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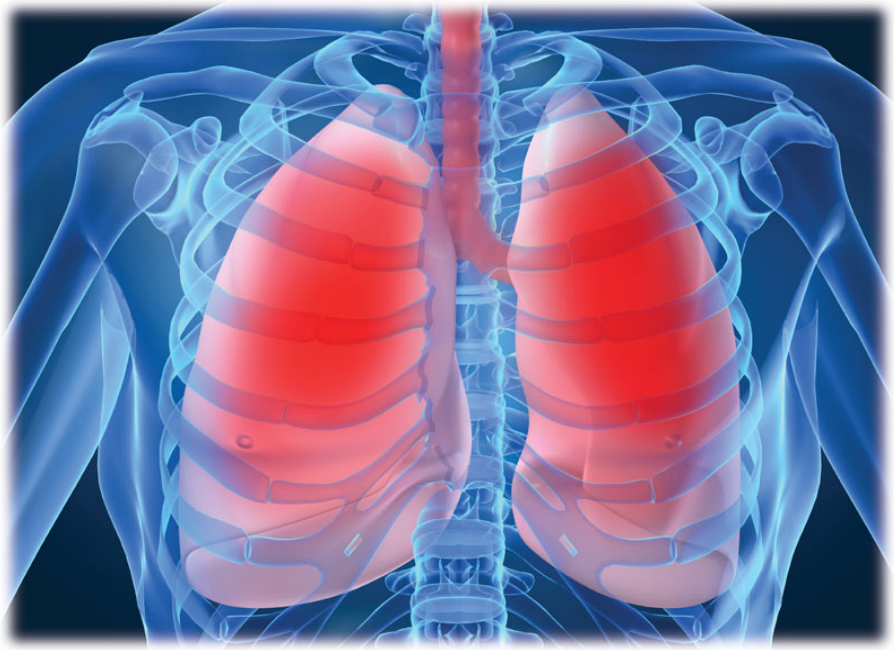

Management of Chronic Cough

Final Outcome Report

Challenges in Pulmonary and Critical Care: 2012

Presented at:
Cleveland Clinic Florida
Weston, Florida
December 1, 2012

Report Date: March 25, 2013

Course Director

Franck Rahaghi, MD, MHS, FCCP
Director, Pulmonary Hypertension Clinic
Director, Pulmonary Education and Rehabilitation
Chair of Quality
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*™. Physicians should only claim the credit commensurate with the extent of their participation in the activity.

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of University of Massachusetts Medical School and the National Association for Continuing Education. The University of Massachusetts Medical School is accredited by the ACCME to provide continuing medical education for physicians.

The University of Massachusetts Medical School designates this live activity for a maximum of *1 AMA PRA Category 1 Credit*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Commercial Support

Challenges in Pulmonary and Critical Care: 2012 CME activity was supported through educational grants or donations from the following companies:

Actellion
Baxter
Boehringer Ingelheim Pharmaceuticals, Inc.
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Hospira, Inc.
United Therapeutics Corporation

Agenda

7:15-7:50	Continental Breakfast and Registration
7:50-8:00	Welcome Remarks Franck Rahaghi, MD, MHS, FCCP
8:00-9:00	Electromagnetic Navigation Bronchoscopy and Bronchial Thermoplasty:Two Techniques That Are Revolutionizing Bronchoscopy Eduardo Oliveira, MD, MBA
9:00-10:00	COPD: New Developments, New Treatment Horizons Charlie Strange, MD
10:00- 10.15	Break/Exhibits
10:15-11:15	Alpha-1 Antitrypsin Deficiency: How to Change Franck Rahaghi, MD, MHS, FCCP
11:15-12:15	Pulmonary Hypertension: A Disease Evolution Ioana Preston, MD
12:150- 1:00	Lunch Break/Exhibits
1:00-2:00	Idiopathic Pulmonary Fibrosis: Updates from IPFNET and New Horizons Robert Kaner, MD
2:00-3:00	New Directions in Treatment of Asthma Raed A. Dweik, MD
3:00-3:15	Break/Exhibits
3:15-4:15	Sedation in the ICU Jinesh Mehta, MD
4:15-5:315	Management of Chronic Cough Gustavo Ferrer, MD
5:15-5:30	Closing Remarks Franck Rahaghi, MD, MHS

