11, 2016
Columbus, OH

September 10, 2016
Anaheim, CA

October 29, 2016
Houston, TX

***Simulcast and Live Conference**

**** Bolded** cities are where the lecture was given

Enduring Webcast launch date – October 15, 2016 – October 16, 2017:
http://naceonline.com/CME-Courses/course_info.php?course_id=795

Titles of Presentations

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Applying the Latest Advances and Evidence of Clinical Outcomes to Individualize Heart Failure Treatment – Part I

Applying the Latest Advances and Evidence of Clinical Outcomes to Individualize Heart Failure Treatment: A Case Based Discussion – Part II

Strategies of Care in OAB: Individualizing Treatment Based on Patient Profile

Prostate Cancer Screening in the Primary Care Setting:
Understanding the Role of Bio-Markers

Evolving Strategies of Care in Diabetes:
The Role and Rationale of Glucoretic Therapy

Using GLP-1 Receptor Agonists:
A Better Path For Postprandial Glycemic Control

Evolving Strategies for Cardiovascular Risk Reduction: Beyond Statin Therapy

Strategies for Diagnosis and Treatment of Adult ADHD in Primary Care

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.

- Level 1: Participation
- Level 2: Satisfaction
- Level 3: Declarative and Procedural Knowledge
- Level 4: Competence
- Level 5: Performance
- Level 6: Patient Health
- Level 7: Community Health

Level 1: Participation

- 1451 attendees in 5 cities (959 On Site, 492 Remote Simulcast)
- 42% Physicians; 51% NPs or PAs; 5% RNs; 2% Other
- 54% in community-based practice
- 72% PCPs, 4% Cardiologist; 1% Endocrinologist; 23% Other or did not respond
- 92% provide direct patient care

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



Participation by Location

	MDs/DOs	NPs	PAs	RNs	Other	TOTAL
Denver, CO* August 13, 2016	97	223	73	17	8	418
Sacramento, CA August 20, 2016	62	4	29	2	4	101
Troy, MI* August 27, 2016	207	13	172	18	26	436
Anaheim, CA September 10, 2016	114	2	20	19	2	157
Ft. Lauderdale, FL September 17, 2016	102	8	137	15	18	280

*Simulcast and Live Conference

Level 2: Satisfaction

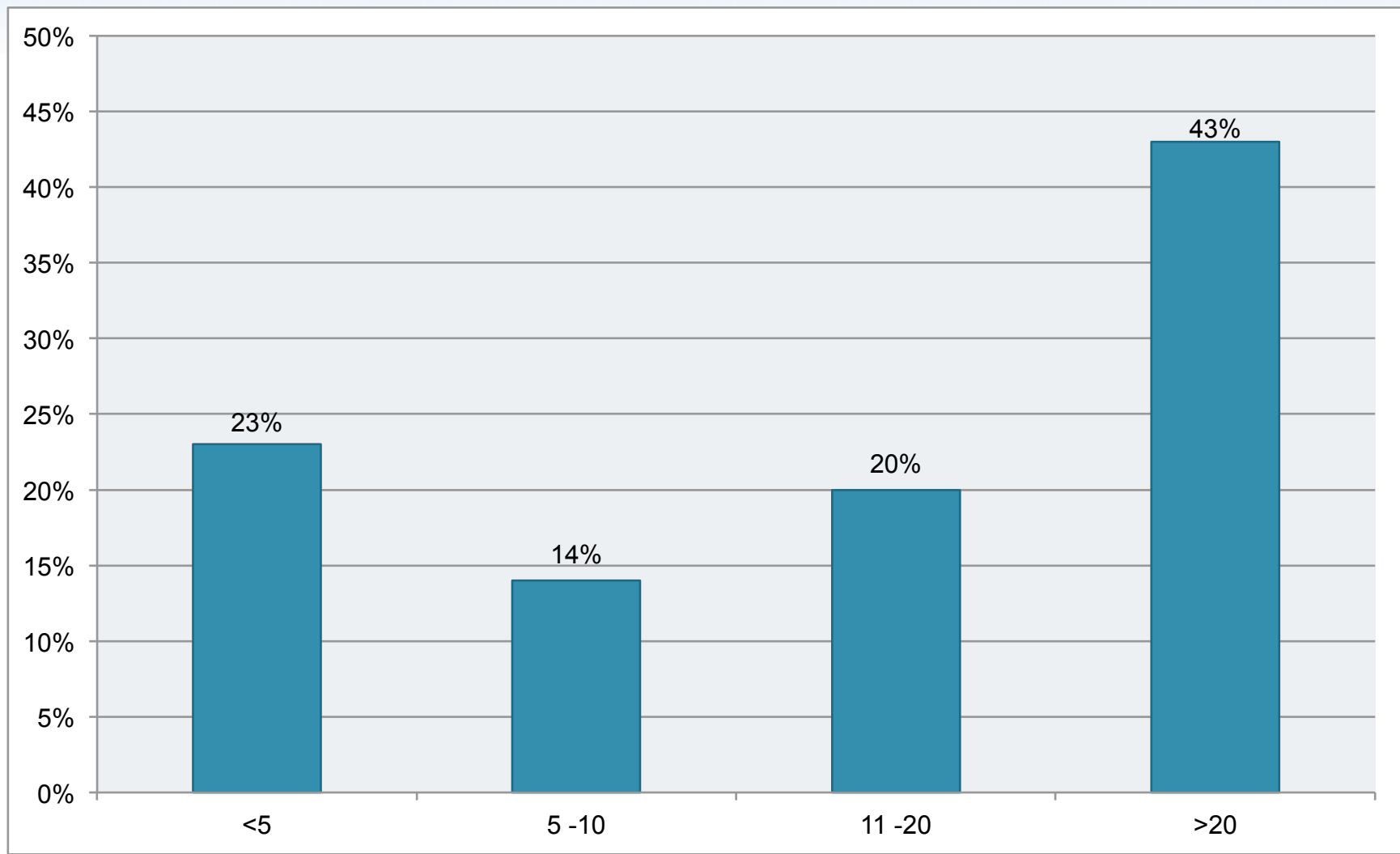
- 98% rated the activity as excellent
- 98% indicated the activity improved their knowledge
- 97% stated that they learned new and useful strategies for patient care
- 98% said they would implement new strategies that they learned in their practice
- 100% said the program was fair-balanced and unbiased

Sample Size: N = approximately 1451

Were our learners satisfied? **Yes!** Data was collected across five cities for the Emerging Challenges in Primary Care program.

