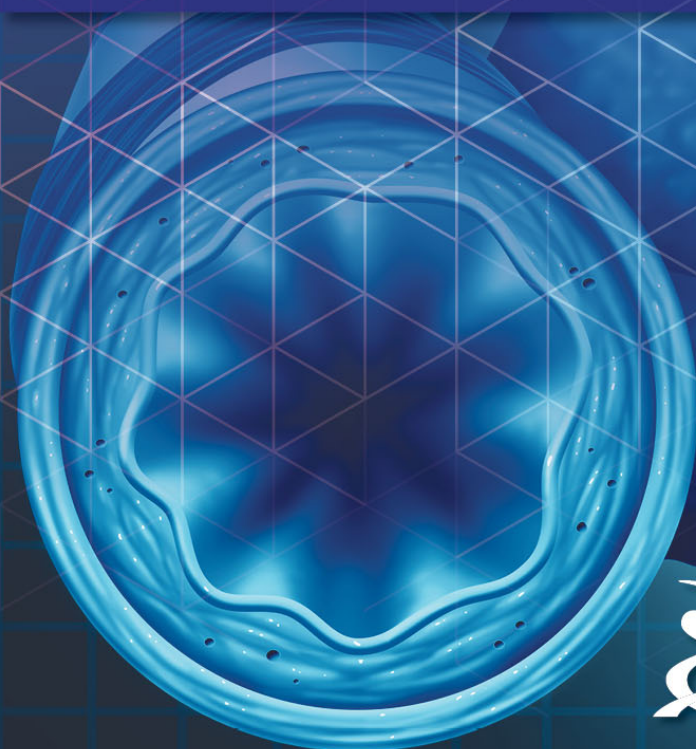




Unplugged:

Addressing Mucus Plugging in Severe Asthma

Outcomes Summary
Final Online Enduring
(Online Data from 6/30/23 – 6/30/24)
Grant ID: 86912705



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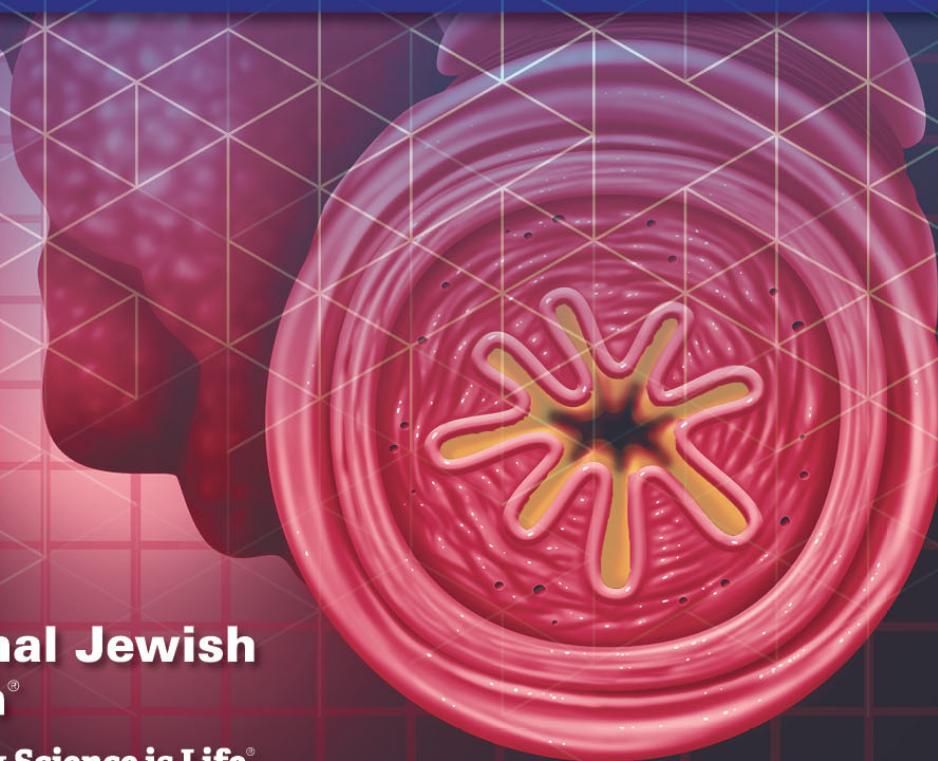




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Executive Summary

Final Outcomes Summary – Online Outcomes



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Program Overview

This 45-minute online activity was designed to engage specialty health care practitioners in allergy/immunology and pulmonology in the topic of mucus plugging and its relationship to the underlying abnormality in severe asthma. In this activity, leading experts in allergy and pulmonology discuss the pathophysiology of mucus plugging in severe asthma, how to identify mucus plugs, and the impacts of current and emerging therapies on mucus plugging. The activity features 3 chapters, a whiteboard animation to illustrate pathophysiology, and case discussions with interactive polling to illustrate evaluation and treatment of mucus plugging in severe asthma.

Learning Objectives

- Define mucus plugging and its relationship to the underlying abnormality in severe asthma.
- Discuss the implications of mucus plugging for treatment selection in severe asthma.
- Assess the efficacy of current and emerging biologic therapies on mucus plugging in clinical studies.

Target Audience & Accreditation

Target Audience: Allergists/Immunologists, Pulmonologists, and NPs and PAs within those specialties

National Jewish Health designates this enduring material for a maximum of 0.75 AMA PRA Category 1 Credit™.

