

Key Considerations in CHRONIC COUGH for the Clinician



Final Outcomes Summary

Grant ID: MED-RES-41462

Activity Dates: 3/31/25 - 3/31/26

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Executive Summary



Program Faculty

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National Jewish Health

Program Launch Date: March 31, 2025

Program End Date: March 31, 2026

Activity Link:

https://www.epocrates.com/cme/program/EP_TKG8MVC3

Program Overview

The online enduring program consisted of an interactive infographic that walks pulmonologists, allergists, otolaryngologists, and other specialists through information on chronic cough in a self-paced, accessible format. The content focuses on the pathophysiology of chronic cough and improving the diagnosis and management of refractory chronic cough. Other program components include 2D/3D animations, polling questions, and patient perspective video clips.

Learning Objectives

1. Discuss the prevalence, characteristics, and burden associated with refractory chronic cough.
2. Apply guideline-based recommendations to improve the diagnosis and optimize the treatment of refractory chronic cough.
3. Describe the pathophysiology of refractory chronic cough and the potential pathophysiologic therapeutic targets for management.

Target Audience & Accreditation

Pulmonologists, allergists, otolaryngologists and other specialists who see patients with chronic cough as well as advanced practice providers who may treat patients with chronic cough. Additionally, because primary care physicians may play a role in treating patients with chronic cough, we have included them as a secondary audience.

National Jewish Health designates this enduring material for 0.5 *AMA PRA Category 1 Credit™* and 0.5 ABIM MOC Point

