



*Challenges  
in Pulmonary and Critical  
Care: 2016*



# **Update in the Diagnosis and Treatment of Lung Cancer**

## **Final Outcome Report**

Report Date: March 2, 2017

## **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 *8.0 AMA PRA Category 1 Credits™*. Physicians should claim only 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 8 contact hours of continuing education(which includes 2.0 pharmacology hours).

# Commercial Support

Challenges in Pulmonary and Critical Care: 2016 CME activity was supported through educational grants from the following companies:

Actelion Pharmaceuticals US, Inc.

Baxalta US Inc.

Bayer Healthcare Pharmaceuticals Inc.

Biodesix

Bristol-Myers Squibb Company

CSL Behring

Grifols

Mallinckrodt Pharmaceuticals

# Agenda

7:15-7:45	Registration and Breakfast	12:15- 1:00	Lunch and Exhibits
7:45-8:00	Welcome Remarks Franck Rahaghi, MD, MHS, FCCP	1:00-2:00	Lung Transplant: 2016 Update R. Duane Davis, MD, MBA
8:00-9:00	Pulmonary Arterial Hypertension: Choice of Therapy Franck Rahaghi, MD, MHS, FCCP	2:00-3:00	Update in the Diagnosis and Treatment of Lung Cancer Jinesh P. Mehta, MD
9:00-10:00	Identifying and Managing Patients with Sarcoidosis Robert Baughman, MD	3:00-3:15	Break/Exhibits
		3:15-4:15	COPD: Bridging the Gap to Improve Outcomes Anas Hadeh, MD, FCCP
10:00- 10:15	Break/Exhibits		
10:15-11:15	Idiopathic Pulmonary Fibrosis: Evolving Treatment Options Robert J Kaner, MD	4:15-5:15	Diagnosis and Treatment Strategies for DVT and PE-Where are we now? Carmel Celestin, MD
11:15-12:15	Alpha One Anti-Trypsin Deficiency: Challenges in Diagnosis and Treatment Adam Wanner, MD	5:15-5:30	Concluding Remarks Franck Rahaghi, MD, MHS, FCCP

# Levels of Evaluation

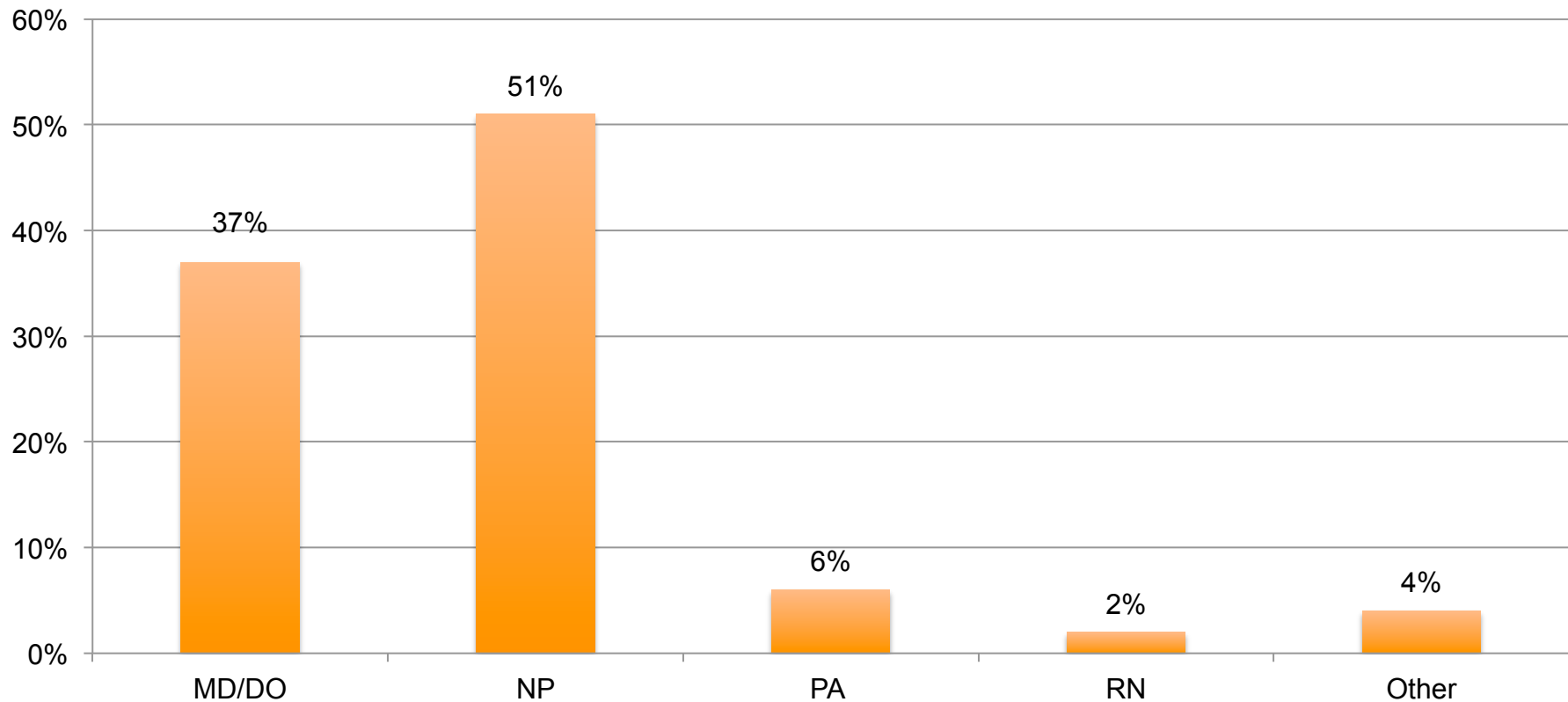
Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on the following model:

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

- 371 attendees (244 Remote Viewers)
- 37% Physicians; 51% NPs; 6% PAs; 2% RNs; 4% Other
- 36% in community-based practice
- 57% PCPs, 24% Pulmonology; 11% Cardiology; 3% Rheumatology 5% Other or did not respond



N = 371

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

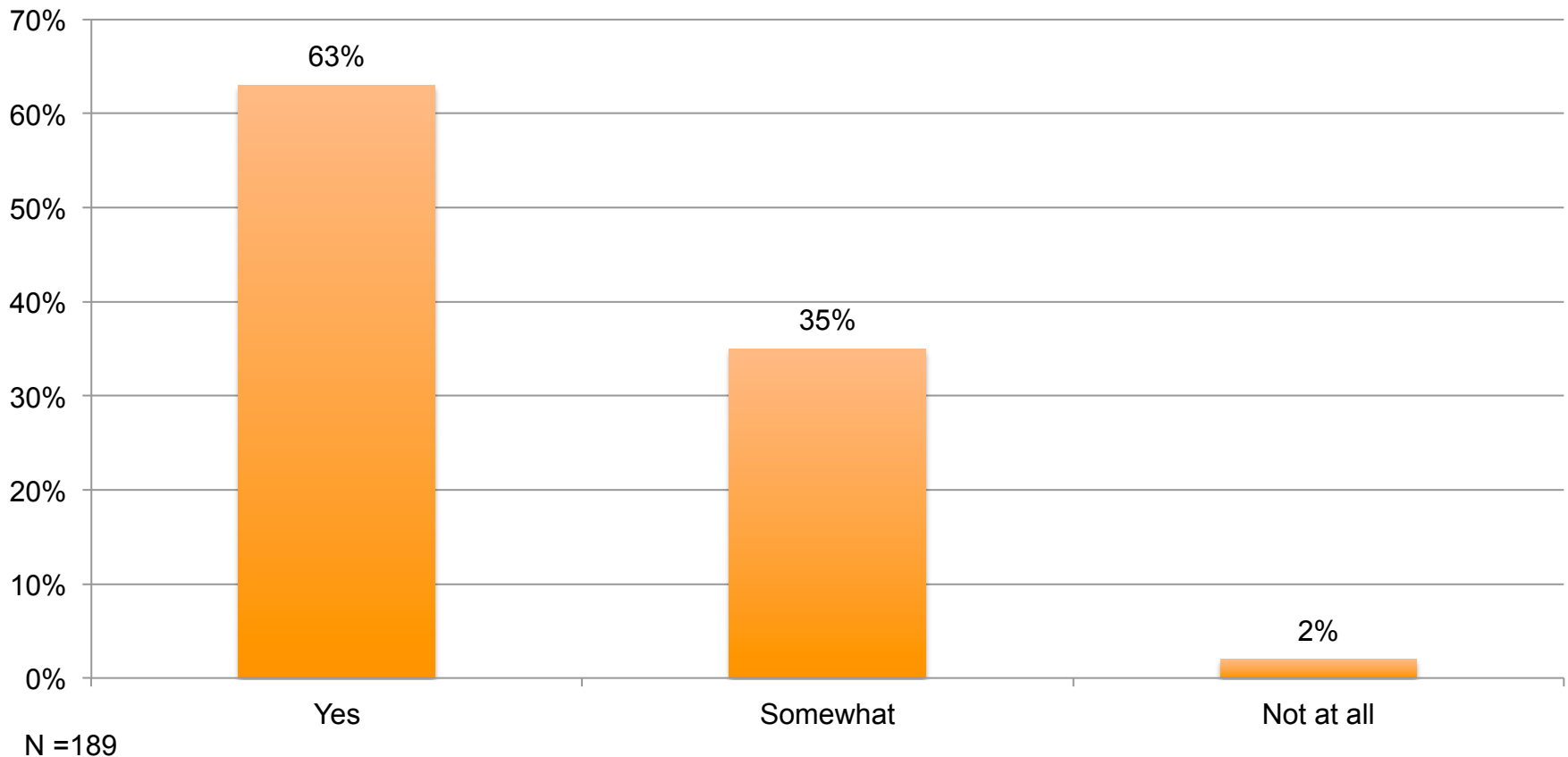
## Level 2: Satisfaction

- 98% rated the activity as very good to excellent
- 97% indicated the activity improved their knowledge
- 93% stated that they learned new strategies for patient care
- 97% 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 diagnosis and workup of lung cancer, discuss current state of advanced diagnostics in interventional bronchoscopy, discuss lung cancer screening, and discuss novel technologies in diagnosis and characterization of lung cancer tumors.



Did learners indicate they achieved the learning objectives?  
**Yes! 98% 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 Intent to Make Changes in 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.

# Update in the Diagnosis and Treatment of Lung Cancer

## Faculty

Jinesh P. Mehta, MD  
Director, ICU Operations / MICU  
Pulmonary & Critical Care Medicine  