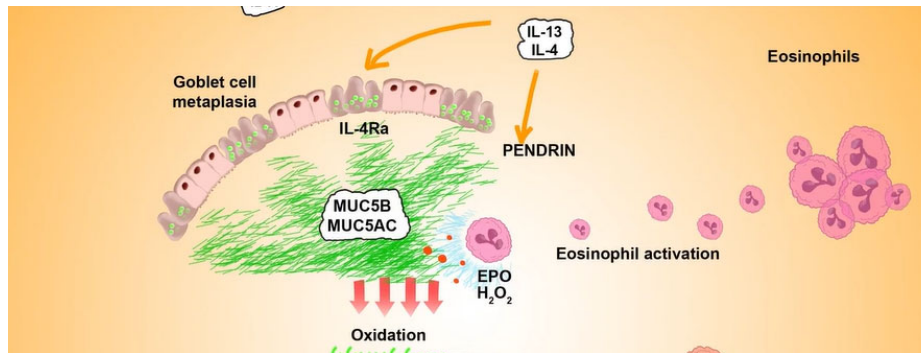
Enduring activity on Healio: June 30, 2023 – June 30, 2024
Link: <https://cme.healio.com/allergy-asthma/20230605/unplugged-addressing-mucus-plugging-in-severe-asthma/overview>



Program Features

Final Outcomes Summary – Online Outcomes

Whiteboard Animation



96%

evaluation respondents reported the animation improved their understanding of the pathophysiology of asthma.

N=462

96%

evaluation respondents reported the patient cases improved their confidence with severe asthma management.

N=463

Patient Case Scenarios with Interactive Polling and Faculty Discussion

Patient Case Scenario #1

Patient: 48-year-old male

- Awakens 4 out of 7 nights at 4 AM with shortness of breath, wheezing, chest tightness for months, daily daytime symptoms
- Symptoms absent with exercise, but sometimes appear very minimally with periodic social smoking & drinking
- 3 prednisone requiring exacerbations over the past year

Current medications:

- Fluticasone/salmeterol 500/50 one bid
- Albuterol PRN

ROS:

- Minimal GERD symptoms
- No sinus complaints
- No daytime sleepiness

Family history:

- No asthma, allergy, emphysema, or CAD

Exam:

- CV: rrr no murmurs, no edema
- Pulm: Rhonchorous breath sounds and wheezing bilaterally





Audience Generation

Final Outcomes Summary – Online Outcomes

Personalized targeting tools across numerous tactics reach HCPs by leveraging demographic data (such as location, profession, specialty) and behavioral data (such as learner participation history, areas of interest).

Medical Education for Health Care Providers
National Jewish Health
Breathing Science is Life.

Online CME Courses

Discover online self-paced continuing medical education from National Jewish Health's Office of Professional Education. Our platform provides accessible and clinically relevant CME tailored for healthcare professionals, including physicians, nurse practitioners, physician assistants, pharmacists, and others. Our diverse formats cater to your unique schedule and preferred learning approach. [View our comprehensive list of programs here](#), or select a program below to begin your learning today!

ADHERENCE: A Key to Successful Treatment of Cystic Fibrosis
Credit Offered: CME/CNE/CPE
Fee: \$0

Unplugged: Addressing Mucus Plugging in Severe Asthma
Credit Offered: CME
Fee: \$0

Emails and
e-newsletters sent to
specialty lists & National
Jewish Health (NJH) database



Promo video clip for email
and social media marketing

National Jewish Health Medical Education
@NJHealthMedEd

Free #CME just released - Unplugged: Addressing #Mucus #Plugging in Severe #Asthma. 0.75 AMA PRA Category 1 Credit™

bit.ly/MucusPlugging

#Allergy #Immunology #Pulmonology #PulmTwitter
#PhysicianAssistant #Nursing #NurseTwitter #FOAM #FOAMed #PCCM
#MedTwitter #MedEd

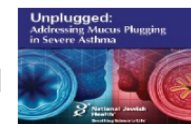
**Unplugged:
Addressing Mucus Plugging in Severe Asthma**

1:58 PM · Jul 7, 2023 · 9 Views

Social media
ads and posts



Dedicated landing page
on NJH website



Unplugged: Addressing Mucus Plugging in Severe Asthma
CME Expires 06/30/2024

Promotion at live
conferences, including CHEST,
NJH Pulmonary and Allergy
Update, and more



Online Enduring Program

Final Outcomes Summary – Online Outcomes

<https://cme.healio.com/allergy-asthma/20230605/unplugged-addressing-mucus-plugging-in-severe-asthma/overview>



NEWS | CME | CLINICAL GUIDANCE

Healio > CME > Allergy/Asthma

Overview

- Pretest
- Activity
- Posttest
- Evaluation
- Claim Credit
- Certificate

Unplugged: Addressing Mucus Plugging in Severe Asthma

This activity is supported by an independent educational grant from AstraZeneca Pharmaceuticals.

0.75
CME

45
MINS

\$0
FEE

SAVE
🔖

+ Add topic to email alerts

START ACTIVITY



Overview:

Activity Release Date: June 30, 2023

Activity Expiration Date: June 30, 2024

Estimated time to complete Activity: 45 Min

Provider Statement

This activity is provided by National Jewish Health.