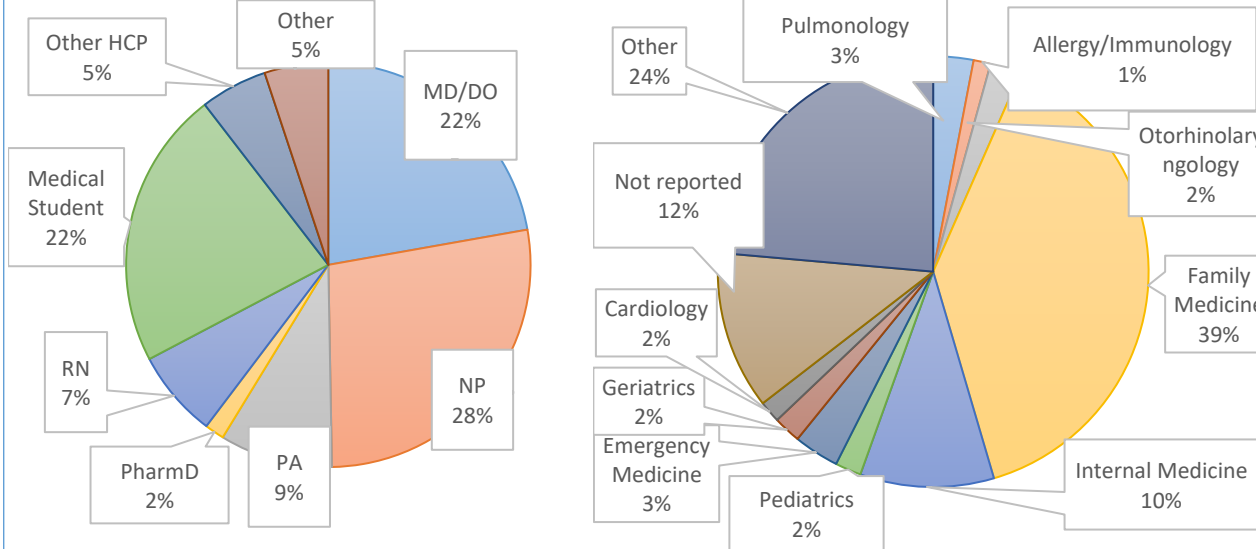
Educational Outcomes Summary

Final Outcomes Summary

HCP Learners

4,610

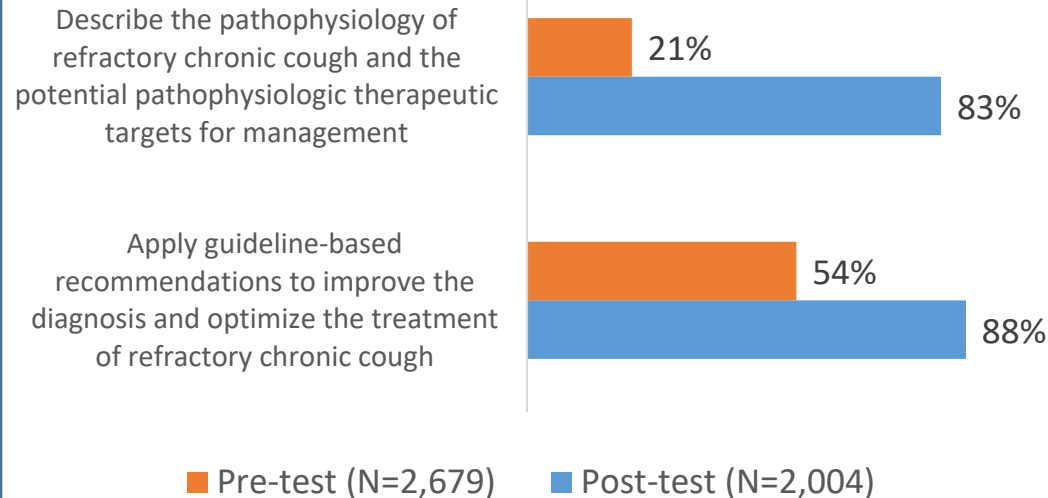
HCP Learner Breakdown



Insights Gained for Future Education

- With emerging therapies on the horizon, evaluation respondents stated needing more education on how to use these in practice
- Others stated they would like more non-pharmacologic techniques for their patients on how to reduce cough severity
- Many evaluation respondents stated that they like the focused information and the activity interface

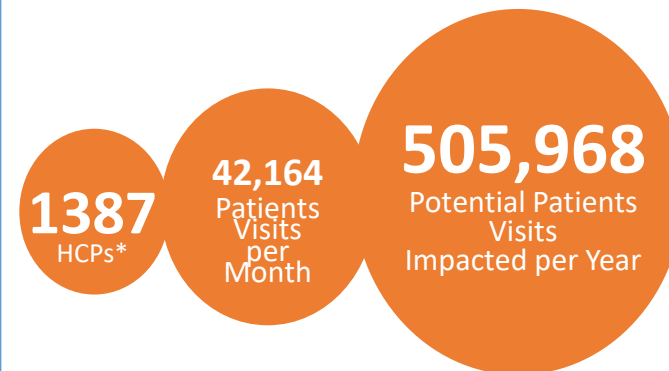
Top Educational Gaps



91% of evaluation respondents stated the activity met the learning objectives (N=1,838)

97% stated they intend to make changes to their practice (N=1,682)

Potential Patient Impact of Supported Education



*The 1387 HCPs are evaluation respondents who stated they are involved in the treatment of patients with chronic cough.

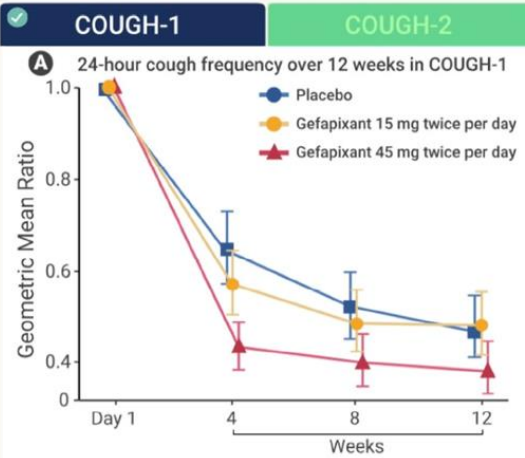
Program Features

Interactive Infographic

Potential New Treatment: Gefapixant

These are two phase 3 randomized control trials looking at gefapixant

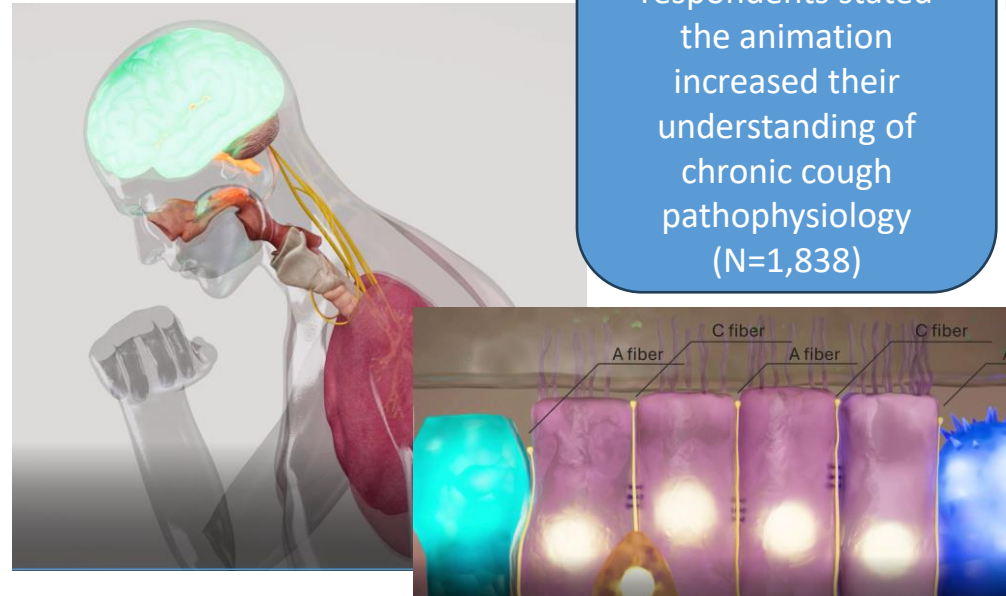
TAP THE TABS TO VIEW BOTH COUGHS



 Clinical trials: reduced cough sensitivity, frequency and severity compared to placebo



Animation Clip



90% of evaluation respondents stated the animation increased their understanding of chronic cough pathophysiology (N=1,838)

Patient Perspective Video



Polling

Question 1

Which of the following conditions is considered one of the most frequent causes of refractory chronic cough?