Levels of Evaluation

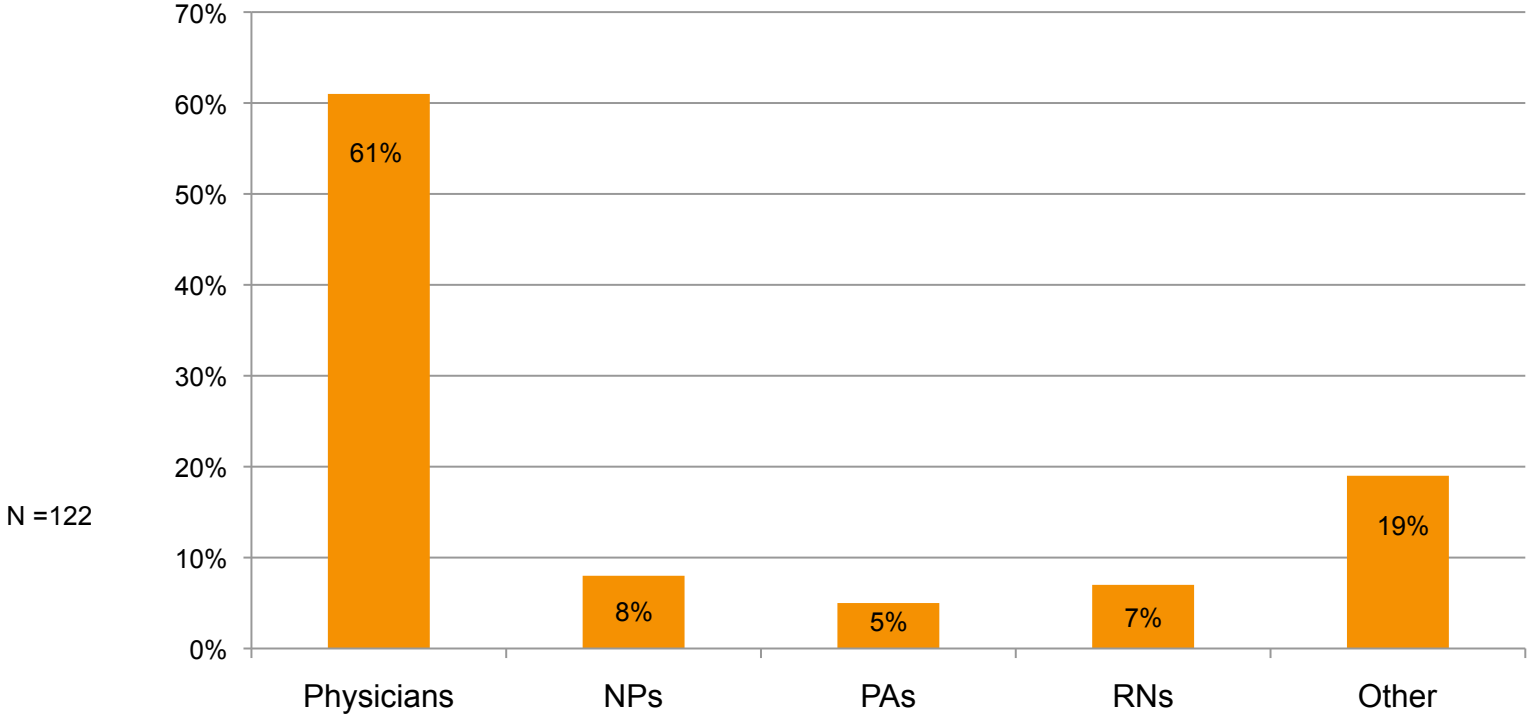
Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on the following model:

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

- 122 attendees
- 61% Physicians; 8% NPs; 5% PAs; 7% RNs; 19% Other
- Over 40% in community-based practice
- 37% PCPs, 40% Pulmonologists; 3%Rheumatology; 3% Cardiologists; 17% Other or did not respond



Did we reach the right audience? Yes!

