Challenges in Pulmonary and Critical Care

NACE

LIVE CME CONFERENCE

Asthma Frontiers: Right Treatment for the Right Phenotype

Final Live Outcome Report

Prepared For Novartis Pharmaceuticals Corporation

Grant ID: NCG 37611

February 18, 2020

NACE

Executive Summary

- This activity focused on helping participants integrate current concepts of Asthma pathophysiology into patient care while recognizing appropriate candidates for biologic therapy
- 917 attendees in multiple professional specialties were reached in this program.
- Improvement across all learning domains was noted ranging from 35% to 135%.
- Overall, the program improved the ability of learners to individualize therapy for patients with severe Asthma

Persistent Educational Gaps

- Though improvements were observed, learners demonstrated persistent gaps in the several areas including:
  - Key Type 2 cytokines involved in the pathophysiology of Asthma
  - The impact of inflammatory markers on treatment selection in patients with severe Asthma
  - Clinical assessment of Asthma control
  - Asthma treatment selection and the impact of co-morbid conditions

The post-test and 4 week follow up scores regarding the diagnosis and management of patients with severe Asthma, signifies a clear gap in knowledge and an unmet need among clinicians. It continues to be an important area for future educational programs.

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

Learning Objectives

1. Describe the current concepts in the pathophysiology of asthma and type 2 inflammation, and the implications of biologic therapies in the era of precision medicine.
2. Discuss the clinical assessment of asthma control and risk factors for poor asthma outcomes.
3. Individualize the treatment approach for patients with moderate to severe asthma while recognizing appropriate candidates for biologicals and other advanced therapies.
4. Recognize the impact of comorbid conditions on asthma control and evidence-based approaches to their treatment.

Course Director

Franck Rahaghi, MD, MHS, FCCP
Chairman, Department of Pulmonary Medicine
Director, Pulmonary Hypertension Clinic
Head, Pulmonary Education and Rehabilitation
Department of Pulmonary and Critical Care
Cleveland Clinic Florida
Weston, FL

Activity Planning Committee

Gregg Sherman, MD

Michelle Frisch, MPH, CCMEP

Sandy Bihlmeyer M.Ed

Franck Rahaghi, MD, MHS, FCCP

Sheila Lucas, CWEP

Joshua F. Kilbridge

Cedric Nazareth, MBBS

Deborah Paschal, CRNP

Faculty

Sajive Aleyas, MD
Interventional Pulmonary
Cleveland Clinic Florida
Weston, FL

Gregory Cosgrove, MD
Associate Professor
Assistant Director, Interstitial Lung Disease Program
Department of Medicine
Division of Pulmonary, Critical Care & Sleep Medicine
Endowed Chair in Interstitial Lung Disease
National Jewish Health
Denver, CO

Samuel Gurevich, MD, FCCP
Medical Director, Respiratory Therapy
Cleveland Clinic Florida
Clinical Assistant Professor of Medicine
Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
Weston, FL

Sandhya Khurana, MD
Professor, Pulmonary and Critical Care Medicine
Director, Mary Parkes Center for Asthma, Allergy & Pulmonary Care
University of Rochester School of Medicine
Rochester, NY

Mehdi Mirsaeidi MD, MPH*
Director of UM and VA Sarcoidosis Programs
IRB Vice-Chairman, Miami VA Healthcare System
Division of Pulmonary, Critical Care, Sleep and Allergy
Department of Medicine
University of Miami
Miller School of Medicine
Miami, FL

Farbod N. Rahaghi, MD, PhD
Instructor, Harvard Medical School
Applied Chest Imaging Laboratory
Pulmonary Vascular Disease Program
Brigham and Women's Hospital
Pulmonary and Critical Care Internal Medicine
Boston, MA

Franck Rahaghi, MD, MHS, FCCP
Chairman, Department of Pulmonary Medicine
Director, Pulmonary Hypertension Clinic
Head, Pulmonary Education and Rehabilitation
Department of Pulmonary and Critical Care
Cleveland Clinic Florida
Weston, FL