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

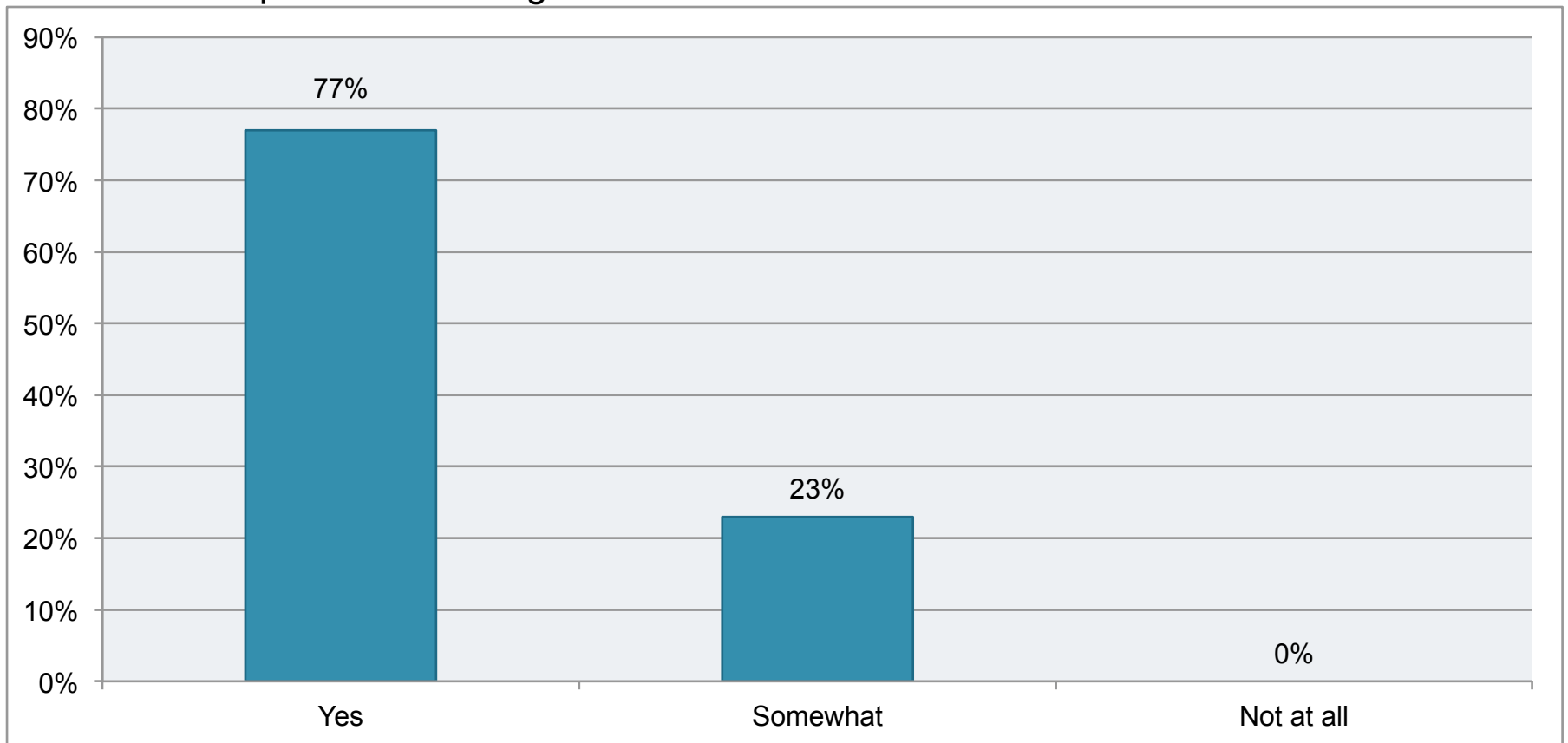
Clinicians number of years in practice:



N = 671

Did Learners Say They Achieved Learning Objective?

Upon completion of this activity, I can now – Explain the pathophysiology of pulmonary arterial hypertension (PAH); Determine when PAH should be suspected and how to determine the specific etiology including the importance of right heart catheterization and ventilation-perfusion (V/Q) scan; Define parameters that determine the severity of PAH; Review of treatments and how to appropriately refer and follow patients receiving treatment for PAH:



Yes! 100% believed they did. Data was collected in 5 cities.

Sample Size: N = approximately 1451

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.¹

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.

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Faculty

Franck Rahaghi, MD, MHS, FCCP

Alexander Duarte, MD

Victor Tapson, MD

Learning Objectives

1. Explain the pathophysiology of pulmonary arterial hypertension (PAH).
2. Determine when PAH should be suspected and how to determine the specific etiology including the importance of right heart catheterization and ventilation-perfusion (V/Q) scan.
3. Define parameters that determine the severity of PAH.
4. Review of treatments and how to appropriately refer and follow patients receiving treatment for PAH.



Key Findings

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

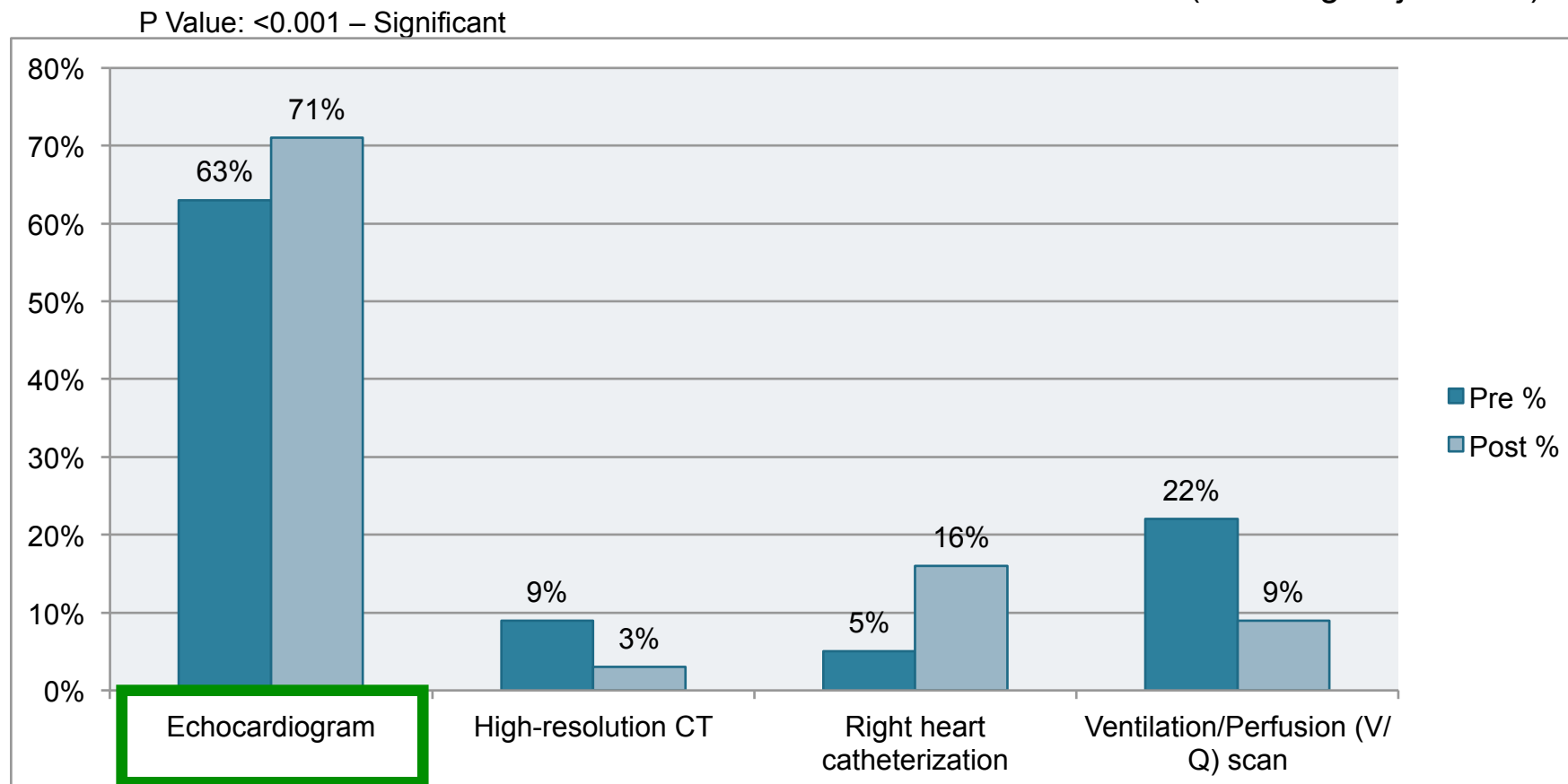
Knowledge/Competence	Learners demonstrated improvement from pre to post-testing in their answers to <i>four</i> out of <i>four</i> of the case-based questions regarding approach to treating patients at risk for, and with, Pulmonary Arterial Hypertension.
Confidence	Whereas the majority of learners rated themselves as having very low confidence in their understanding of treating patients with Pulmonary Arterial Hypertension before the education, most of the learners showed significant gains in confidence after the program.
Intent to Perform	As a result of this program, 32% of clinicians that did not participate in the assessment and management of patients at risk for, or diagnosed with Pulmonary Arterial Hypertension before, are considering doing so, while 36% who do, indicated that they will change their treatment methods.
Change of Practice Behavior 4 Weeks Post N= 71	91% 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.