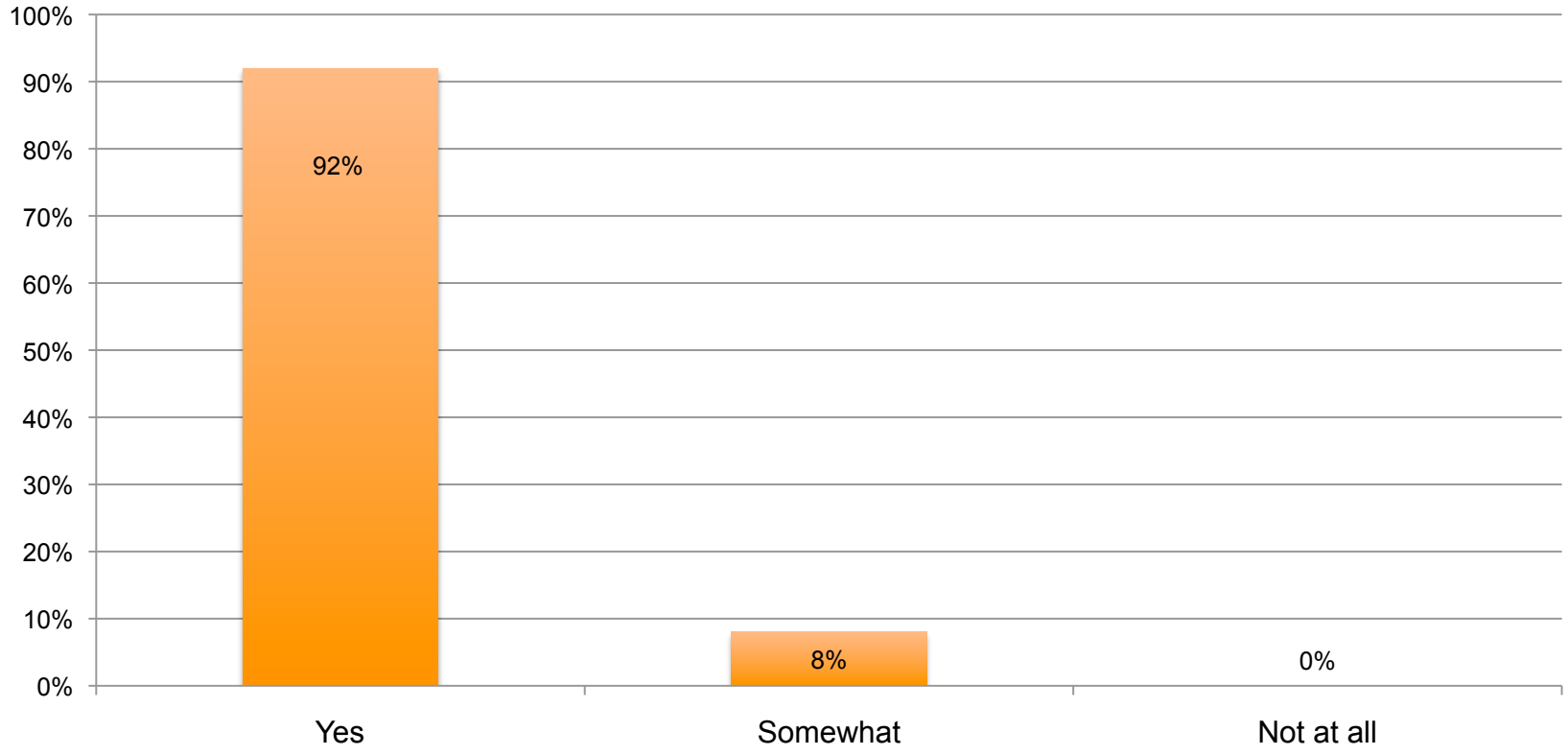
Level 2: Satisfaction

- 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 differential diagnosis of patients with chronic cough; Describe the workup of patients suspected of having chronic cough; Discuss the use of FeNO, laryngoscopy, pH catheter and spirometry in the initial assessment of patients with chronic cough; Identify therapeutic options in patients with chronic cough:



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 Med14 (10): 771-80.

Management of Chronic Cough

Faculty
Gustavo Ferrer, MD
Director of the Cough Clinic
Department of Pulmonary and Critical Care
Cleveland Clinic Florida
Weston, FL

Learning Objectives

- Explain the differential diagnosis of patients with chronic cough
- Describe the workup of patients suspected of having chronic cough
- Discuss the use of FeNO, laryngoscopy, pH catheter and spirometry in the initial assessment of patients with chronic cough
- Identify therapeutic options in patients with chronic cough