*Presented Sarcoidosis lecture

NACE

Challenges in Pulmonary and Critical Care

NACE

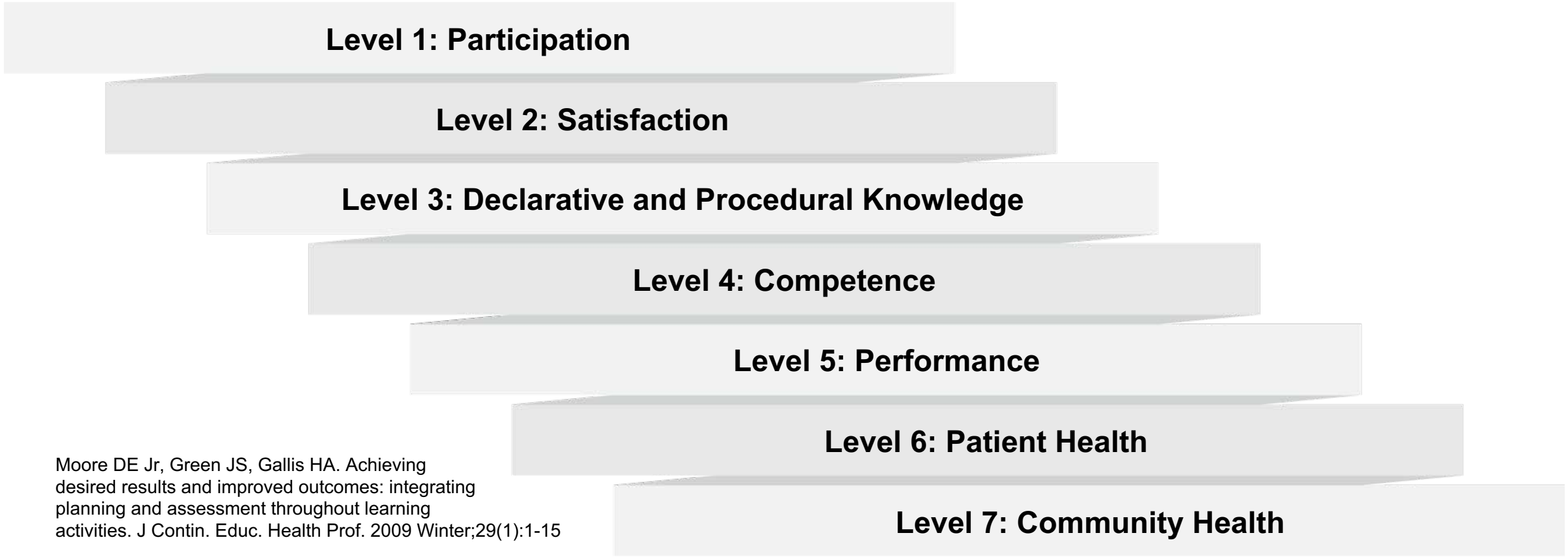
LIVE CME CONFERENCE

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

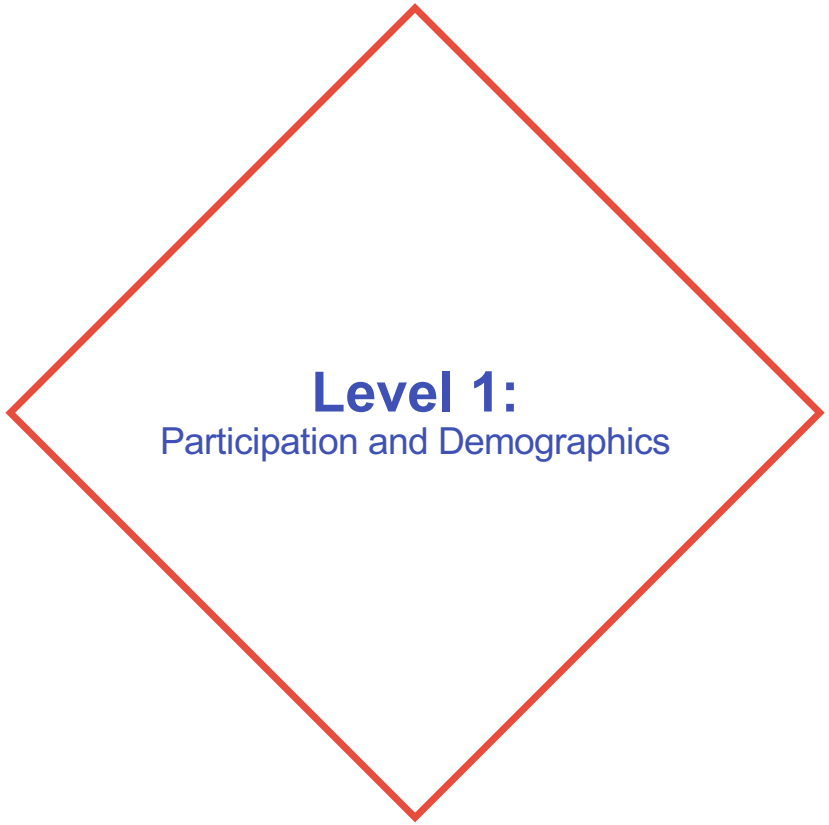
- Novartis Pharmaceuticals Corporation
- Actelion Pharmaceuticals US, Inc.
- Shire
- CSL Behring, LLC.
- Grifols
- Genentech
- Mallinckrodt Pharmaceuticals, LLC