Cleveland Clinic Florida  
Weston, FL

## Learning Objectives

- Discuss diagnosis and workup of lung cancer
- Discuss current state of advanced diagnostics in interventional bronchoscopy
- Discuss lung cancer screening
- Discuss novel technologies in diagnosis and characterization of lung cancer tumors

# Key Findings

## Update in the Diagnosis and Treatment of Lung Cancer

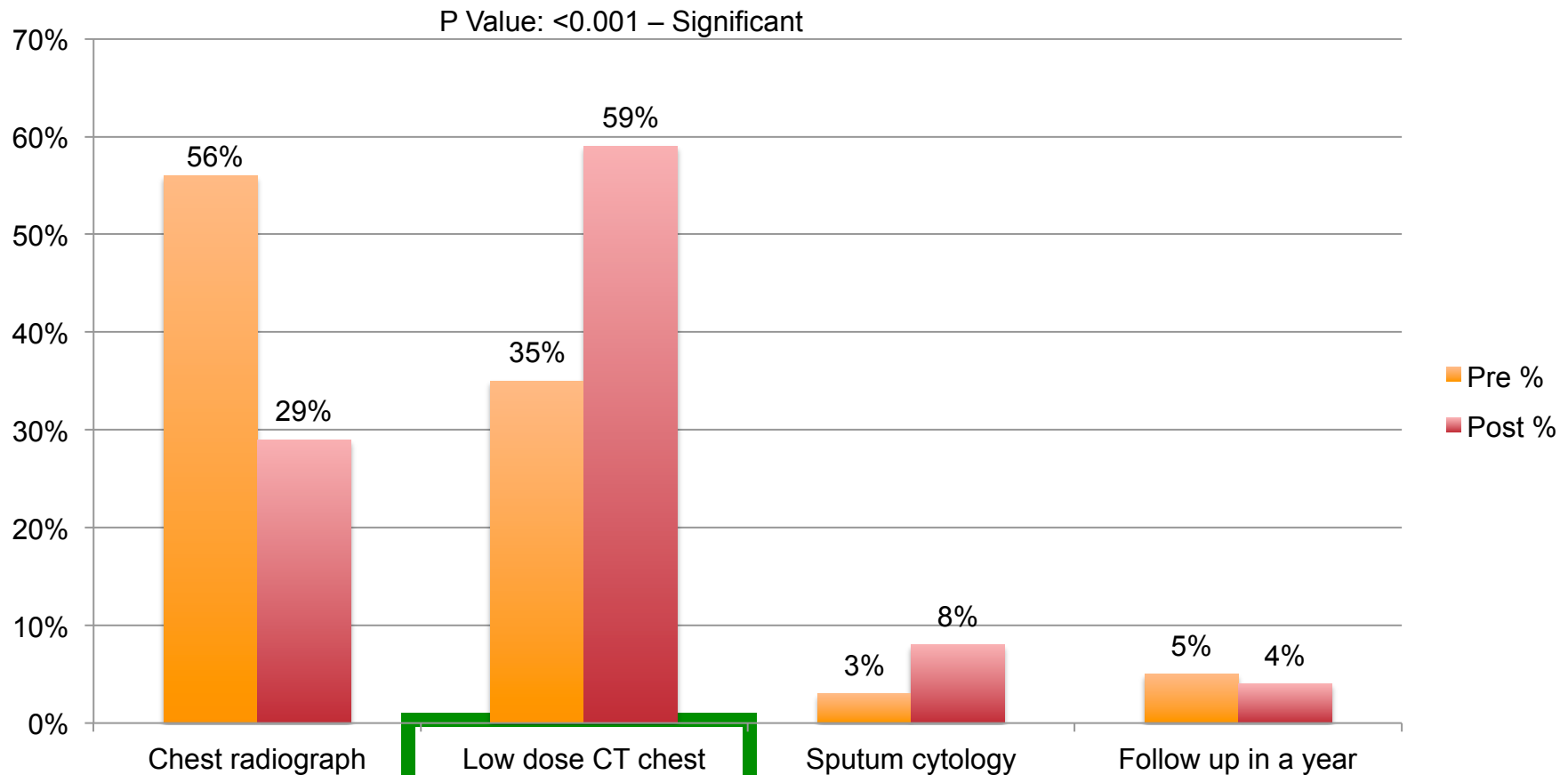
Knowledge/Competence	Learners demonstrated improvement from pre to post-testing in their answers to all four of the case-based questions, three of which achieved statistical significance regarding Lung Cancer.
Confidence	Participants indicated a robust increase in self-reported confidence in treating patients with Lung Cancer. Attendees who reported no confidence decreased from 61 to 24%, slightly confident from increased from 31 to 52% and moderately confident increased from 4 to 19%.
Intent to Perform	As a result of this program, 89% of learners state they are likely to implement strategies for the diagnosis and management of Lung Cancer taught in this program.
Change of Practice Behavior	98% of learners who responded to our four week survey indicated that they had changed their practice behavior based on this program.