Key Findings

Management of Chronic Cough

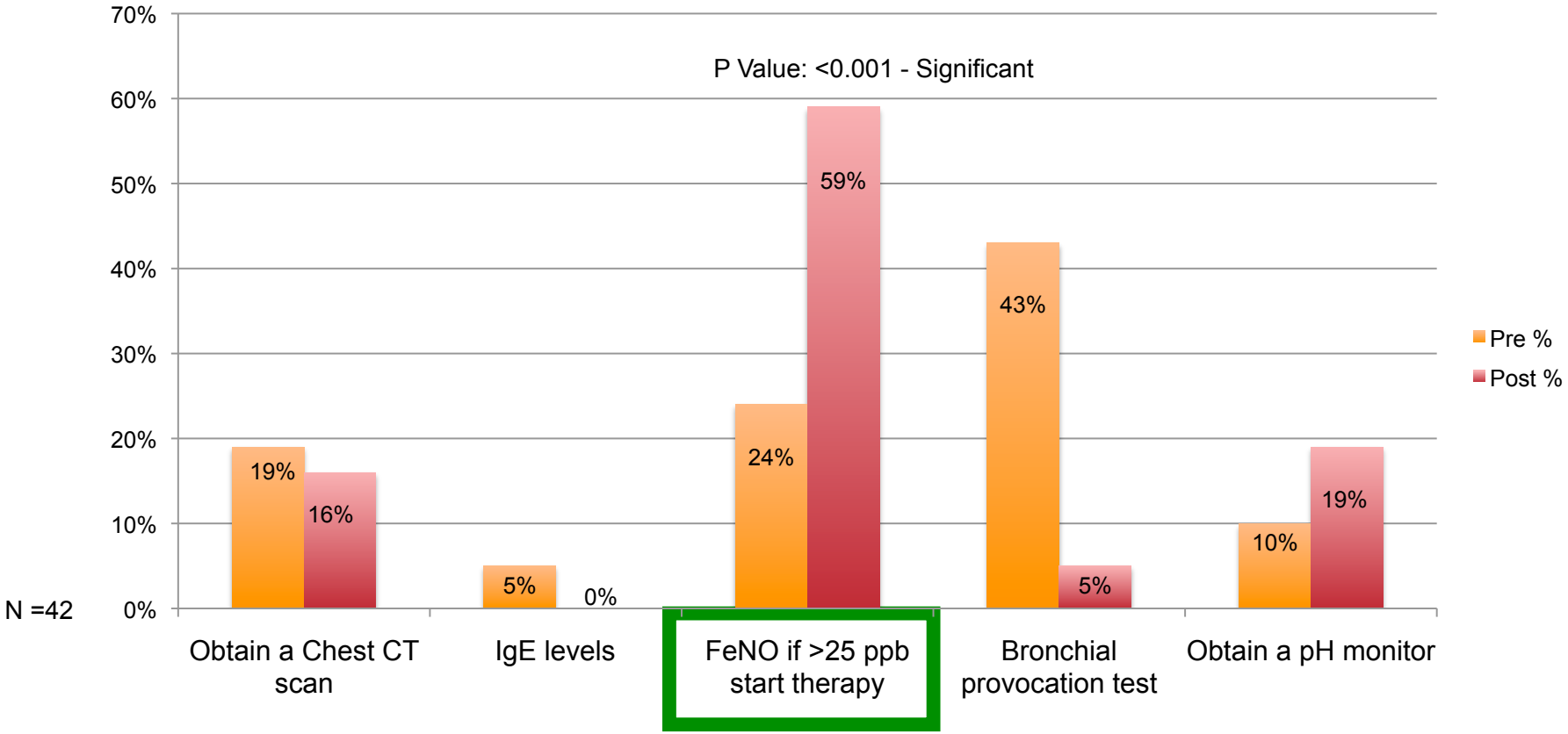
Knowledge/Competence	Learners demonstrated significant improvement in their answers from pre to post-testing on three of the four case-based questions regarding management of Chronic Cough.
Confidence	Whereas the majority of learners rated themselves as having low to moderate confidence in their understanding the management of Chronic Cough before the education most of the learners showed very high gains in confidence after the program.
Intent to Perform	Learners stated that they were very likely (64%) to somewhat likely (21%) to implement strategies learned at this session in their practice.
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=57

Case Vignette Knowledge and Competence Assessment Questions

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

A 33 year old female nonsmoker without significant past medical history comes to you with 3 months of dry cough. She denies wheezing or SOB No nasal or post-nasal symptoms. ROS and PE are normal. Initial evaluation reveals normal CXR and PFT's. You are suspecting asthma or Cough Variant Asthma.
The next best step is?