Healio

June 30, 2023 –
June 30, 2024

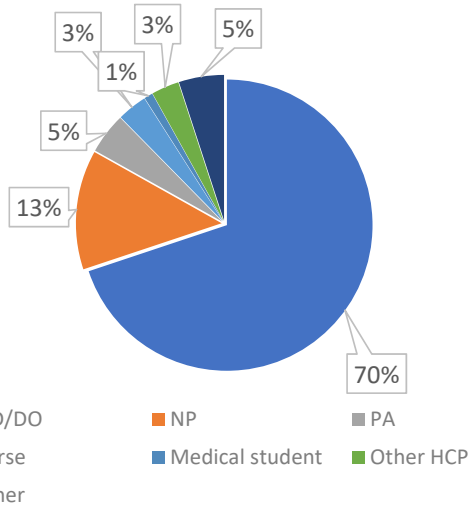




Educational Impact Summary

Final Outcomes Summary – Online Outcomes

Participation



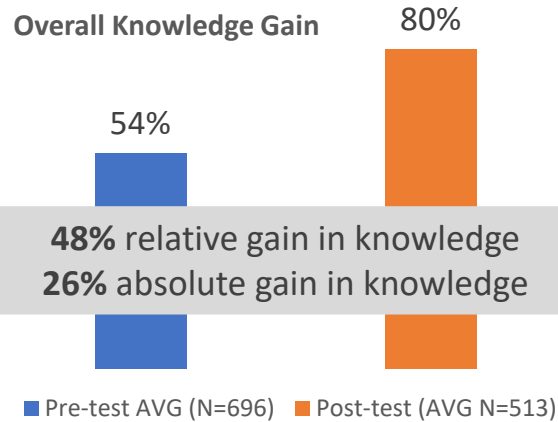
MD/DO=865
NP=164
PA=56
Nurses=41
Medical student=12
Other HCP=38
Other =62
Total Learners = 1238

	Guarantee	Actual
Learners	1200	1238
Test-takers	375	696

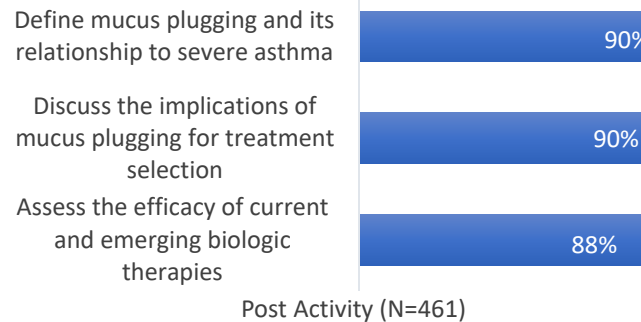
**Potential Impact To
143,280
Patient Visits This Year**

*"Great discussion
on mechanisms of
action for the
various new
biologics."*
- Online Learner

Learning Gain Across Objectives



Confidence Across Objectives



Evaluation

Met their educational needs
(97%)



Reinforced or improved
current skills **(97%)**



Improved ability to treat
patients **(96%)**

N=464

97%

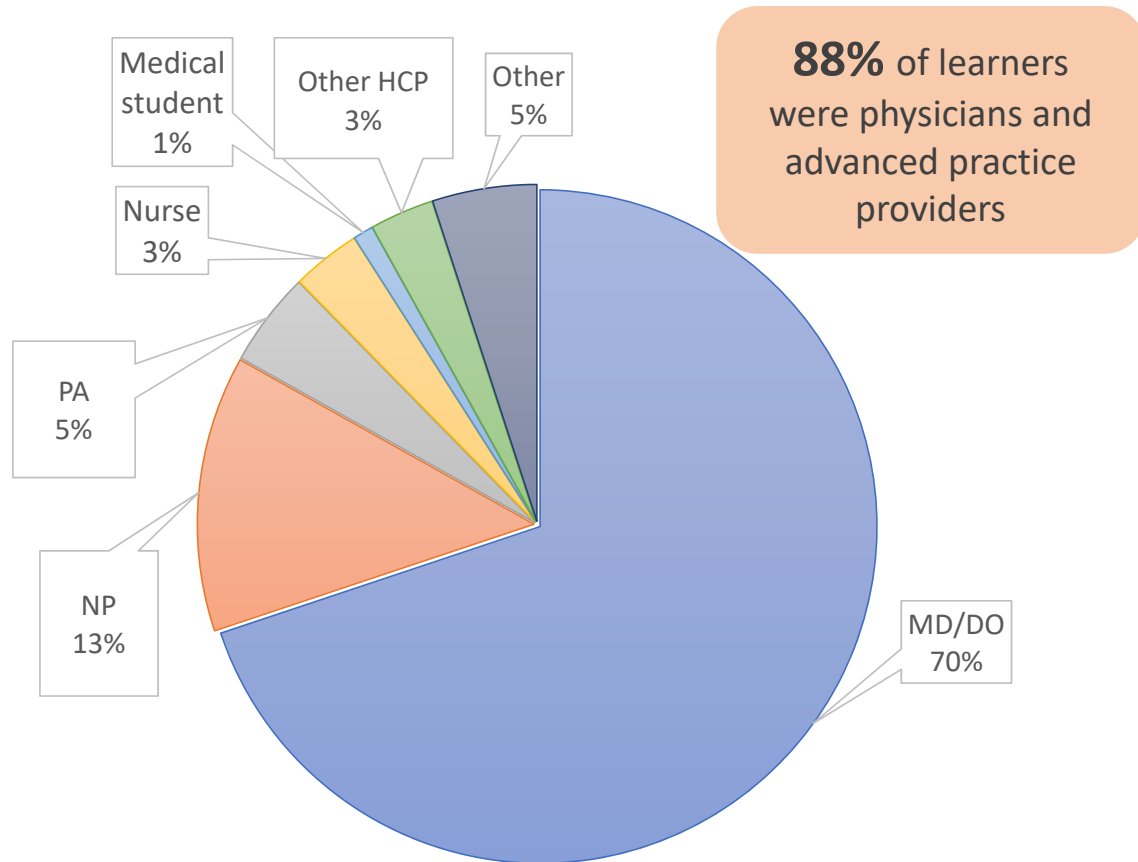
N=459

Evaluation
respondents
intend to make
changes to practice
as a result of the
activity