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

A 56 year old man presents for his routine annual physical. He does not have any significant medical problems, is currently asymptomatic. He is a current smoker, with a 30 pack-year history of smoking. Physical examination is unrevealing. He has not had any recent tests.

**What is the next best step?**

(Learning Objective 1)



Pre N = 116

Post N = 111

Green highlight indicates significant difference between pre and post testing.

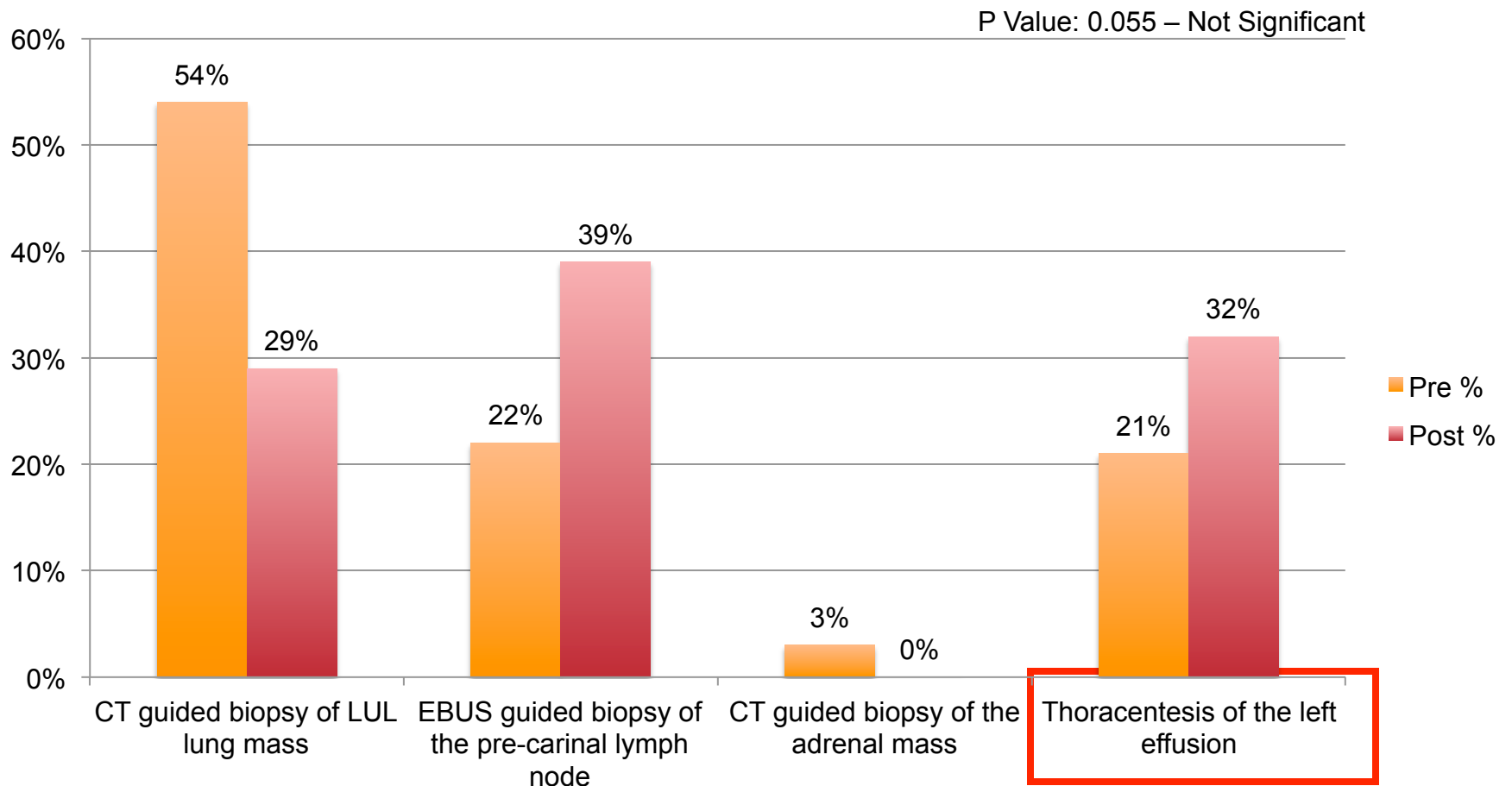
# Case Vignette Knowledge and Competence Assessment Questions