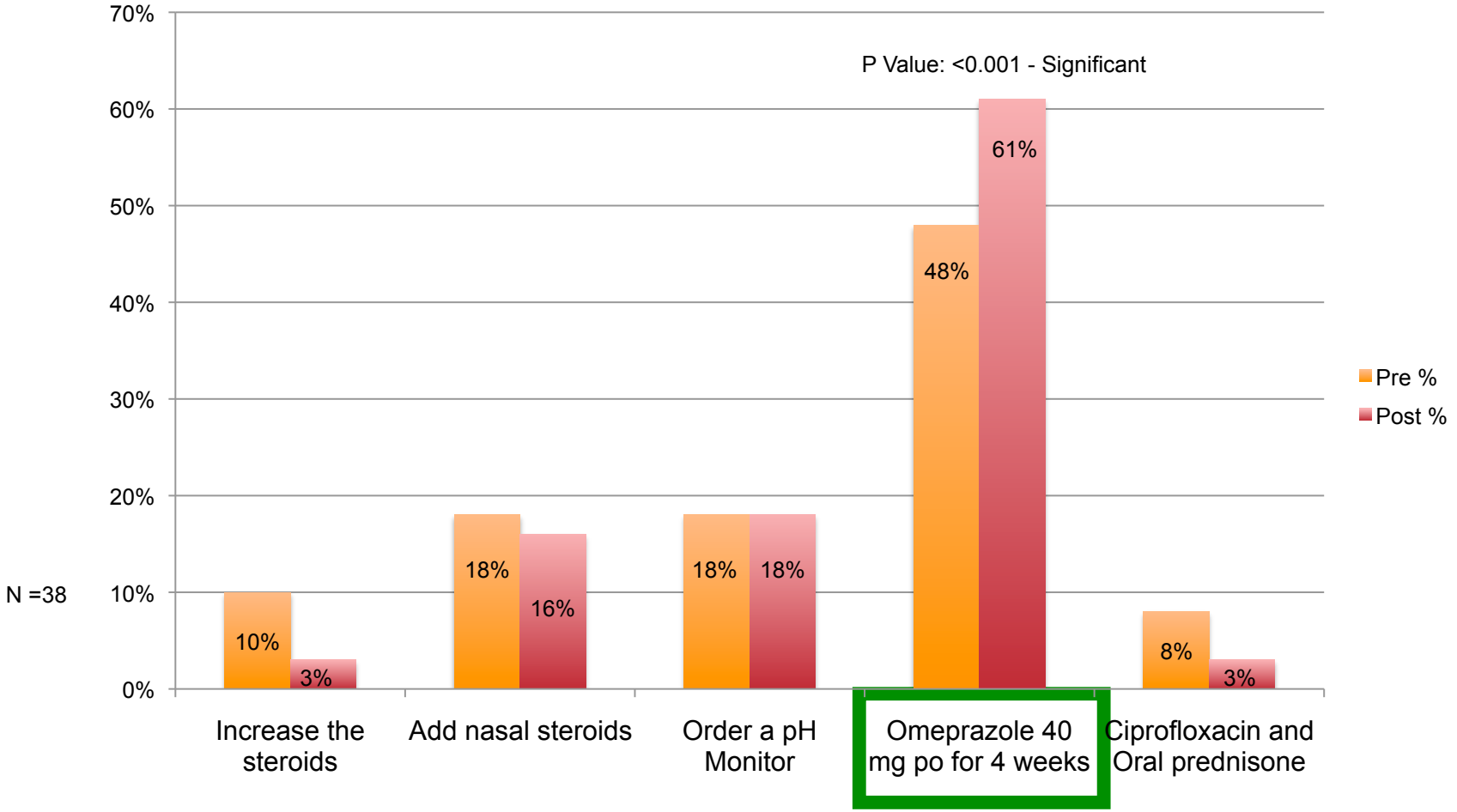


Green highlight indicates significant difference between pre and post testing.

Case Vignette Knowledge and Competence Assessment Questions

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

The same patient is diagnosed with asthma based on FeNO of 50 ppb. She started on Inhaled steroids. After she returns for follow up she states that the cough improved 70%. She has no new symptoms. The cough is dry that can be worse at night. FeNO is 7ppb. The next best step is?



Green highlight indicate 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 female with history of cough for over 20 years. The cough is dry and she denies rhinosinus symptoms. She has no wheezing or SOB. In the last 5 years, she was evaluated by five pulmonologists and ENTs. Treated simultaneously with inhaled steroids, PPI's, nasal sprays (steroids and antihistamine), cough suppressant and countless courses of antibiotics and prednisone. She comes to you for a second opinion. You stop all inhalers and continue the nasal therapy and PPI's. You perform the following test:

PFT,s-Normal
FeNO-Normal
CXR and HRCT-Normal
Nasalaryngoscopy-Normal
CBC, CMP, IgE normal
24 hrs pH monitor-Normal
Bronchoscopy-Normal

You conclude that she has chronic recalcitrant idiopathic cough. What treatment would you recommend?

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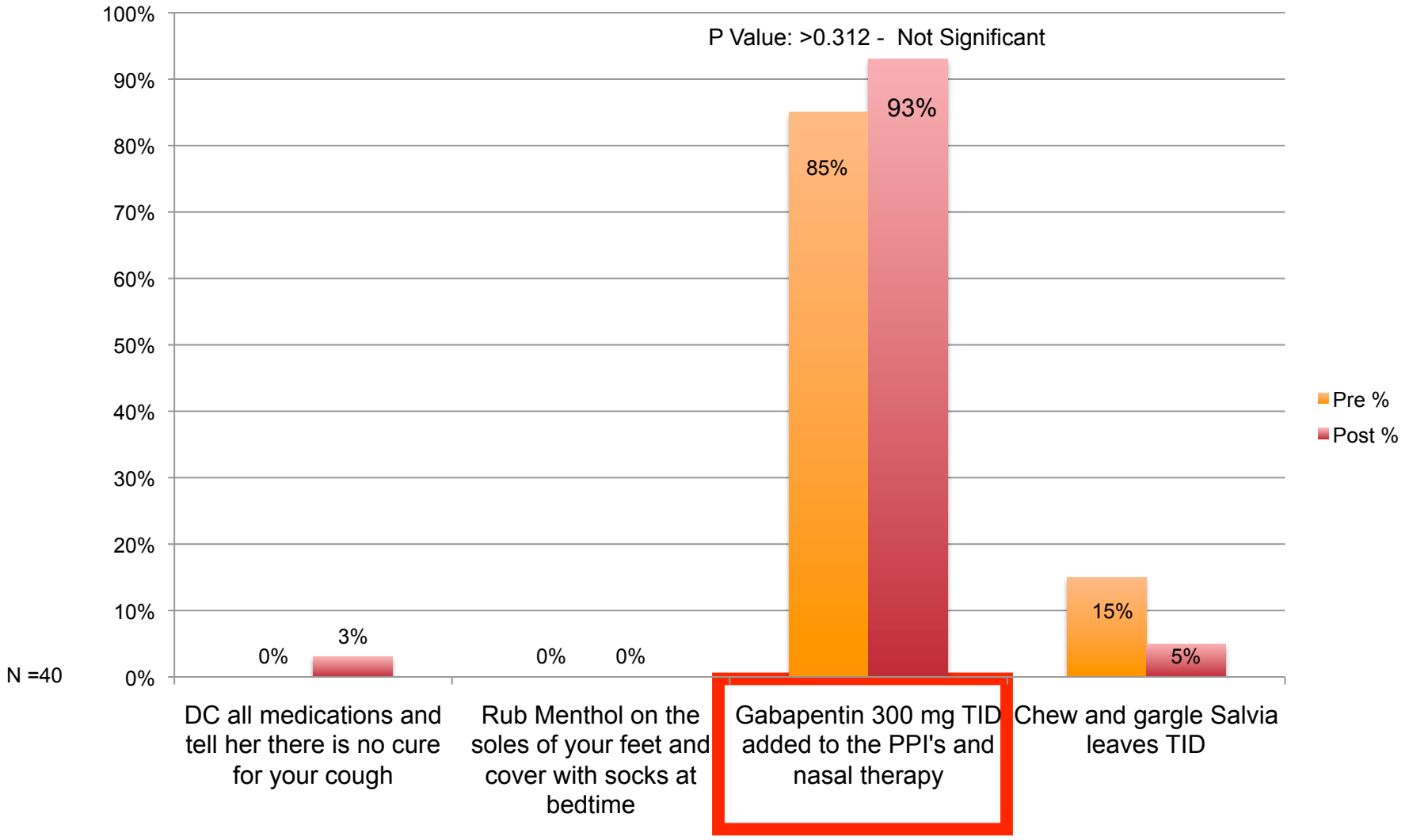
Case Vignette Knowledge and Competence Assessment Questions Count.