Case Vignette Knowledge and Competence Assessment Questions

(presented before and after lecture—boxed answer is correct)

June is a 47-year-old overweight woman who presents with progressive dyspnea on exertion and fatigue. She has no relevant medical history. Physical examination is unremarkable, and chest X-ray identifies no abnormalities. EKG is normal except for right axis deviation. Pulmonary function tests show FEV₁ and FEV₁/FVC within the range of normal for age and reduced DLCO (65%). Which of the following tests should be performed at this time?

(Learning Objective 2)



Pre N = 761 Post N = 848

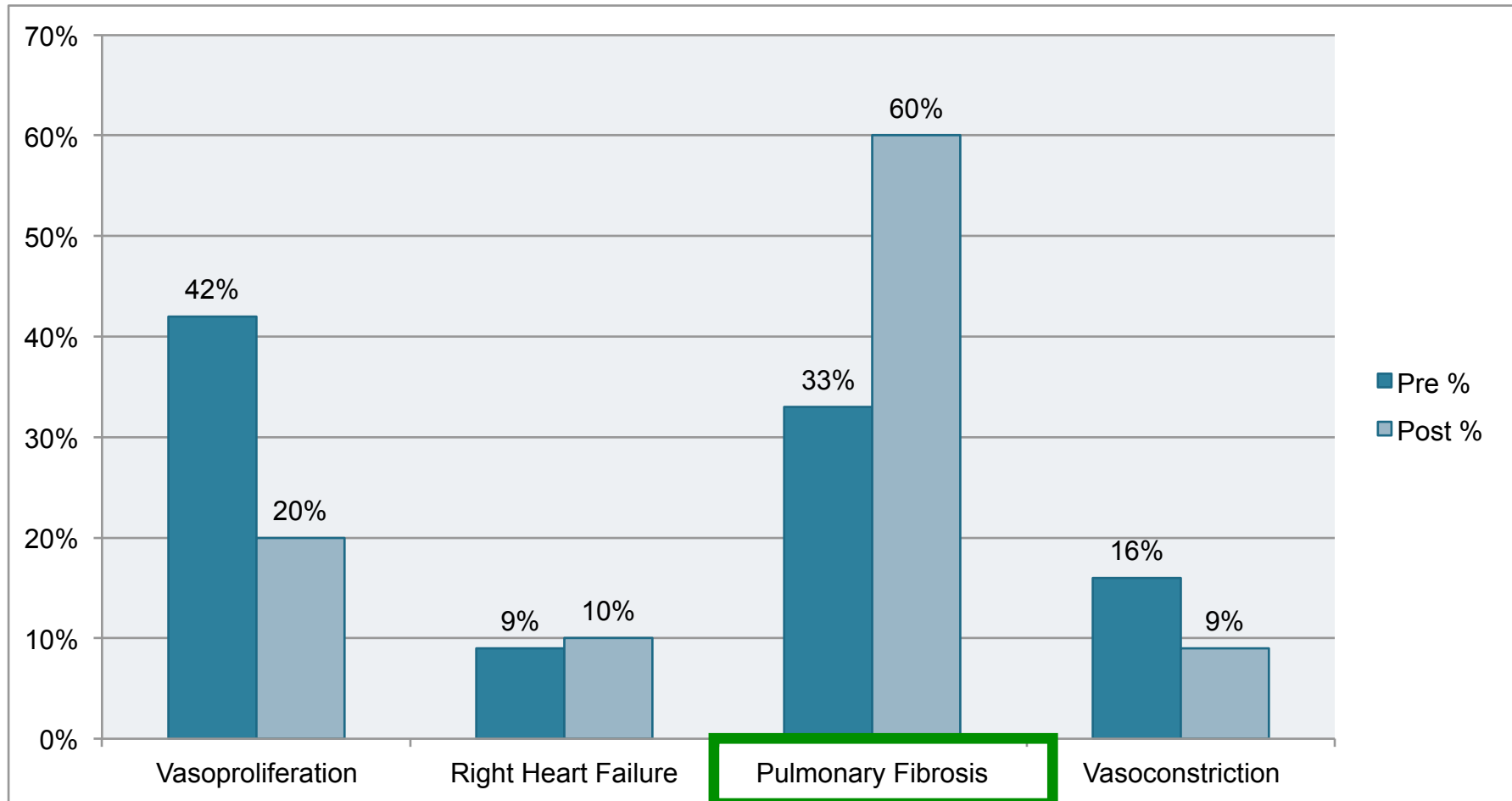
Green highlight indicates significant difference between pre and post testing.

Case Vignette Knowledge and Competence Assessment Questions

(presented before and after lecture—boxed answer is correct)

June is diagnosed with pulmonary arterial hypertension and returns to your office to discuss her condition. You explain to her that the basic mechanisms of this disease include all of the following except: (Learning Objective 1)

P Value: <0.001 – Significant



Pre N = 796 Post N = 769

Green highlight indicates significant difference between pre and post testing.

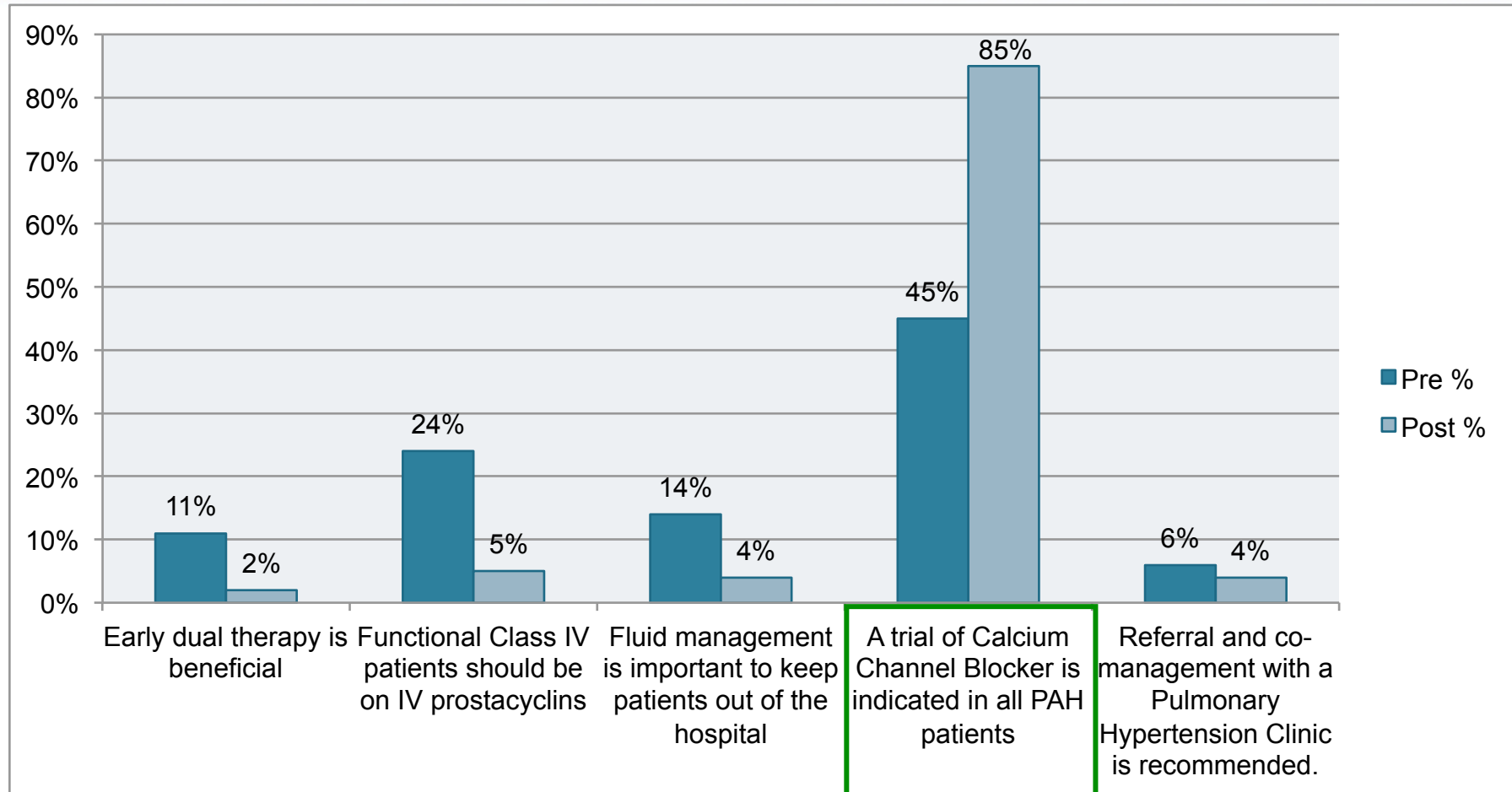
Case Vignette Knowledge and Competence Assessment Questions