Level (1) Outcomes: Participation (Degree)

Final Outcomes Summary – Online Outcomes

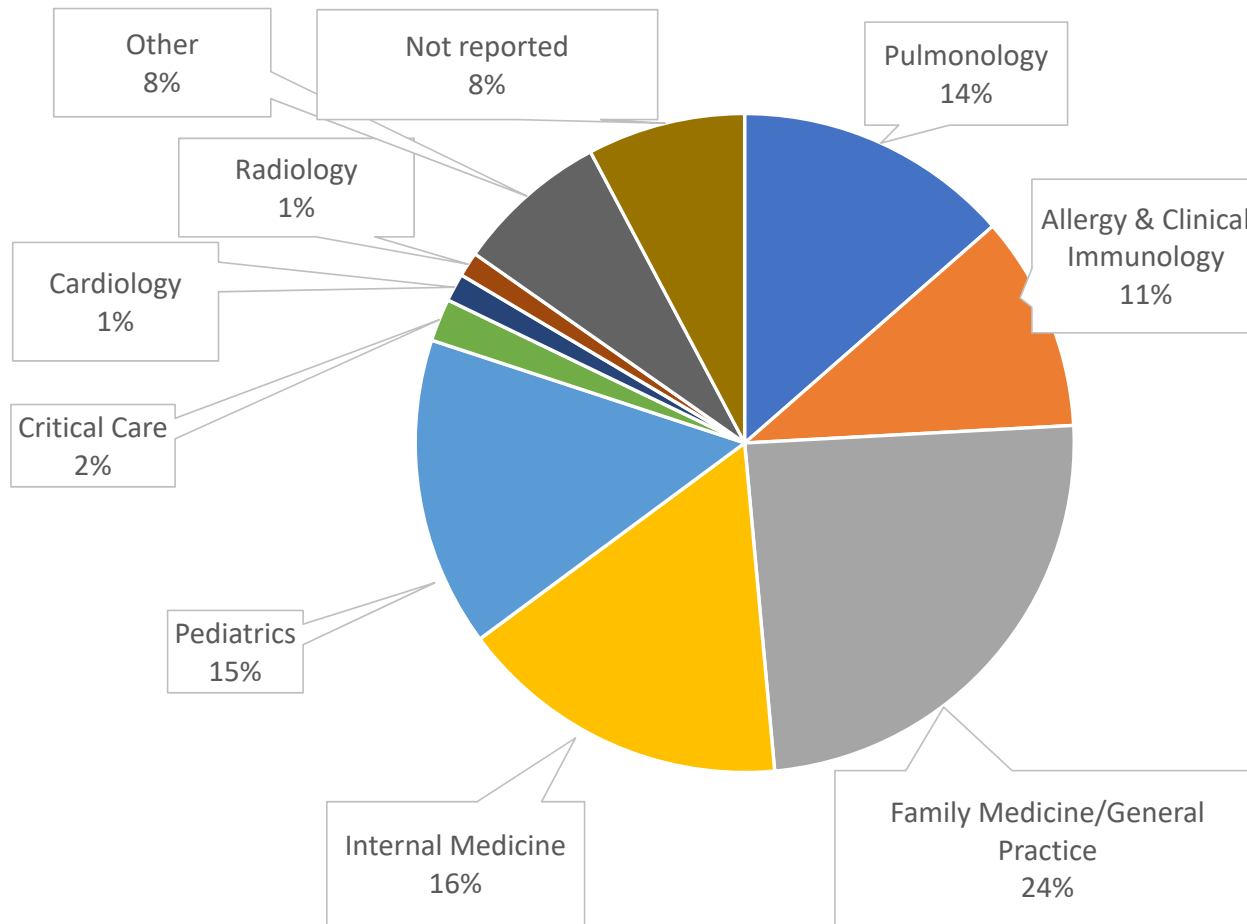


Degree	Total
MD/DO	865
NP	164
PA	56
Nurse	41
Medical student	12
Other health care provider (HCP)	38
Other (Consumer, Administrator, Industry, etc)	62
Total Learners	1238



Level (1) Outcomes: Participation (Specialty)