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

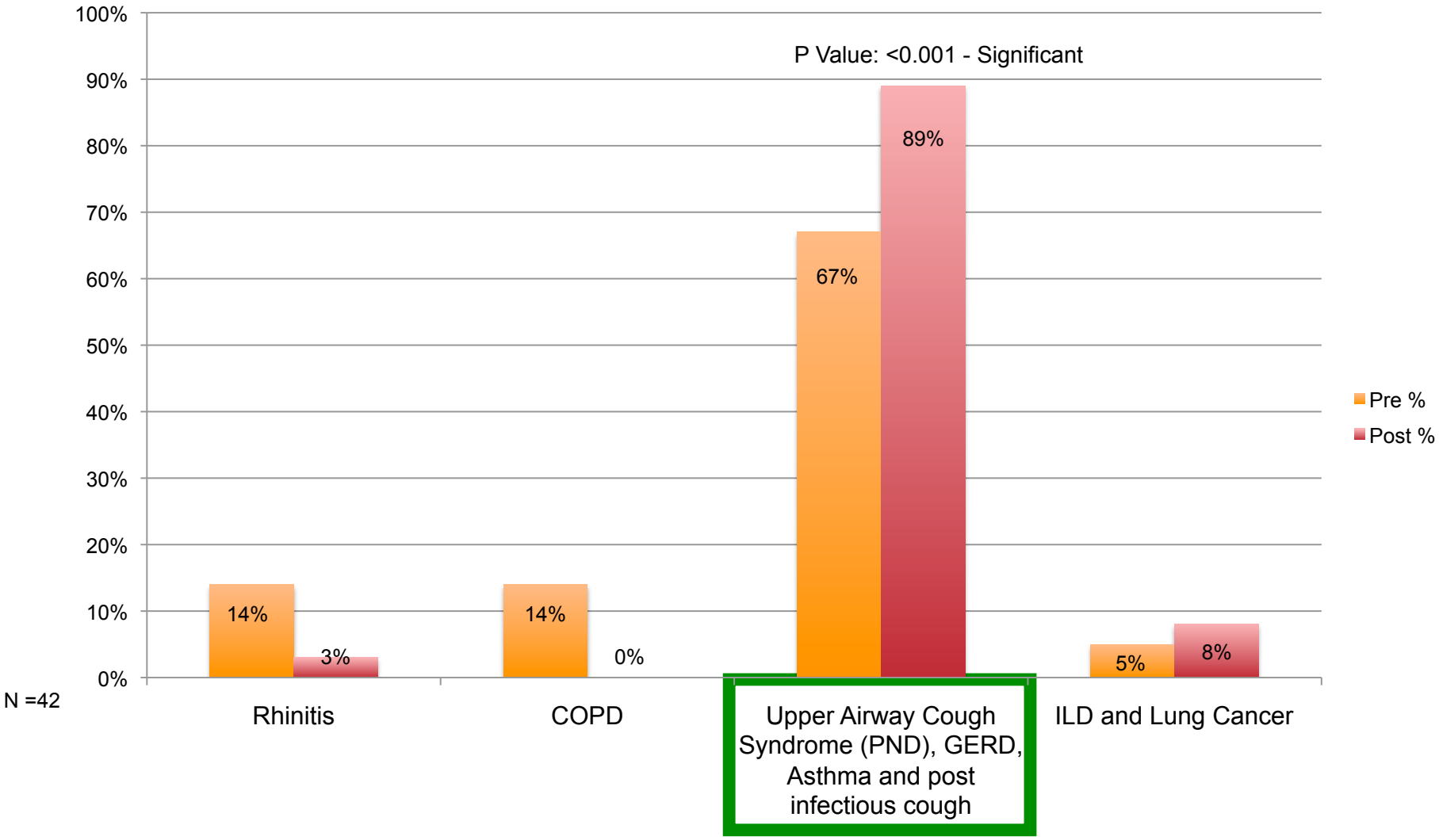


Red highlight indicates no significant difference between pre and post testing.