(presented before and after lecture—boxed answer is correct)

You counsel June on her treatment options and advise her that in the management of pulmonary arterial hypertension, all of the following are true except:

(Learning Objective 4)

P Value: <0.001 – Significant



Pre N = 733 Post N = 849

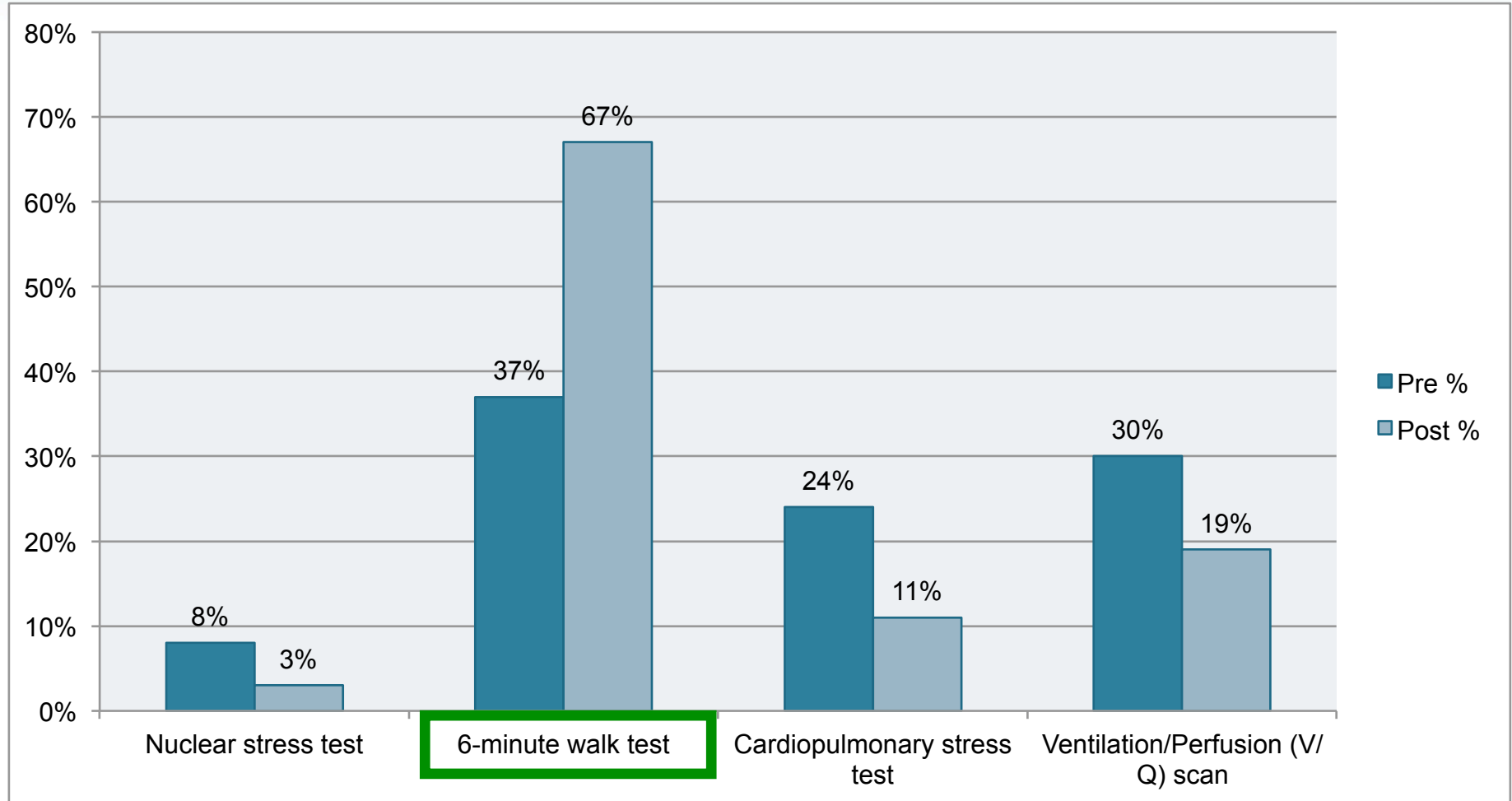
Green highlight indicates significant difference between pre and post testing.



Case Vignette Knowledge and Competence Assessment Questions (presented before and after lecture—boxed answer is correct)

Upon further discussion with June about her care, you advise her to anticipate doing the following test on a routine basis to assess the severity of her PAH:
(Learning Objectives 3)