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

A 65 year old woman, 50 pack year smoker, presents to your clinic with the following CT Chest findings - Centrally located 4 cm left upper lobe lung mass with a 3 cm pre-carinal lymph node anteriorly, and a small to moderate left pleural effusion.

**The next best diagnostic option in this case is:**

(Learning Objective 2)



Pre N =134

Post N = 114

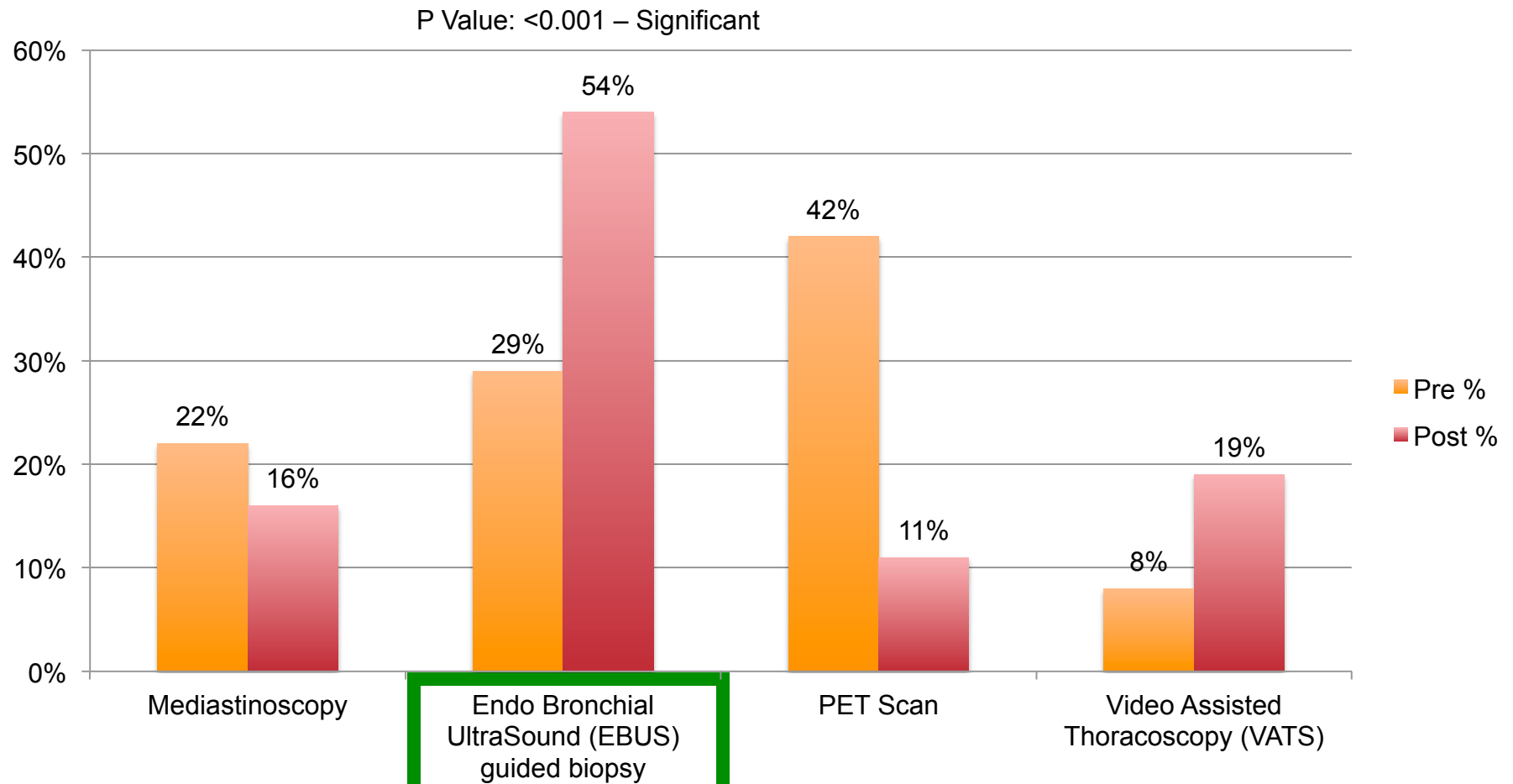
Red highlight indicates no significant difference between pre and post testing.