Case Vignette Knowledge and Competence Assessment Questions

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

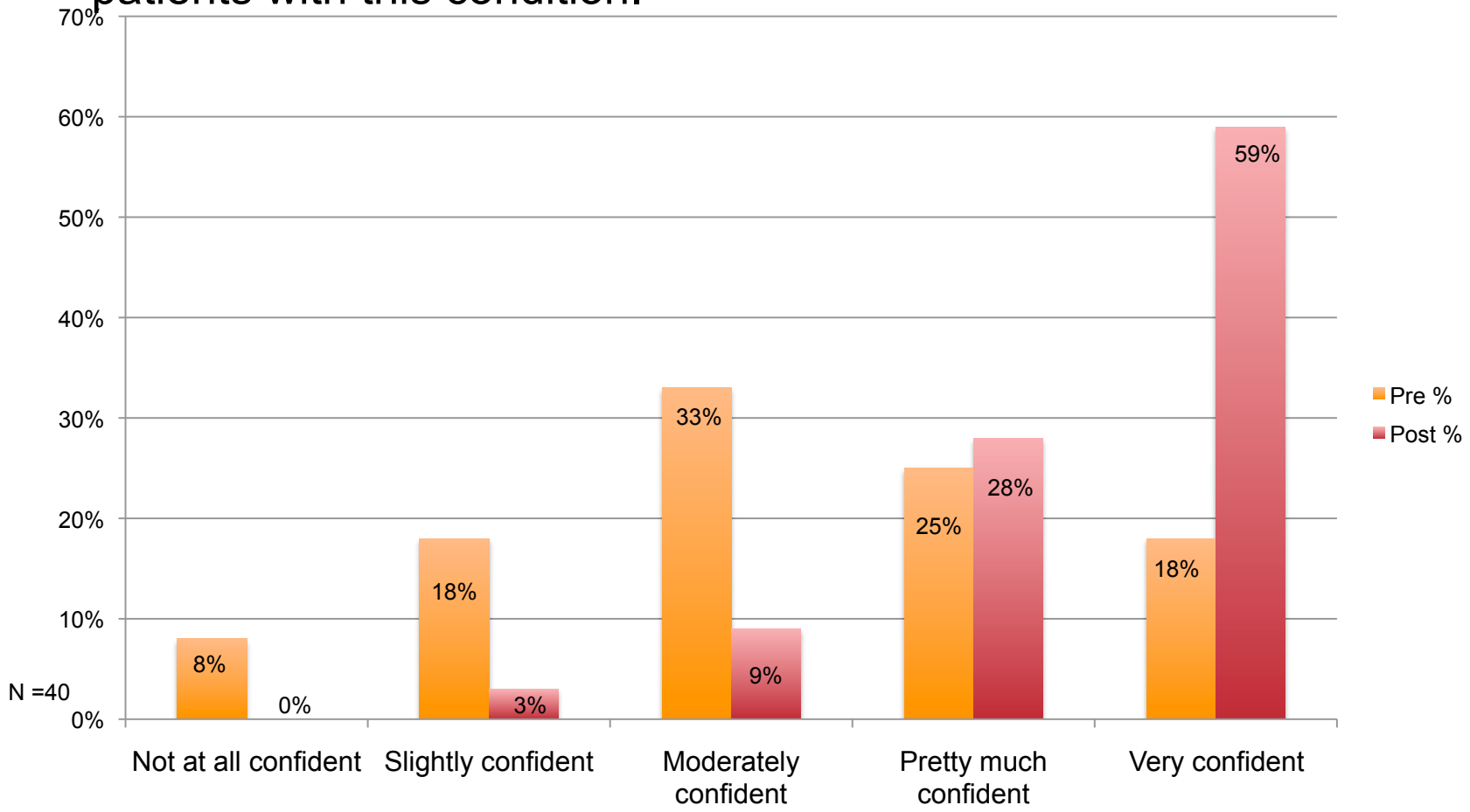
The most common causes of chronic cough in nonsmoker with a normal CXR is?



Green highlight indicates significant difference between pre and post testing.