P Value: <0.001 – Significant

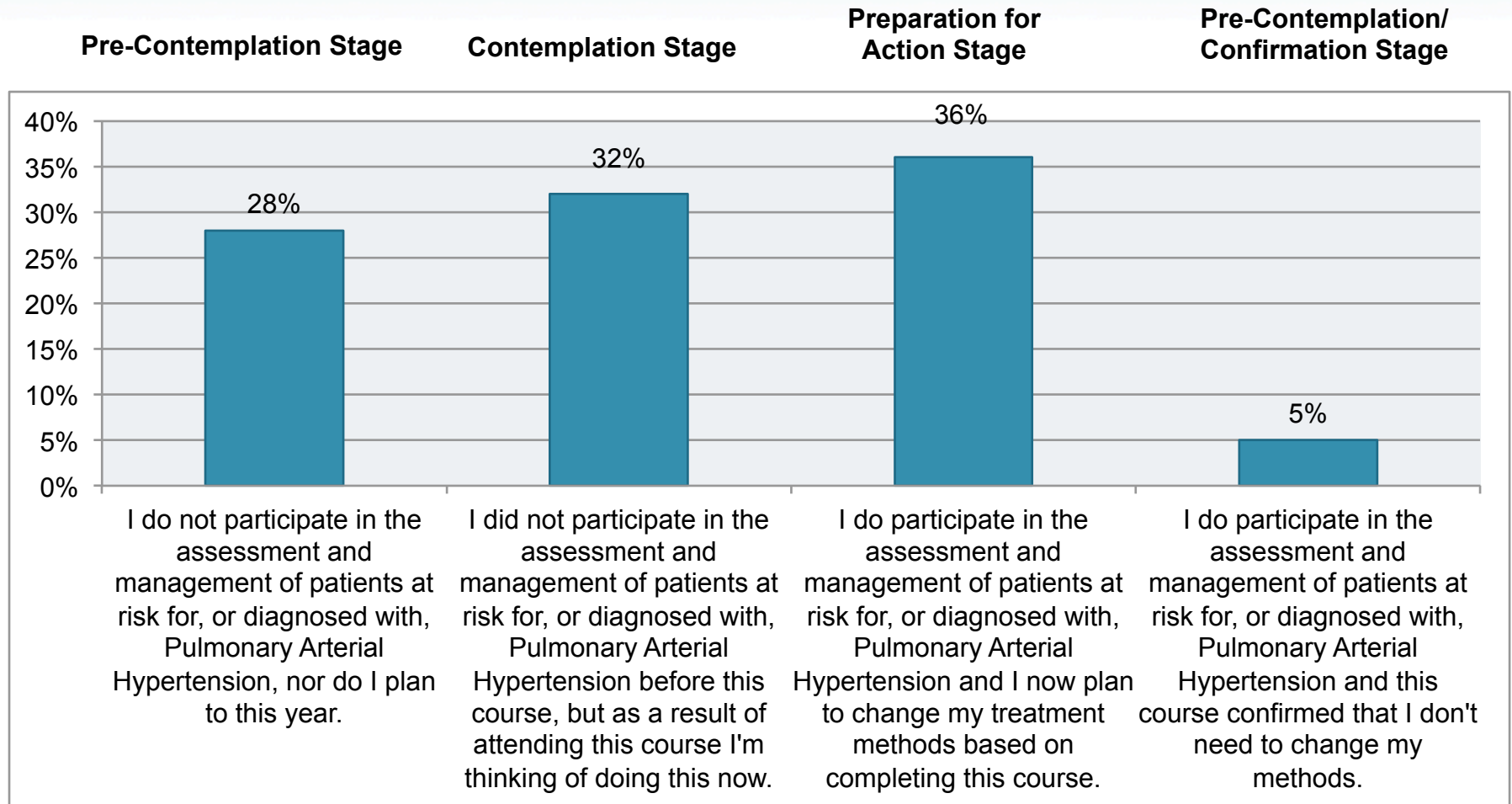


Pre N = 801 Post N = 811

Green highlight indicates significant difference between pre and post testing.

Change in Practice Behavior Question (presented after the lecture)

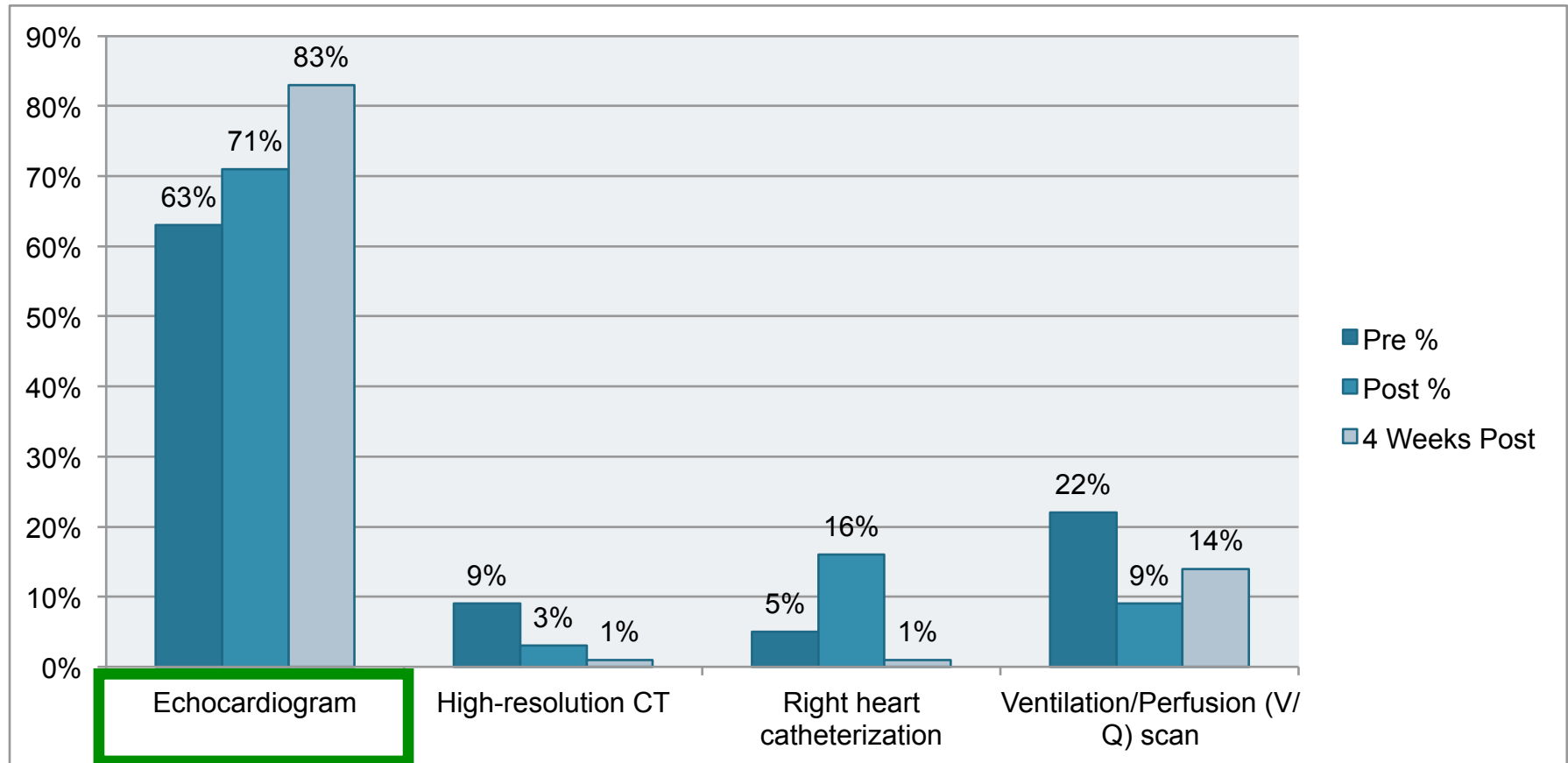
Which of the statements below describes your approach to the assessment and management of patients at risk for, or diagnosed with, Pulmonary Arterial Hypertension?



Four Week Case Study Questions

(boxed answer is correct)

June is a 47-year-old overweight woman who presents with progressive dyspnea on exertion and fatigue. She has no relevant medical history. Physical examination is unremarkable, and chest X-ray identifies no abnormalities. EKG is normal except for right axis deviation. Pulmonary function tests show FEV₁ and FEV₁/FVC within the range of normal for age and reduced DLCO (65%).
(Learning Objective 2)