Final Outcomes Summary – Online Outcomes



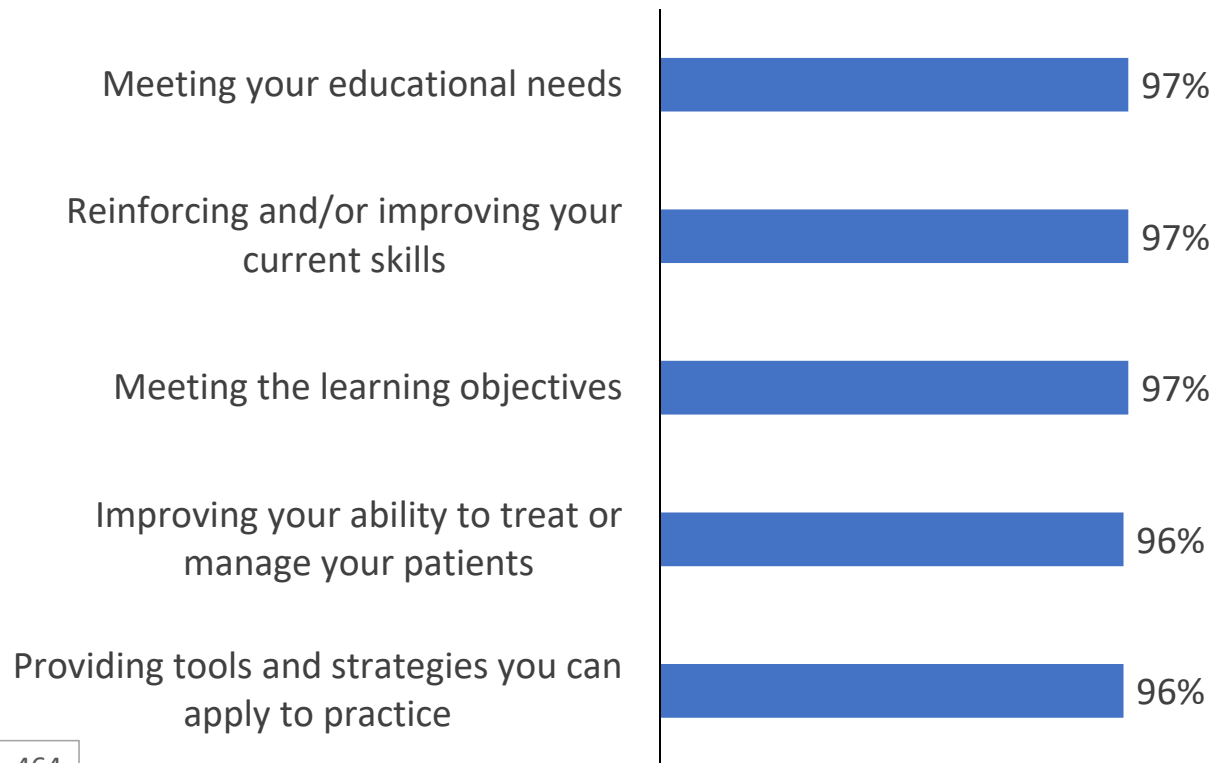
Specialty	Total
Pulmonology	168
Allergy & Clinical Immunology	131
Family Medicine/General Practice	302
Internal Medicine	202
Pediatrics	188
Critical Care	26
Cardiology	17
Radiology	15
Other (Surgery, emergency medicine, infectious disease, etc)	93
Specialty not reported	96
Total Learners	1238



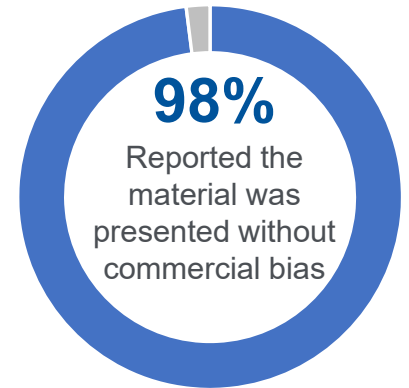
Level (2) Outcomes: Satisfaction

Final Outcomes Summary – Online Outcomes

Evaluation respondents rated the activity
“Excellent” to “Good” at:



N=464



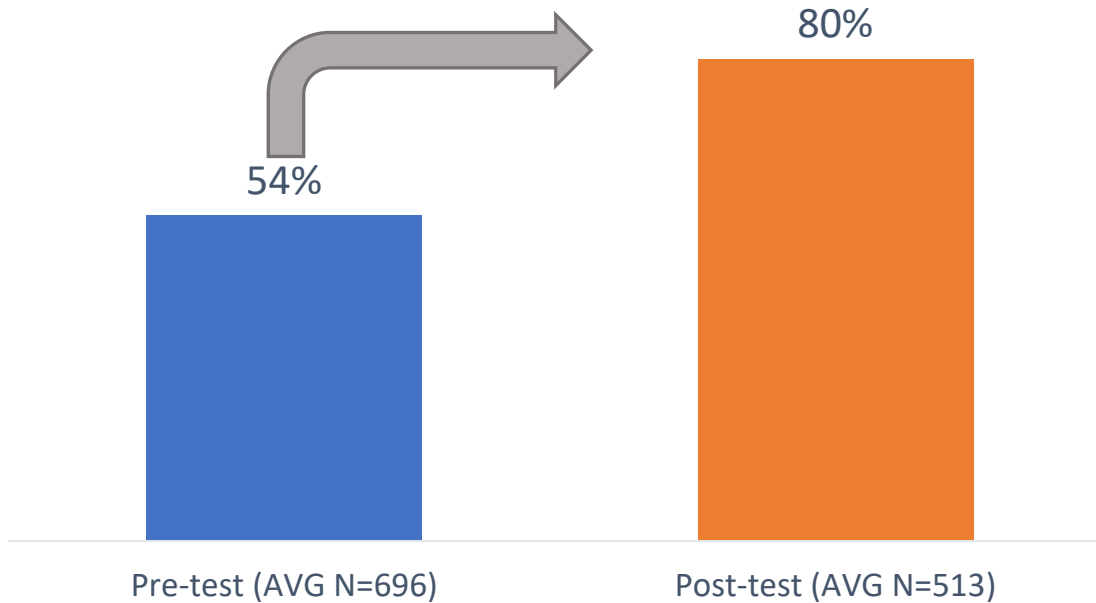
N=452



Level (3&4) Outcomes: Knowledge and Competence

Final Outcomes Summary – Online Outcomes

Overall Knowledge Gain across Learning Objectives



48% Overall Relative Knowledge Gain



26% Overall Absolute Knowledge Gain

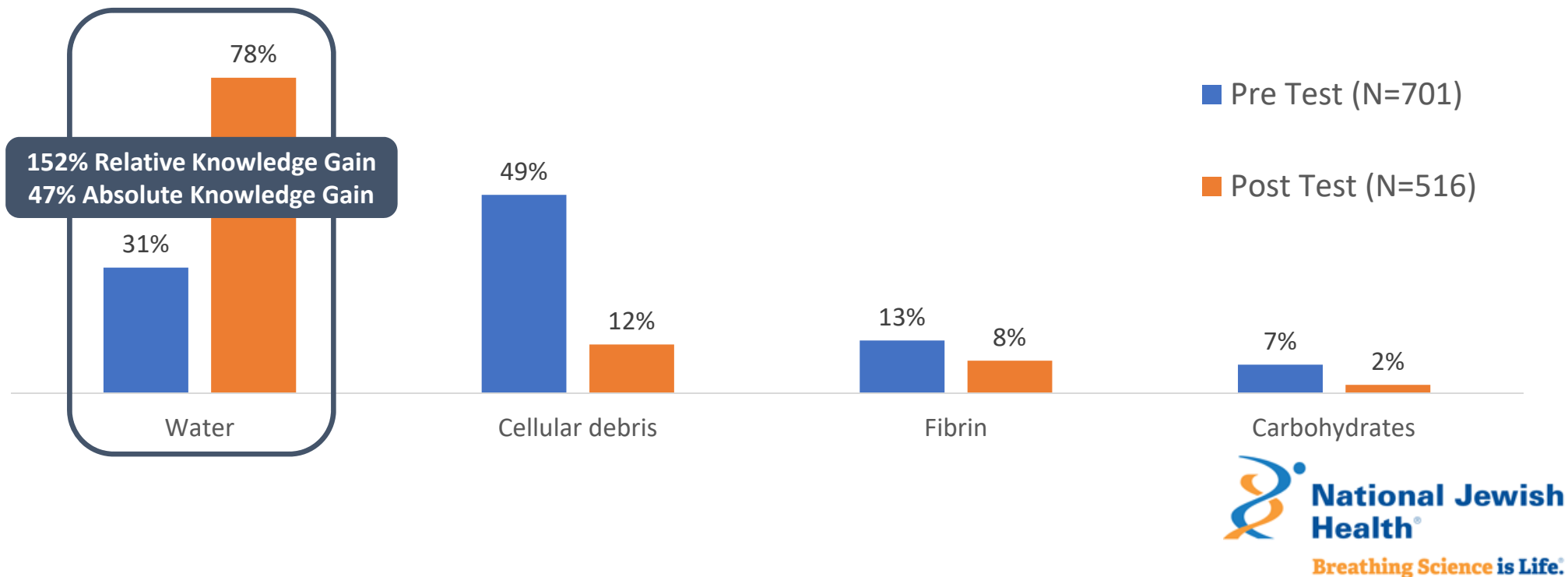


Level (3&4) Outcomes: Knowledge and Competence

Final Outcomes Summary – Online Outcomes

Learning Objective: Define mucus plugging and its relationship to the underlying abnormality in severe asthma.

Question 1: Airway mucus primarily consists of:





Level (3&4) Outcomes: Knowledge and Competence

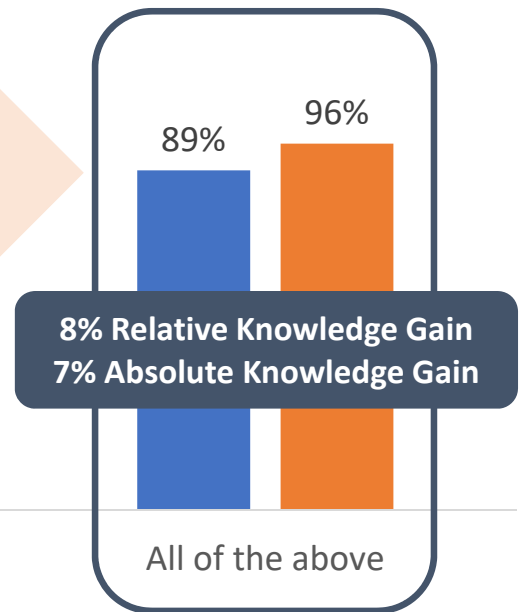
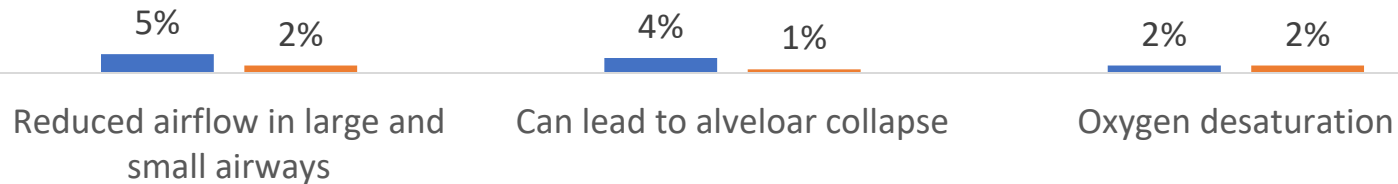
Final Outcomes Summary – Online Outcomes

Learning Objective: Discuss the implications of mucus plugging for treatment selection in severe asthma.