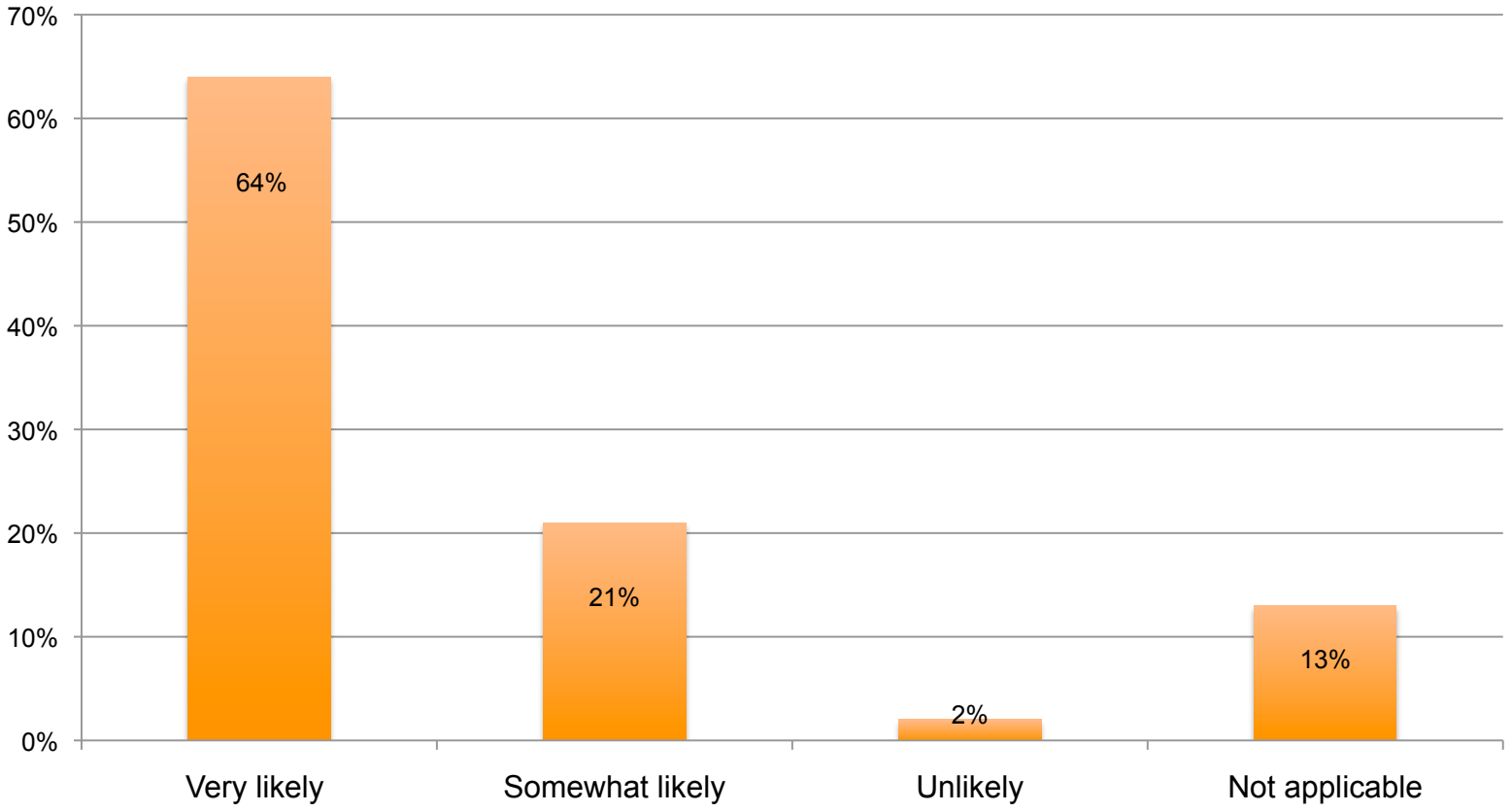
Changes in Confidence from Pre to Post-Testing Management of Chronic Cough

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 Management of Chronic Cough

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



N =122

Discussion and Implications

Management of Chronic Cough

Chronic cough remains a continued challenge for patients and a source of frustration for both the patients and the physicians. We now have new methods and tools that allow for improved diagnosis and therefore management of the disease. Particular attention was given to discuss the use of FeNO, laryngoscopy, pH catheter and spirometry in the initial assessment of patients with chronic cough, and to the identification of the therapeutic options in patients with chronic cough.

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 described earlier. The results indicated improvement in knowledge as measured by positive changes in pre to post-test scores on all four questions asked, with statistical significance achieved in three.

Readiness to Change: Sixty four percent of the attendee's suggestion a very likely intention to change their practice patterns and twenty one percent said that they were somewhat likely to do so.

Confidence: Participants indicated a significant increase in self-reported confidence levels in treating patients with cough. Attendees who reported that they felt very confident rose from 18% to 59% and those who reported high confidence rose from 25% to28% by the end of the activity, with a clear shift towards greater confidence.

Discussion and Implications(continued)

Management of Chronic Cough

Summary: Eighty five percent of the attendees suggested they were going to change their practice patterns as a result of this program. This activity was successful in the goal of improving understanding in the evaluation of patients with cough and in managing their disease. The activity had a very positive impact in terms of self-reported improvement in confidence and the likelihood of practice change. Future programming should continue to educate clinicians on comprehensive workup and treatment of Cough.