Pre N = 761

Post N = 848

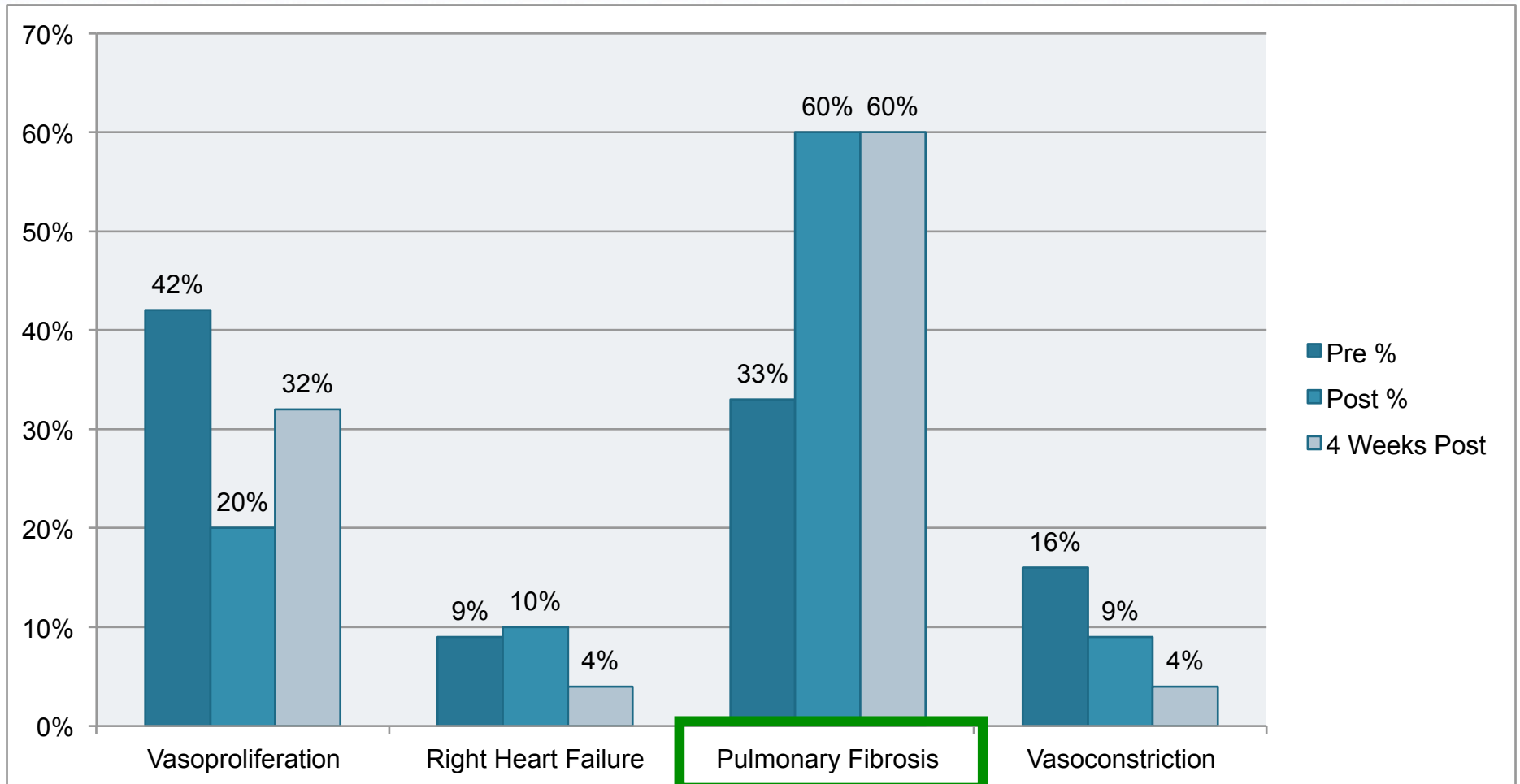
4 Weeks Post N = 71

Green highlight indicates significant difference between pre and post testing.

Four Week Case Study Questions

(boxed answer is correct)

June is diagnosed with pulmonary arterial hypertension and returns to your office to discuss her condition. You explain to her that the basic mechanisms of this disease include all of the following except: (Learning Objective 1)



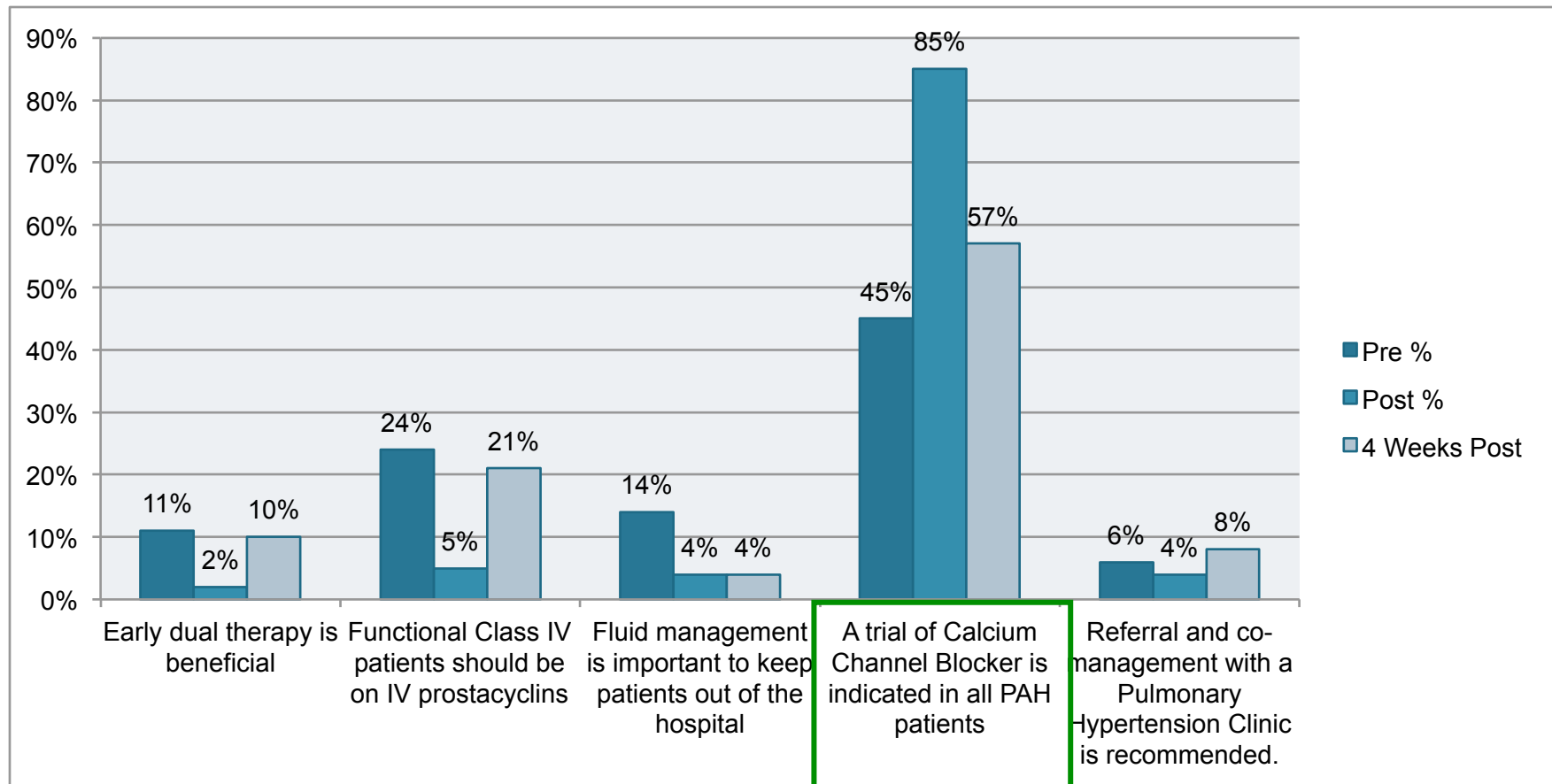
Pre N = 796 Post N = 769 4 Weeks Post N = 71 Green highlight indicates significant difference between pre and post testing.

Four Week Case Study Questions

(boxed answer is correct)

You counsel June on her treatment options and advise her that in the management of pulmonary arterial hypertension, all of the following are true except:

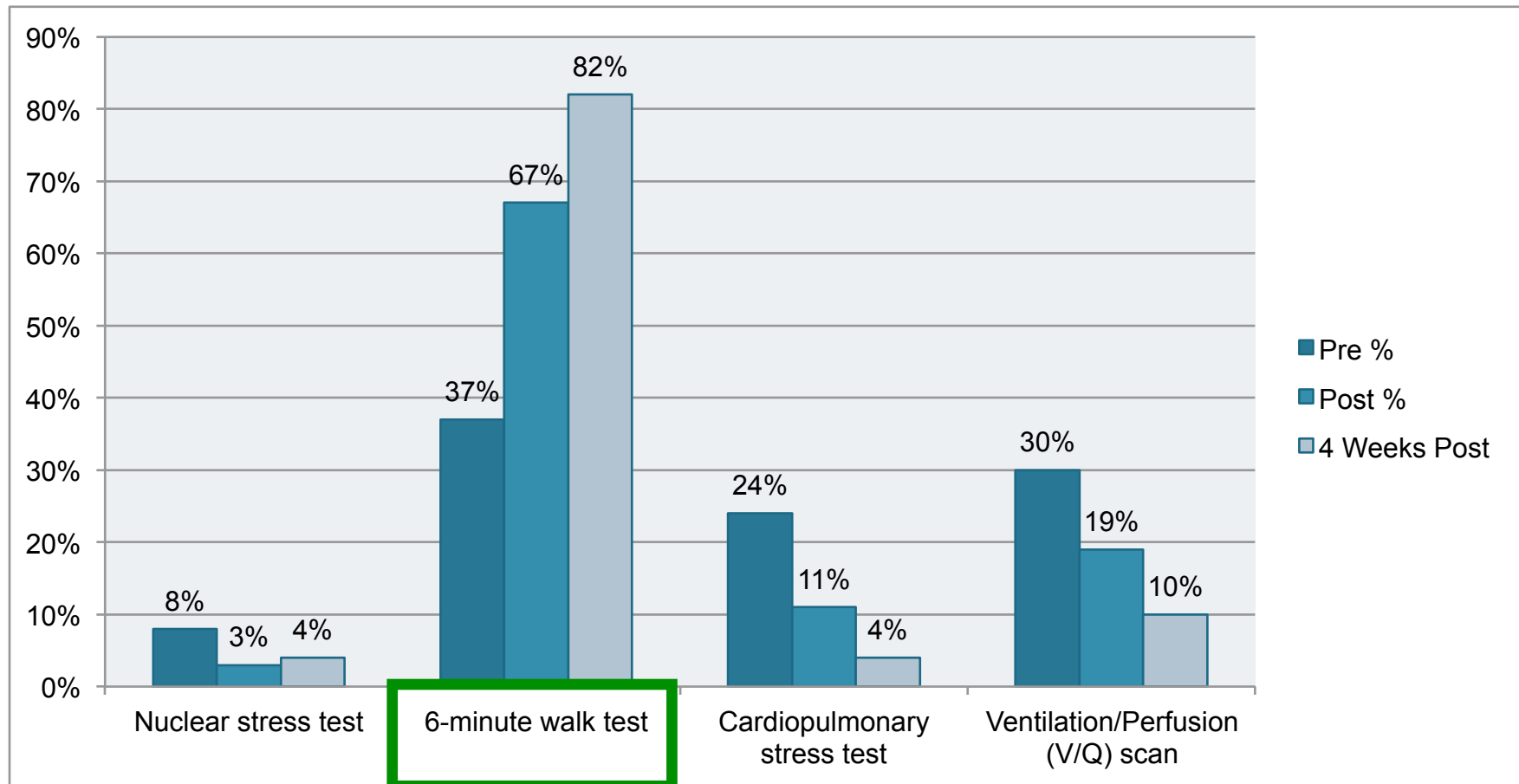
(Learning Objective 4)



Four Week Case Study Questions

(boxed answer is correct)

Upon further discussion with June about her care, you advise her to anticipate doing the following test on a routine basis to assess the severity of her PAH:
(Learning Objectives 3)



Pre N = 801

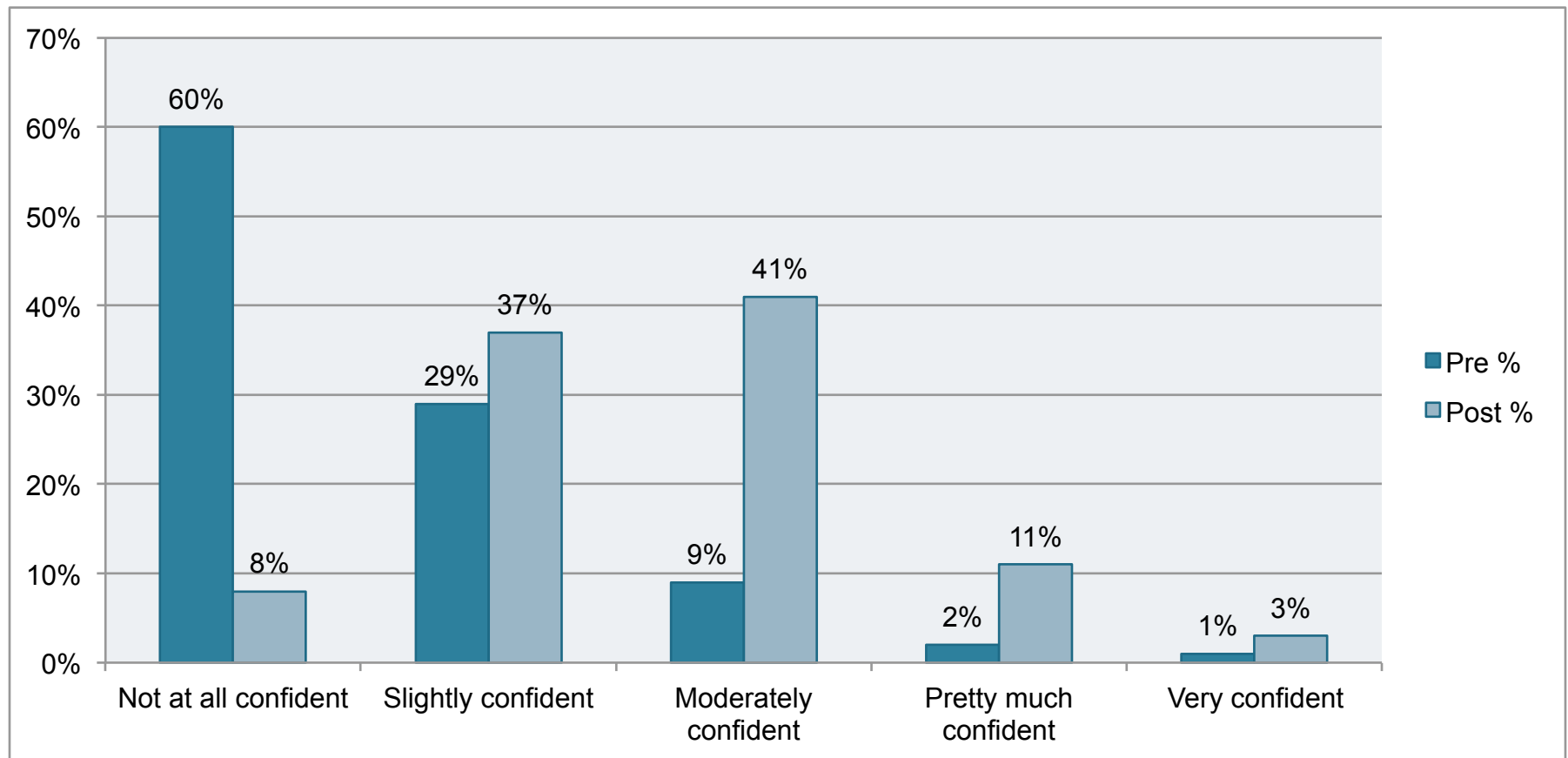
Post N = 811

4 Weeks Post N = 71

Green highlight indicates significant difference between pre and post testing.