# Case Vignette Knowledge and Competence Assessment Questions

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

Which of the following is the preferred initial approach for staging of the mediastinum in a patient with suspected / proven lung cancer:

(Learning Objective 2)



Pre N = 129

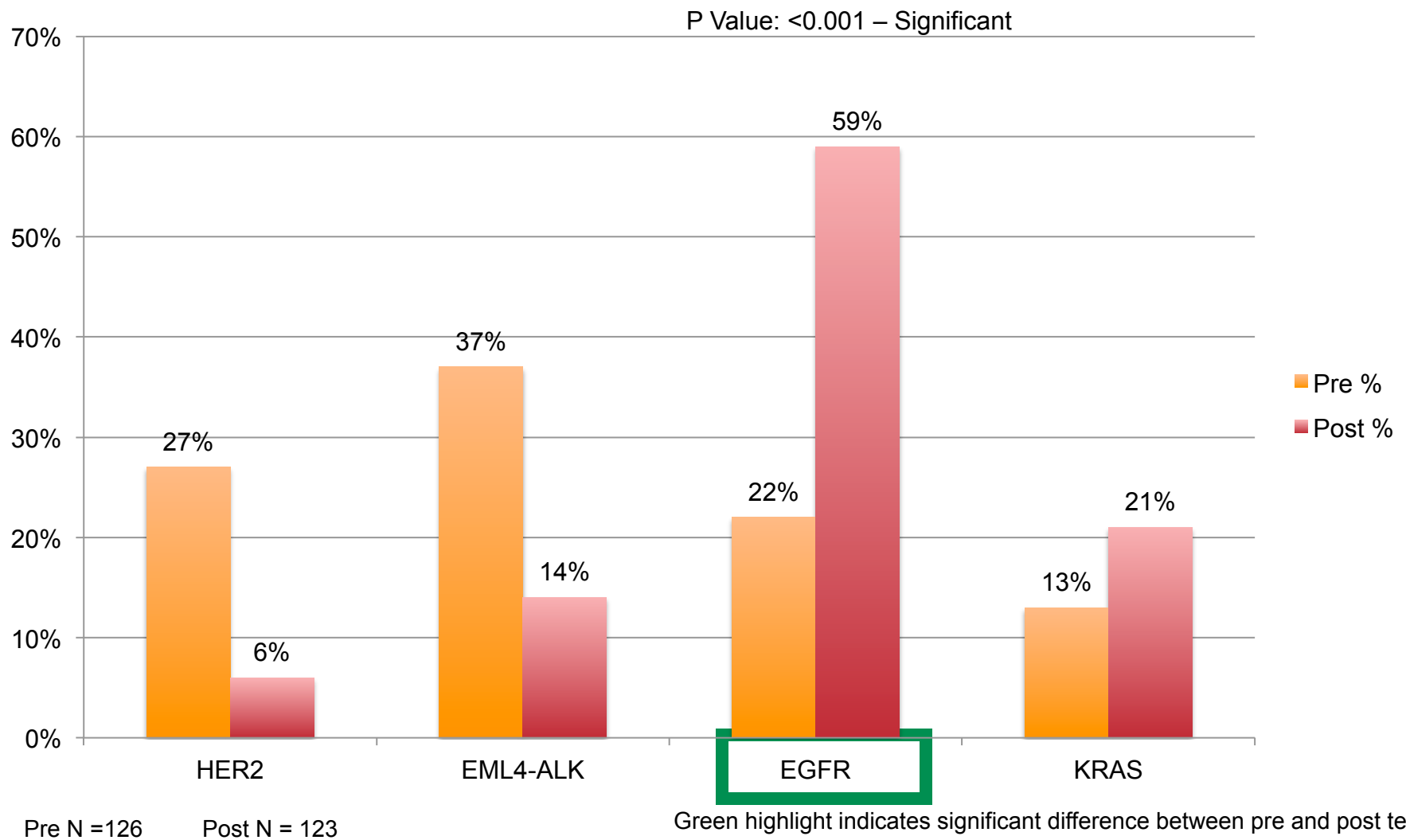
Post N = 114

Green highlight indicates significant difference between pre and post testing.