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

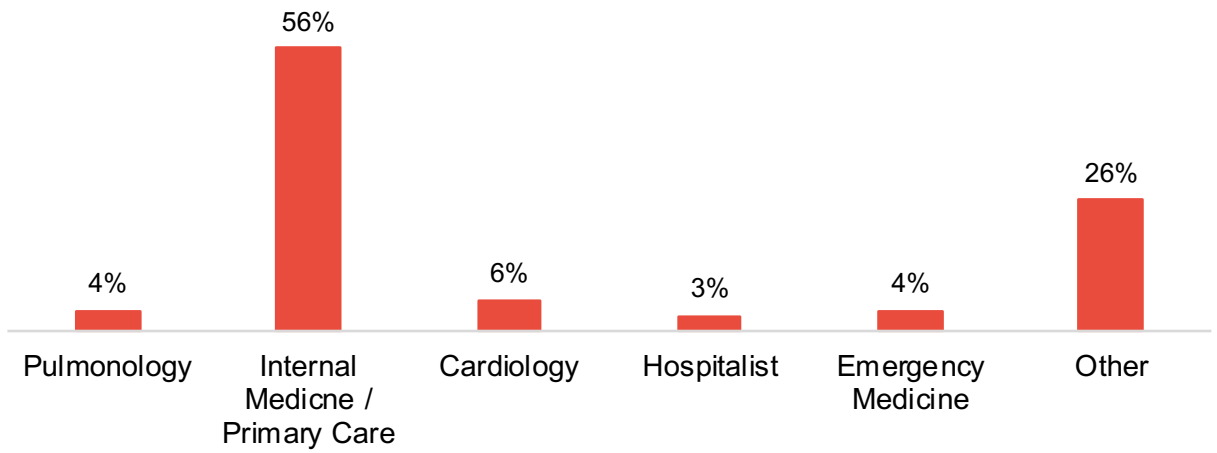
917 total attendees

On site: 97 attendees

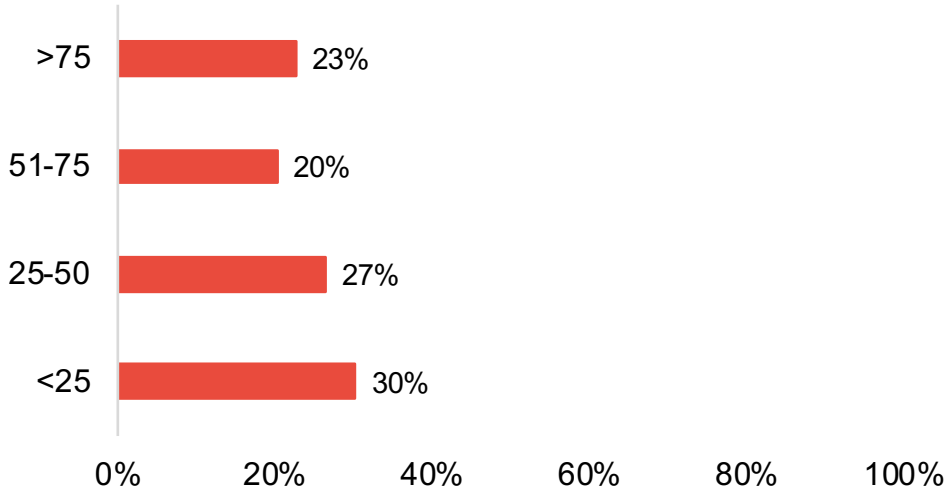
National online simulcast : **820** attendees

Level 1: Demographics and Patient Reach

Specialty

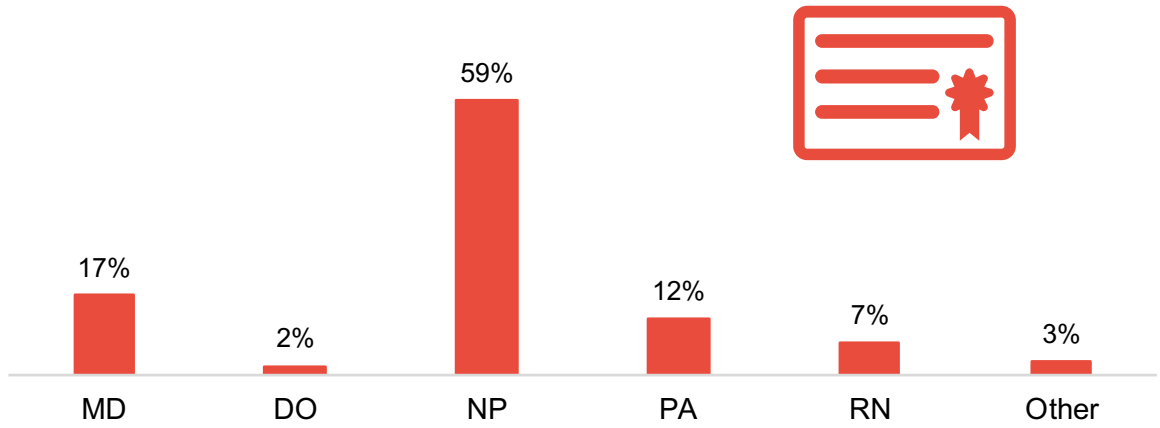


Patients seen each week, in any clinical setting:

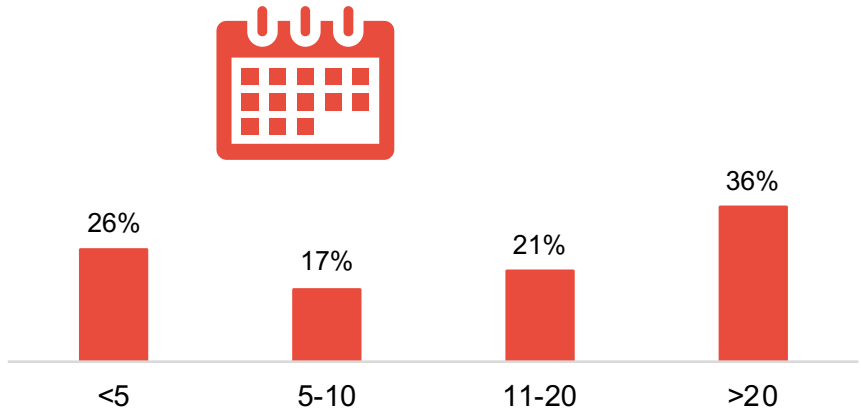


Patient Care Focus: 90%

Profession



Years in Practice




Level 2-5:
Outcomes Metrics

Level 2: Satisfaction

88% rated the activity as excellent

89% indicated the activity improved their knowledge

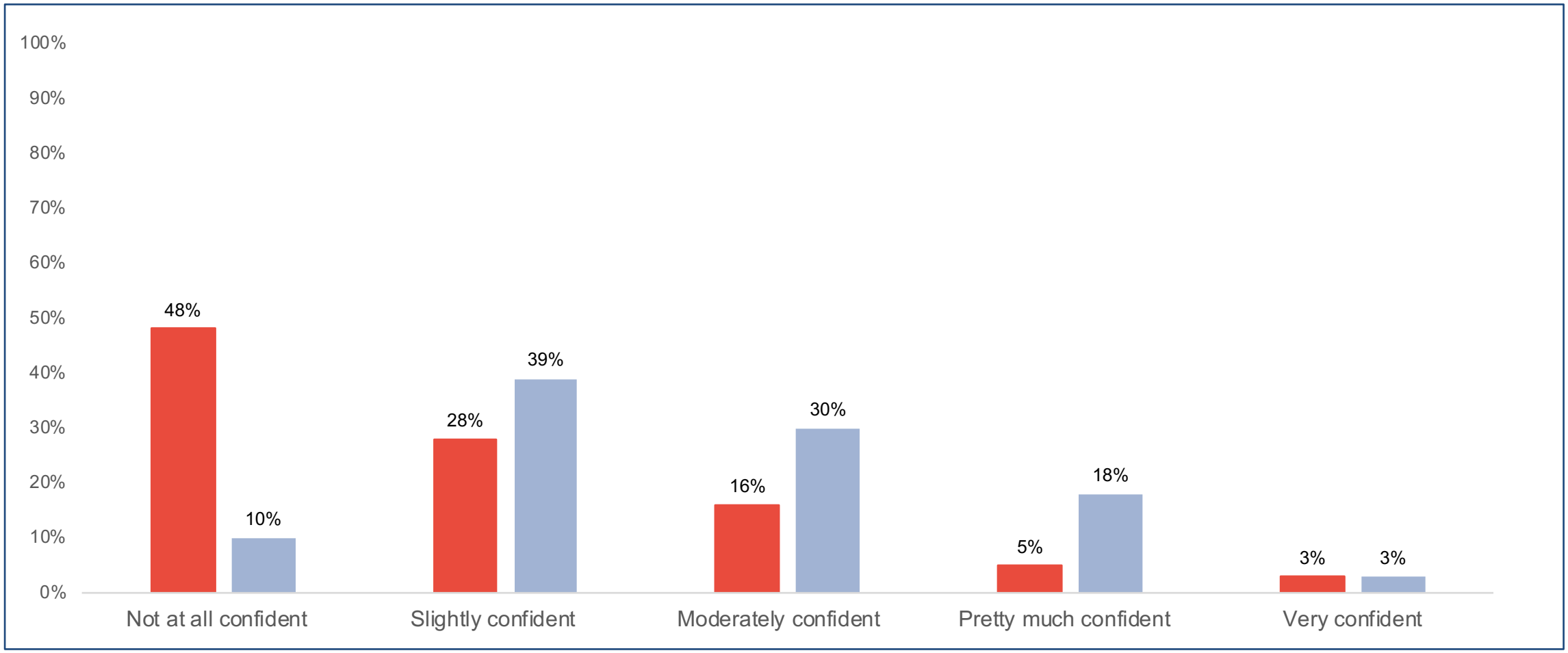
88% stated that they learned new and useful strategies for patient care

91% said they would implement new strategies that they learned

98% said the program was fair-balanced and unbiased

Confidence Assessment

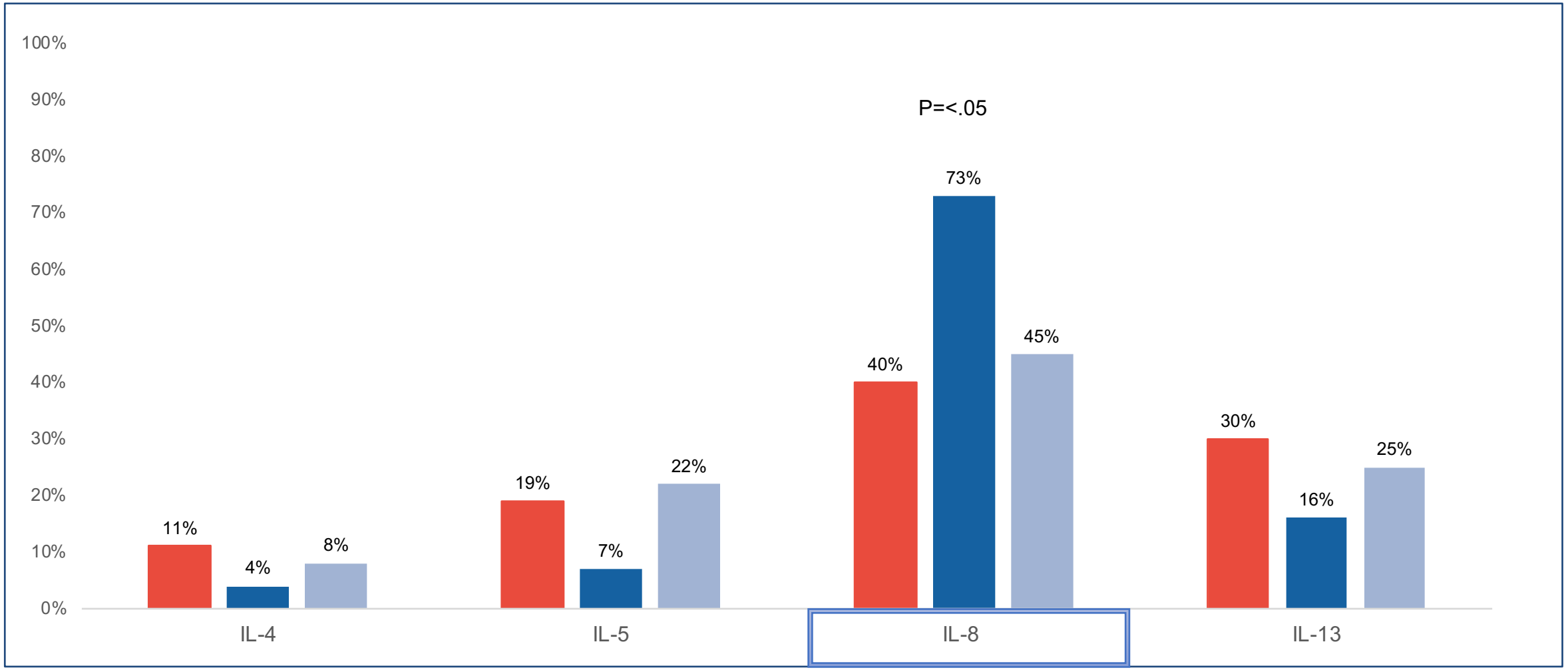
Please rate your confidence in your ability to integrate biologic therapy into the care of patients with severe asthma:(Learning Objective 2,3,4)