Question 2: Which of the following is a consequence of airway mucus in asthma?

■ Pre-test (N=698)
■ Post-test (N=513)

Test-takers demonstrated high baseline knowledge about the physiologic consequences of airway mucus in patients with asthma.





Level (3&4) Outcomes: Knowledge and Competence

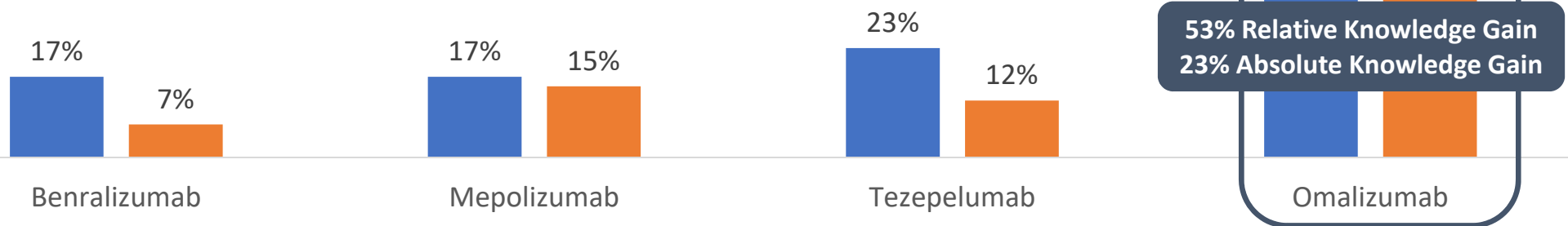
Final Outcomes Summary – Online Outcomes

Learning Objective: Assess the efficacy of current and emerging biologic therapies on mucus plugging in clinical studies.

Question 3: A 25-year-old patient with severe asthma has recurrent oral steroid-requiring exacerbations and is on maximal inhaled corticosteroids with long acting bronchodilator and a LAMA. The patient has increased mucus plugging noted on chest CT imaging and increased circulating eosinophils with an IgE of 20. Which of the following biologics would NOT be an appropriate option for this patient?

■ Pre-test (N=690)
■ Post-test (N=510)

Note: This demonstrates a possible gap related to assessing the efficacy of current and emerging biologics for managing mucus plugging in severe asthma patients.