# Case Vignette Knowledge and Competence Assessment Questions

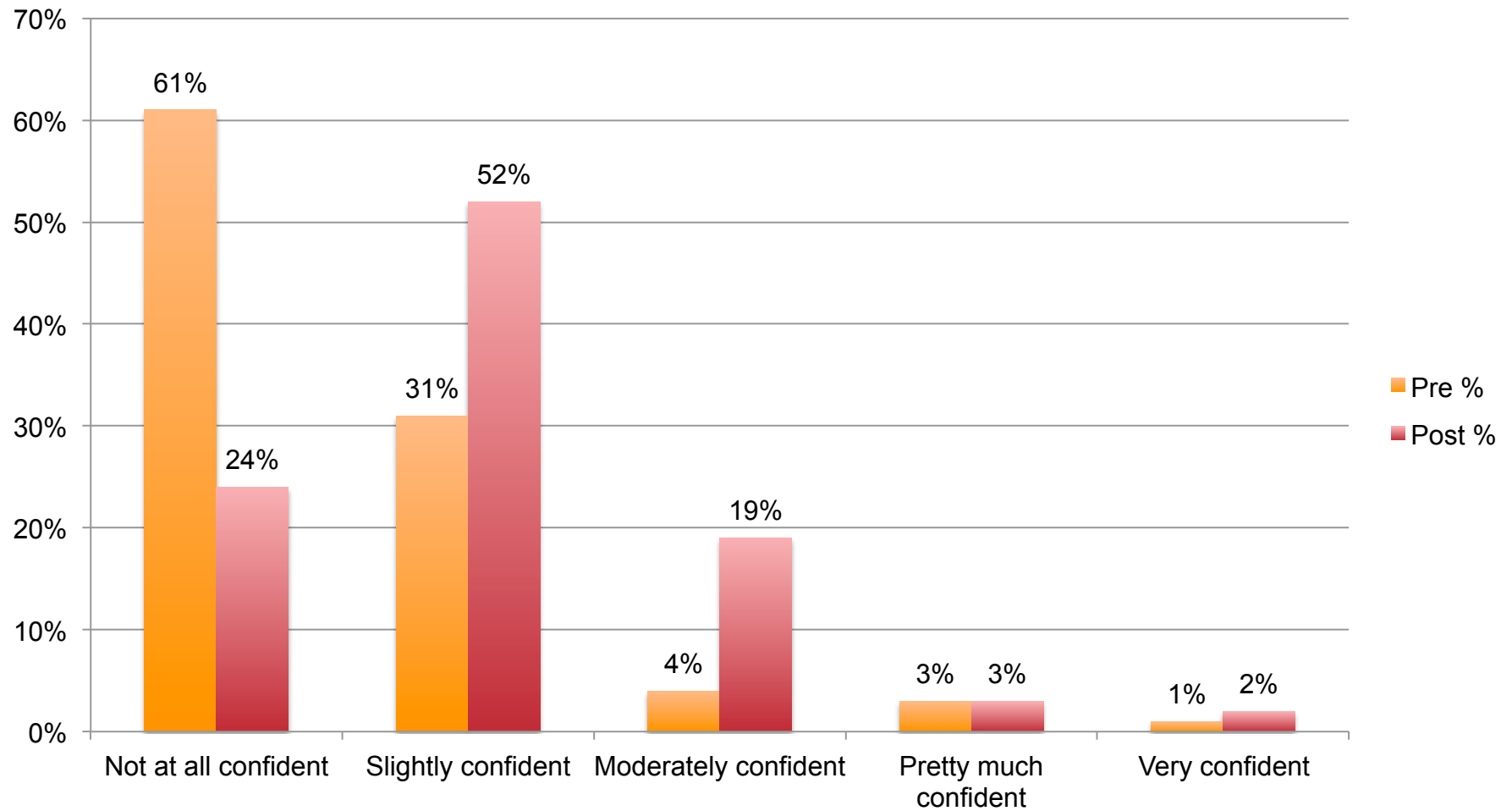
(Presented before and after lecture. Boxed answer is correct.)