N= Pre: 446 PCA: 161

Knowledge Assessment

All of the following are key Type 2 cytokines except:? (Learning Objective 1,3)

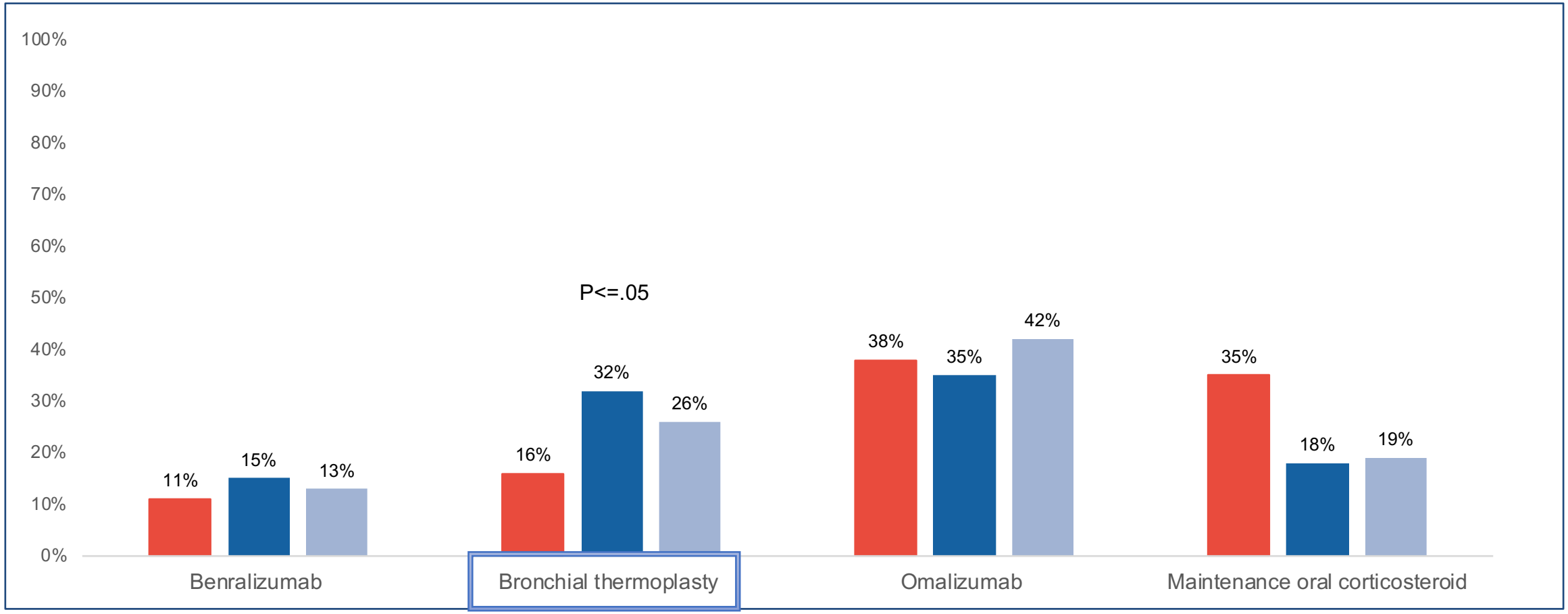


N= Pre: 344 Post: 347 PCA: 161

Pre to Post Change	**83%**
Pre to PCA Change	**13%**

Knowledge Assessment

Which of the following add-on therapies would be most appropriate for a patient who has severe uncontrolled asthma despite GINA step 4 therapy and low levels of Type 2 inflammation? (Learning Objective 1,3)