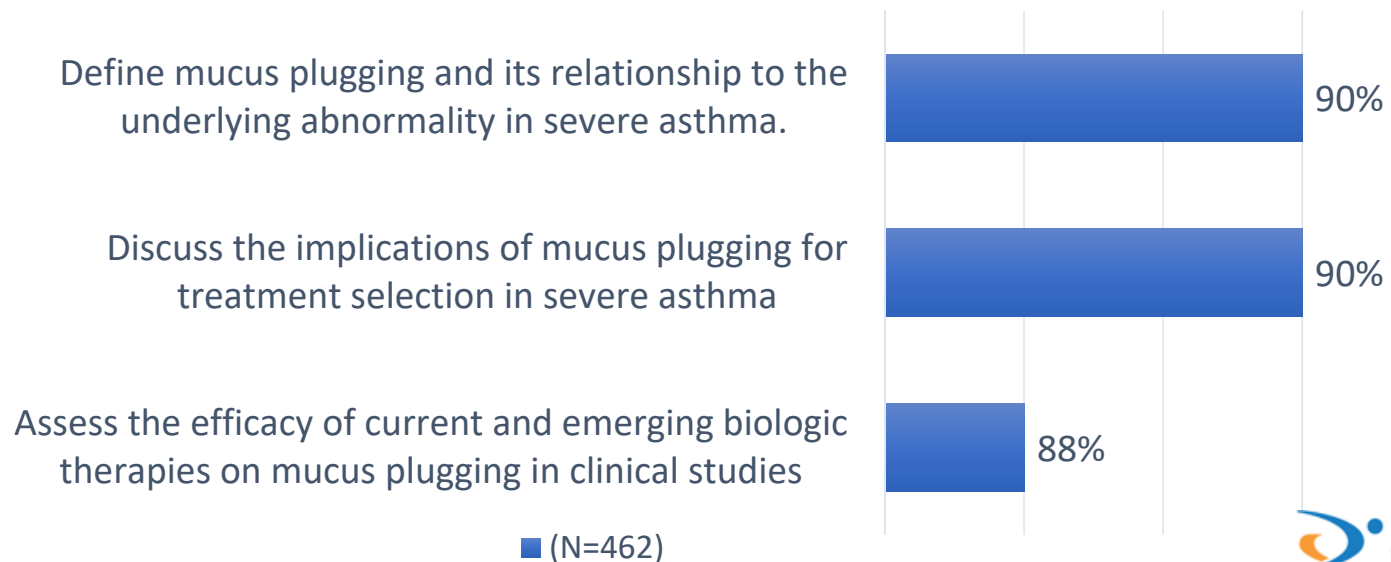




Level (4) Outcomes: Competence

Final Outcomes Summary – Online Outcomes

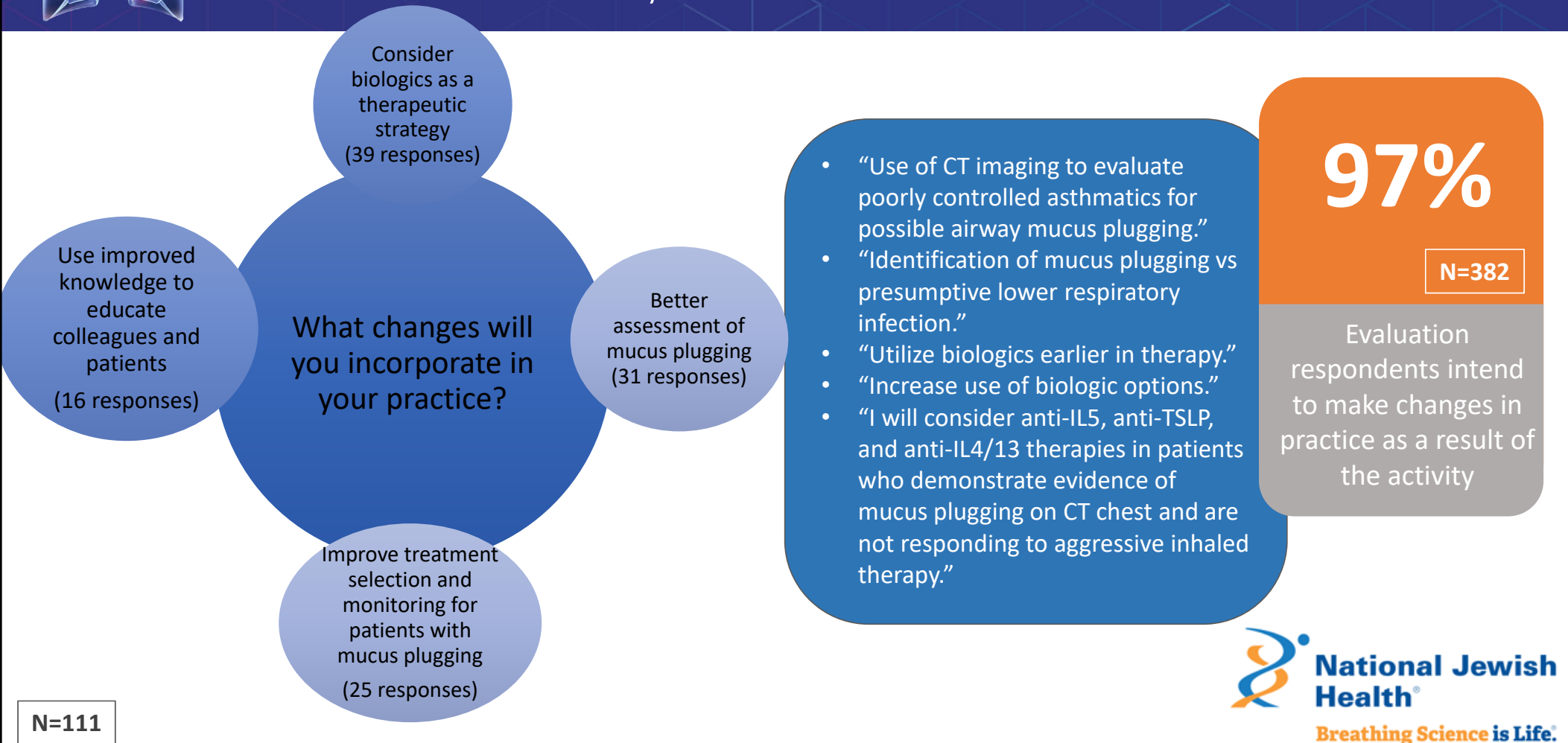
**Evaluation respondents reported their confidence as it relates to the learning objectives after the activity
(Very confident – confident)**





Level (4) Outcomes: Competence

Final Outcomes Summary – Online Outcomes





Evaluation Survey Results

Final Outcomes Summary – Online Outcomes

Key Takeaways

- Asthma and mucolytic therapies
- Asthma is a chronic condition
- Biologics for mucus plugging
- Different biologics to target eosinophilic inflammation
- Efficacy of biologics in treatment of asthma or conditions with increased mucus production
- Importance of mucus plugging treatment in asthma management
- Knowledge about mucus plugging and its effects on breathing and airway management
- Look for mucus plugging in patients not responding to standard therapy
- Novel therapies
- Pathophysiology of asthma and mucus secretion
- There are new biologics to consider for uncontrolled asthma patients on LAMA/LABA
- Phenotyping always
- Understanding biologics

“Very informative and evidence-based.”
“Very well-done educational activity. I enjoyed this topic.”
“Thanks. Very well done. A good balance of the state of the art with basic clinical relevance.”
- Online Learner

N=137



Evaluation Survey Results

Final Outcomes Summary – Online Outcomes

What barriers will the education provided help to address?

- Access to care
- Availability of good health insurance
- Availability of new therapies for mucus plugging and asthma
- Better communication of illness
- Awareness of superior therapeutic options
- Compliance
- Coping with severe plugging
- Diagnosis
- Enhance patient understanding of their disease to optimize management
- If multiple med choices, consider cost
- Patient awareness and compliance
- Pathogenesis
- Provide understanding and benefits of treatment
- Treatment adherence
- Understanding of pathways that are involved
- Work with experts to understand mucus plugging as in Cystic Fibrosis

78%

N=457

Evaluation respondents indicated the activity addressed strategies for overcoming barriers to optimal patient care



Accreditation Information

Final Outcomes Summary – Online Outcomes

National Jewish Health is accredited with Commendation by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The NJH Office of Professional Education produced and accredited this program and adhered to the updated ACCME guidelines.

National Jewish Health designates this enduring material for a maximum of 0.75 *AMA PRA Category 1 Credit™*.