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

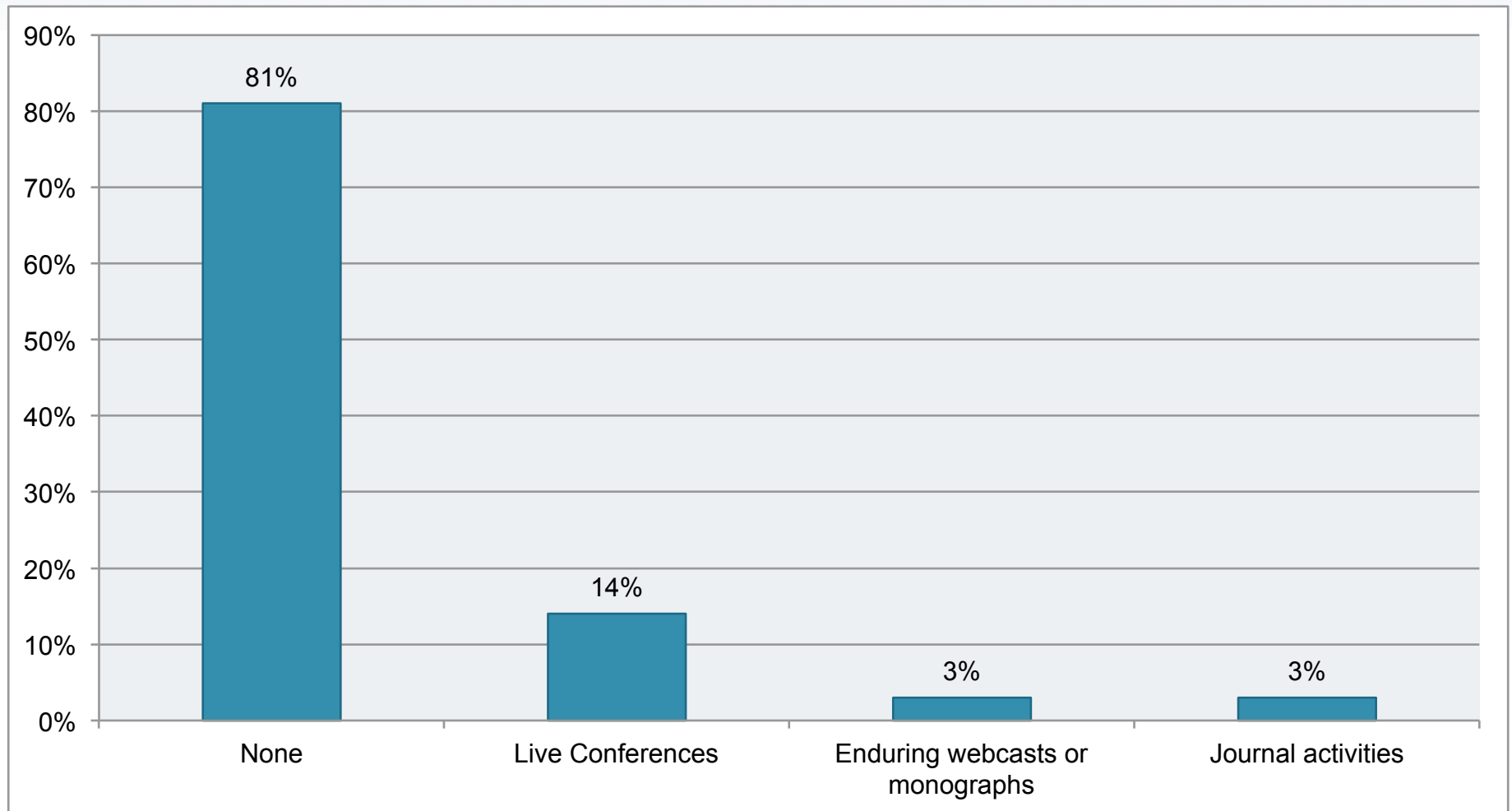
Please rate your confidence in your ability to assess and manage patients at risk for, or diagnosed with, Pulmonary Arterial Hypertension:



Pre N = 833 Post N = 809

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Describe/list any other educational activities that you attended in the last month concerning the evaluation and management of PAH?



The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

What specific skills or practice behaviors have you implemented for patients with Pulmonary Arterial Hypertension since this CME activity?

(Comments received from attendees at 4 week follow up)

- Thinking about PAH in differential diagnosis
- Paying closer attention to ECHOS for possible referral
- I am continuing to study PAH and feel more confident in helping manage the patients
- Higher incidence of consideration
- More knowledgeable regarding symptoms and initial workup, potential causes and treatments for PAH
- Know what tests to order
- Six minute walk test is a cost effective measure to evaluate sx of PAH treatment
- Order Echocardiogram on patient's with shortness of breath
- I understand that in observing a patient's SOB, a workup for PAH may be necessary and a referral to a specialist is key
- Ordered echo with preliminary dx of pulmonary HTN
- Using 6 min walk testing to monitor patients
- Able to better educate patients regarding disease



The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

What specific barriers have you encountered that may have prevented you from successfully implementing strategies for patients with Pulmonary Arterial Hypertension since this CME activity? (Comments received from attendees at 4 week follow up)

- Medication cost
- Insurance coverage is an issue
- Patients can not remember the information
- Difficult to directly order ECHO without cardio consult
- Patient demographics
- Generally my patients are being managed by other specialists who are directing their care
- Lack of patients with this specific condition
- Patients have excuses and it takes more time to educate them on their disease
- Limited time with patients
- Getting insurance to cover the testing
- It is hard to diagnose

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Data Interpretation: 1451 clinicians in 5 meetings

Recognize when an echocardiogram is the appropriate test to assess a patient who may have PAH

Understand that pulmonary fibrosis is not part of the underlying PAH mechanism of disease, but vasoproliferation, vasoconstriction and right heart failure are

Participant Educational Gains

Are more aware that Calcium Channel Blockers are not indicated in all PAH patients

Realize that the 6 minute walk test is performed on a routine basis to assess the severity of PAH

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Persistent Educational Gap After 4 Weeks

Pathophysiology of disease

Primary Care management strategies

The role of Calcium Channel Blockers

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

New Specific Behaviors Reported at 4 weeks

Greater consideration of PAH in the differential diagnosis of dyspnea

Using 6 min walk testing to monitor patients

More liberal use of echocardiogram to assess shortness of breath

Increased awareness of symptoms, evaluation and treatment of PAH

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Reported Barriers to Care at 4 weeks

Cost of medications

Insurance Coverage

Difficult to Diagnose

Lack of time with patients

Patient education

Discussion and Implications

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

The need for continued education in the area of Pulmonary Arterial Hypertension was demonstrated based on literature reviews and surveys completed prior to the conference series. Attendee knowledge was assessed at 3 points for this program: prior to the lecture, immediately following the lecture and again at 4 weeks after the conference using the case vignettes listed above.

Data Interpretation:

Data collected from 1451 clinicians after 5 meetings, indicated a statistically significant improvement in knowledge in all 4 of the questions presented. Specifically, as a result of this lecture, participants:

1. Recognize when an echocardiogram is the appropriate test to assess a patient who may have PAH;
2. Understand that pulmonary fibrosis is not part of the underlying PAH mechanism of disease, but vasoproliferation, vasoconstriction and right heart failure are;
3. Are more aware that Calcium Channel Blockers are not indicated in all PAH patients;
4. Realize that the 6 minute walk test is performed on a routine basis to assess the severity of PAH.

Moderate to very confident levels in the ability to assess and manage patients at risk for, or diagnosed with, Pulmonary Arterial Hypertension rose from 12 to 55%. As a result of this program, 32% of clinicians that did not participate in the assessment and management of patients at risk for, or diagnosed with Pulmonary Arterial Hypertension before, are considering doing so, while 36% who do, indicated that they will change their treatment methods.



Discussion and Implications

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Data obtained from participants 4 weeks after the program demonstrated some decline in learning from the post-test scores in 1 area, but continued improvement from pre-test scores in all 4 areas. These results suggest that nearly all of the learning objectives for this activity were effectively addressed with attendees.

Persistent gaps in knowledge were evident with additional education needed in the following areas:

1. Pathophysiology of disease
2. Primary Care management strategies
3. The role of Calcium Channel Blockers

91% 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.

Attendees indicated multiple new, specific, practice behaviors they implemented as a result of this program that included:

1. Greater consideration of PAH in the differential diagnosis of dyspnea
2. More liberal use of echocardiogram to assess shortness of breath
3. Using 6 min walk testing to monitor patients
4. Increased awareness of symptoms, evaluation and treatment of PAH

1 month after this conference, 81% of attendees had no other exposure to a CME program, indicating that their behavior change was likely a result of this program.



Discussion and Implications

The Critical Role of Primary Care in Pulmonary Arterial Hypertension: Diagnostic and Management Strategies to Improve Outcomes

Barriers to care included:

1. Cost of medications
2. Insurance coverage
3. Difficult to diagnose
4. Lack of time with patients

The program content was reinforced to participants with a “Clinical Highlights” document containing key teaching points from the program. This is distributed 1 week after the meeting.

The notable changes in post test scores, and intent to change practice patterns regarding the diagnosis and management of PAH signifies a clear gap in knowledge and an unmet need among primary care clinicians. It continues to be an important area for future educational programs.