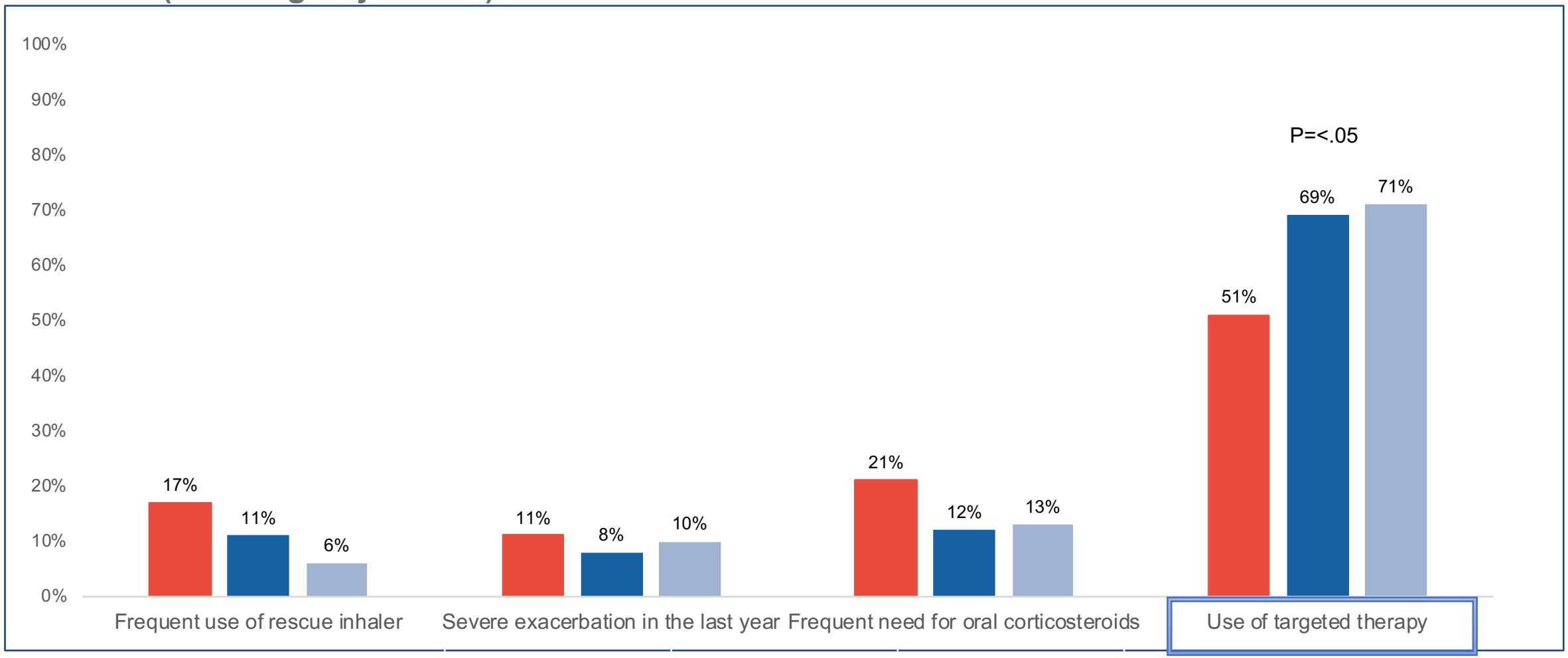


N= Pre: 348 Post: 347 PCA: 161

Pre to Post Change	**100%**
Pre to PCA Change	**63%**

Knowledge Assessment

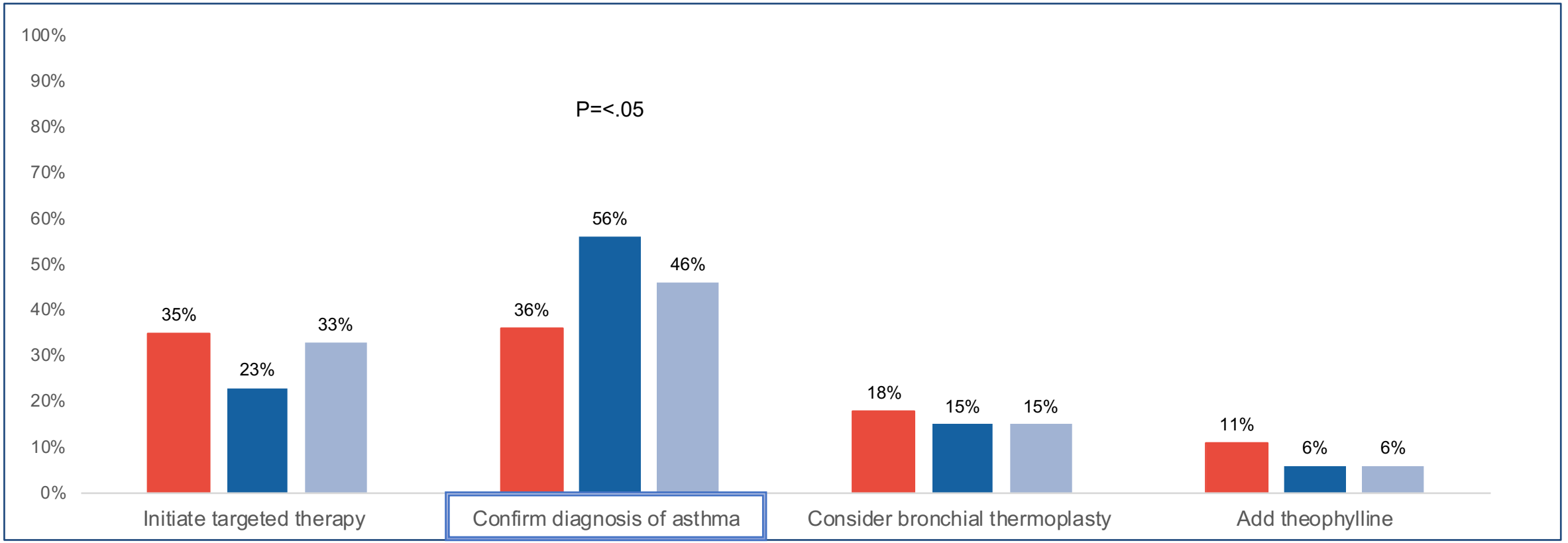
All of the following are associated with increased future risk for poor asthma outcomes, EXCEPT: (Learning Objective 2)



N= Pre: 332 Post: 345 PCA: 161

Pre to Post Change	**35%**
Pre to PCA Change	**39%**

A 59-year-old obese woman with 20-year history of physician diagnosed asthma presents with daily asthma symptoms, nighttime awakenings 2-3 nights per week, and frequent use of a rescue inhaler. She reports difficulty walking uphill or a flight of stairs. Current medications include high-dose ICS/LABA and LAMA. Which of the following would be the appropriate next step? (Learning Objective 2,3,4)