A patient with a lung mass is found to have a NSCLC, which appears to be adenocarcinoma. What mutation, if present, is most likely to impact your treatment decision: (Learning Objective 3)



# Changes in Confidence from Pre to Post-Testing Update in the Diagnosis and Treatment of Lung Cancer

On a scale of 1 to 5, please rate how confident you would be in the diagnosis and management of Lung Cancer:

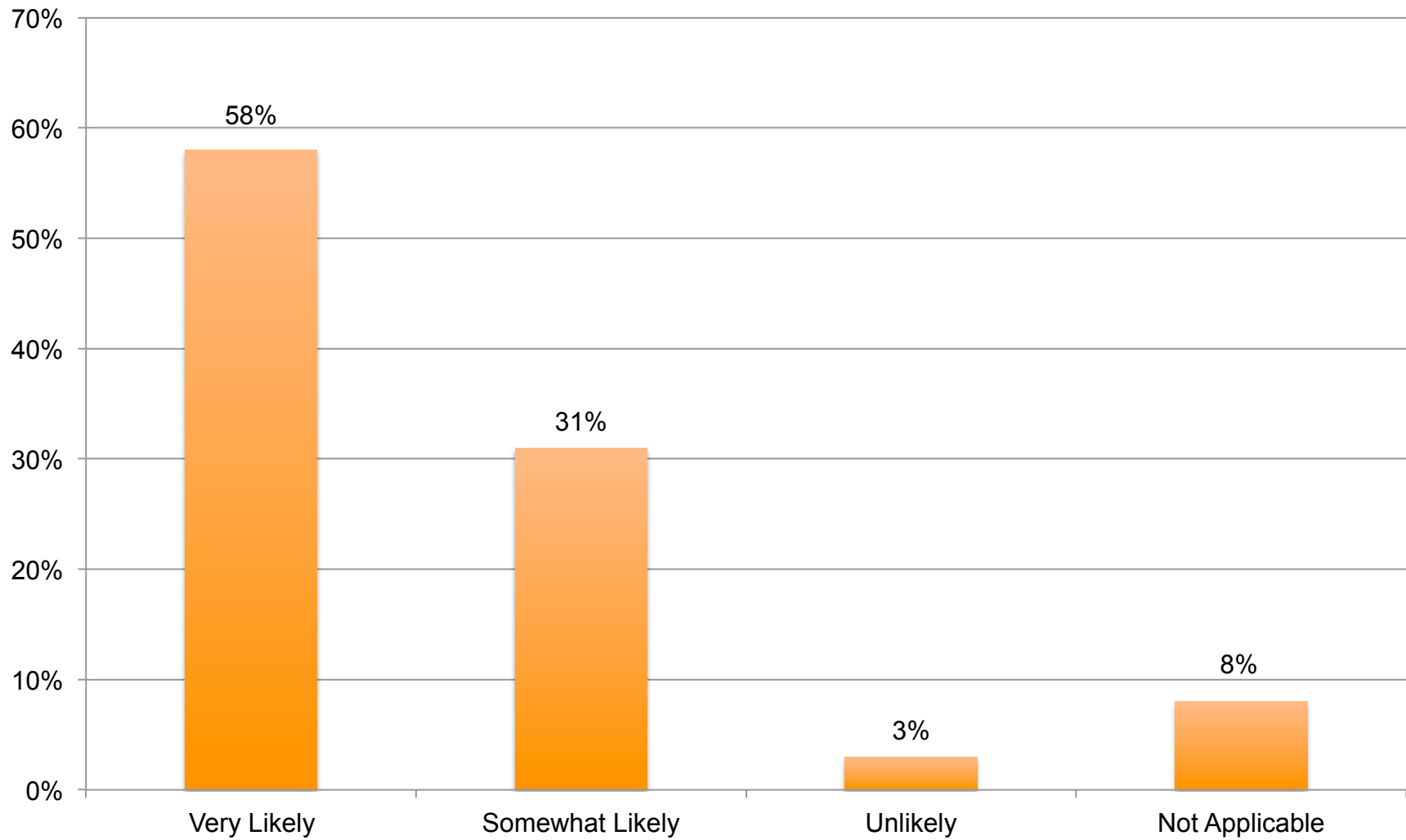


Pre N = 119

Post N = 120



# How Likely Are You to Implement These Strategies in Your Practice?



N =180

## **Discussion and Implications**

### **Update in the Diagnosis and Treatment of Lung Cancer**

- 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. The results indicated improvement in knowledge as measured by positive changes in pre to post-test scores in all 4 of the questions asked, three of which achieved statistical significance.
- Intention to Change: 89% indicated that they are very likely or somewhat likely to implement elements of lessons learned at the symposium.
- Confidence: Participants indicated a robust increase in self-reported confidence in treating patients with lung cancer. Attendees who reported no confidence decreased from 61 to 24%, slightly confident from increased from 31 to 52% and moderately confident increased from 4 to 19%.
- Summary: Eighty nine percent of the attendees suggested they were likely to very likely going to change their practice patterns as a result of this program. This activity was successful in the goal of improving understanding about evaluating patients with lung cancer and managing their disease. The activity had a positive impact in terms of self-reported improvement in confidence and the likelihood of practice change. Future programming should continue to educate clinicians on current guidelines as well as effective diagnosis, classification and treatment of lung cancer.