N= Pre: 350 Post: 335 PCA: 161

Pre to Post Change	**56%**
Pre to PCA Change	**28%**

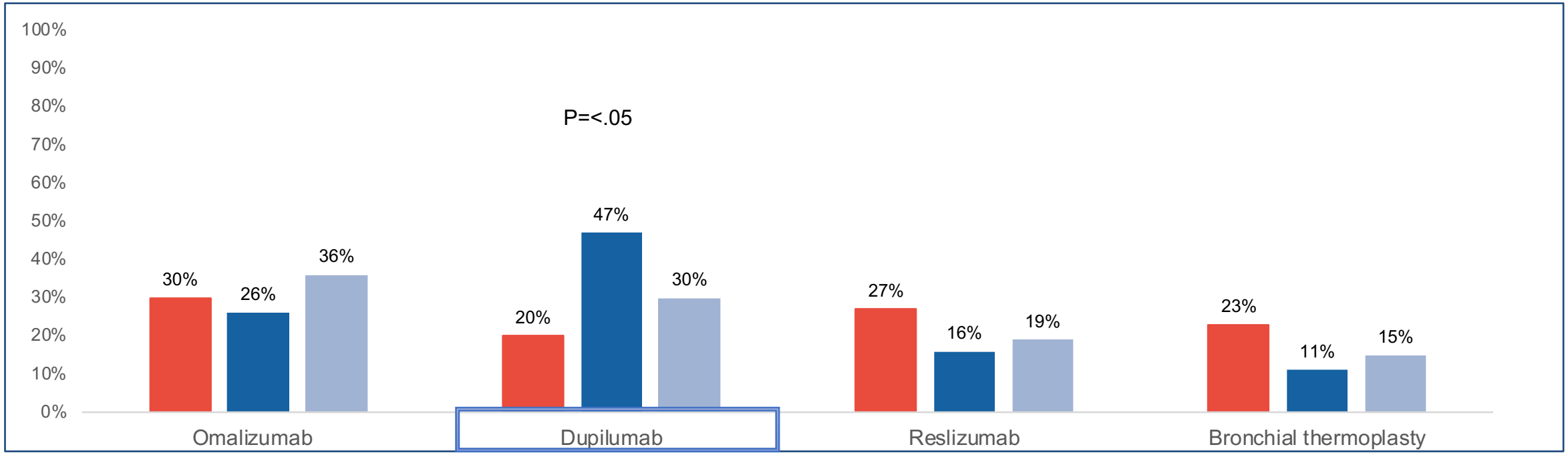
Competence Assessment

44-y/o man with history of asthma since childhood presents with frequent asthma symptoms despite treatment with high-dose ICS/LABA plus LAMA, and prednisone 10 mg/day. He has required two hospitalizations in the last one year for acute asthma. Comorbidities include atopic dermatitis, poorly controlled with topical agents.

Spirometry reveals moderate airflow obstruction with bronchodilator reversibility. Patient demonstrates good inhaler technique and confirms regular use of medications. Serum IgE 20 kU/l. Negative allergen skin testing. Blood eosinophils 450 cells per mcL.

Which of the following agents might be most appropriate at this time?

(Learning Objective 2,3,4)



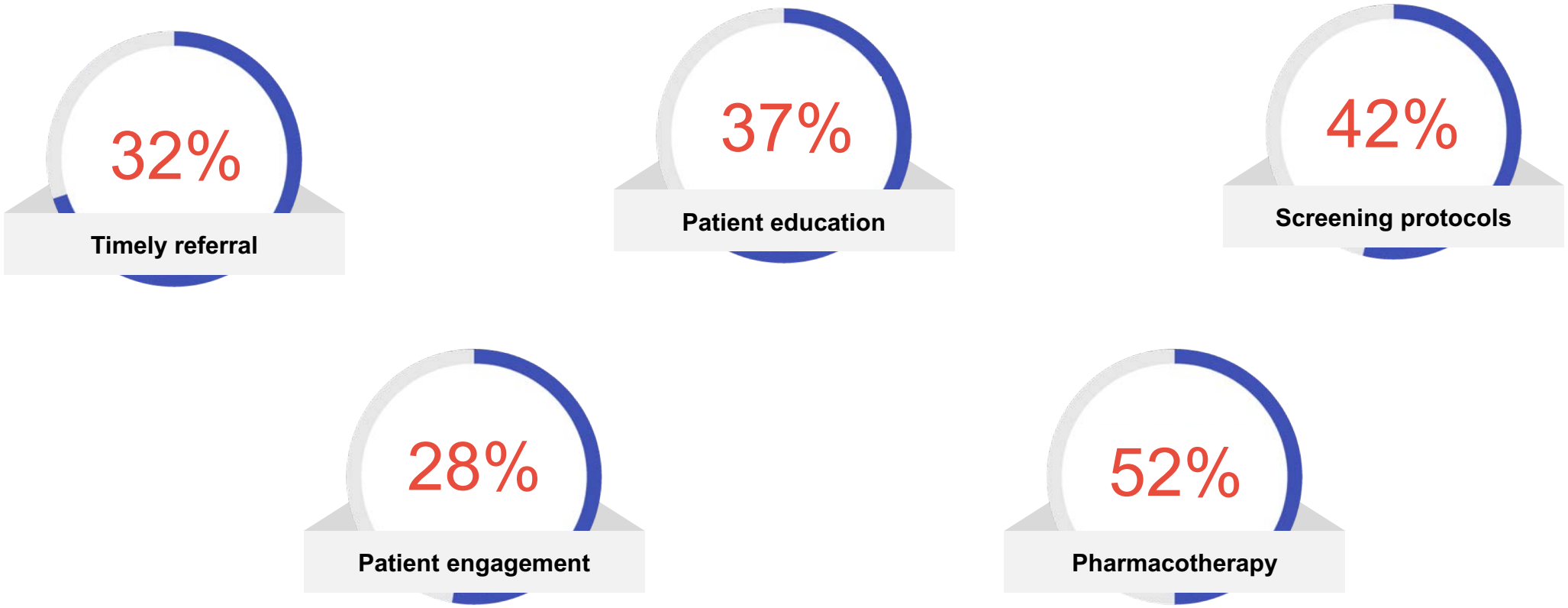
N= Pre: 352 Post: 357 PCA: 161

Pre to Post Change	**135%**
Pre to PCA Change	**50%**

(4-week Post Assessment)

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

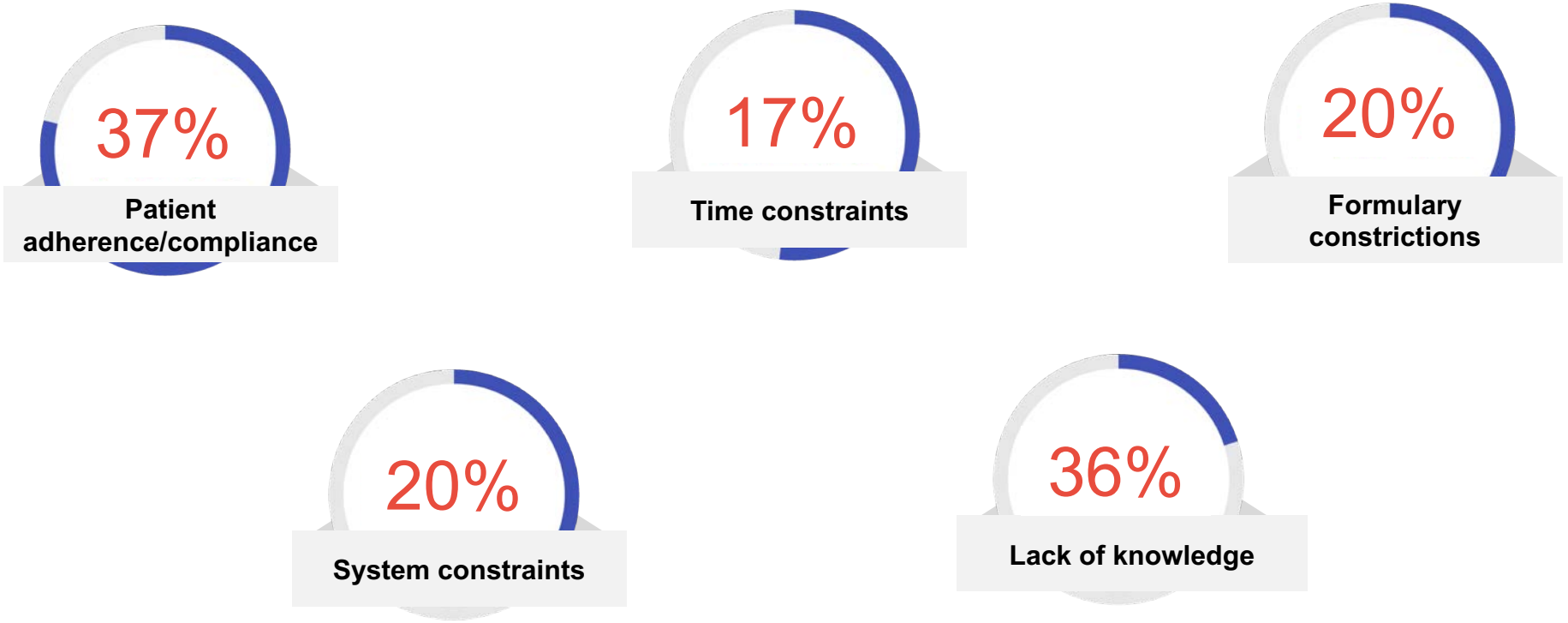
N=161



(4-week Post Assessment)

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

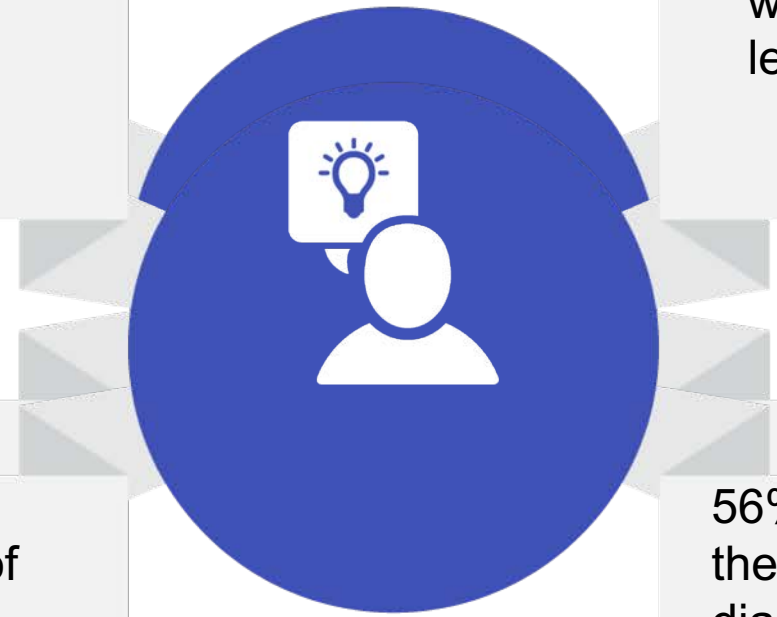
N=161



Participant Educational Gains

83% increased recognition that IL-8 is not a key Type 2 cytokine but that IL-4, IL-5 and IL-13 are.

100% increased awareness of appropriate modalities for patients with uncontrolled asthma and low levels of Type 2 inflammation



35% more aware of the factors causing an increased future risk of poor Asthma outcomes

56% more competent to recognize the importance of confirming a diagnosis in a patient with an unclear work up that appears to have severe, uncontrolled asthma despite triple inhaler therapy

NACE

Persistent Educational Gaps After 4 Weeks

- Key Type 2 cytokines involved in the pathophysiology of Asthma
- The impact of inflammatory markers on treatment selection in patients with severe Asthma
- Clinical assessment of Asthma control
- Asthma treatment selection and the impact of co-morbid conditions

Key Take-home Points

135% increased competence in selection of biologic therapy for a patient with severe Asthma

After 4 weeks, participants reported improved skills regarding screening, diagnosis and treatment of Asthma: 52% pharmacotherapy, 42% screening protocols, and 37% patient education

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

Significant improvement in learner confidence in their ability to integrate biologic therapy into the care of patients with severe Asthma

NACE