SELECT AN ANSWER AND TAP SUBMIT

A Pneumonia

B Allergies

C Gastroesophageal reflux disease

D Viral infection

SUBMIT

2,723 clicks on the Resources Page of the Chronic Cough Swiper!



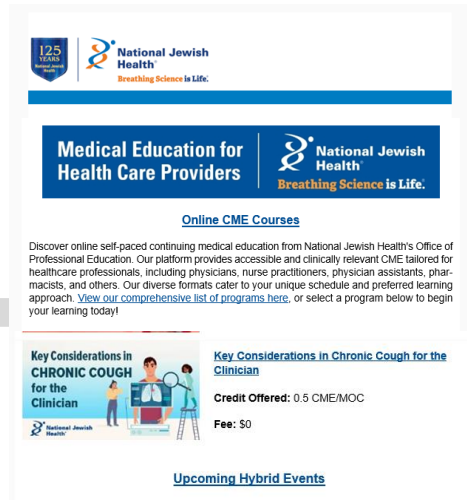
Audience Generation

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).

Emails and e-newsletters
to NJH and epocrates
databases



Distribution Platform
partner



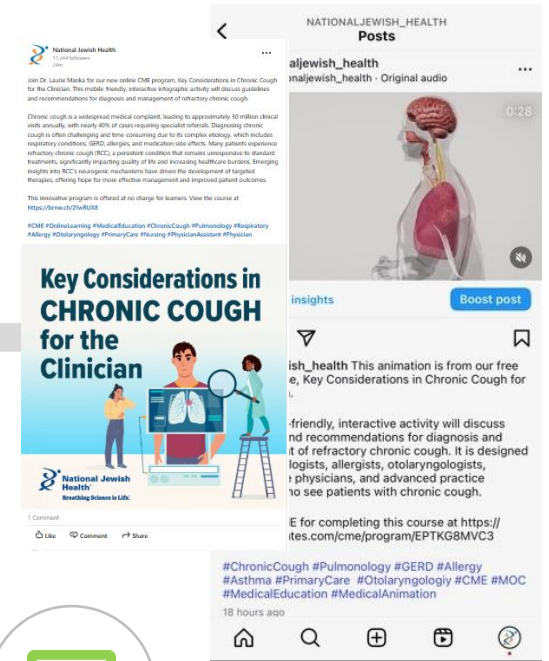
Chronic Cough



Key Considerations in Chronic Cough for the Clinician
CME Expires 3/31/2026

View Course

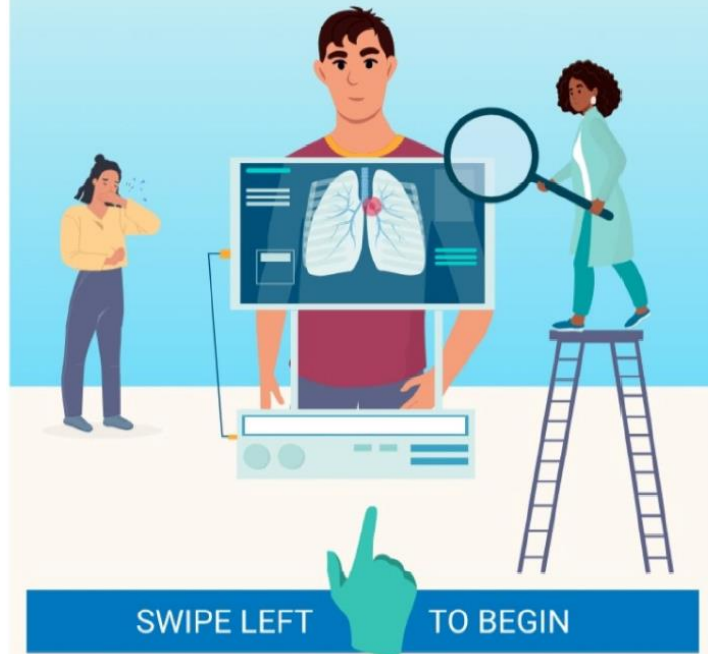
Social media
ads and posts



NJH Customized
Landing Page

Key Considerations in Chronic Cough for the Clinician

Laurie A. Manka, MD



SWIPE LEFT TO BEGIN



This educational activity is provided by National Jewish Health and supported by an independent medical education grant from GSK.

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Activity Link:

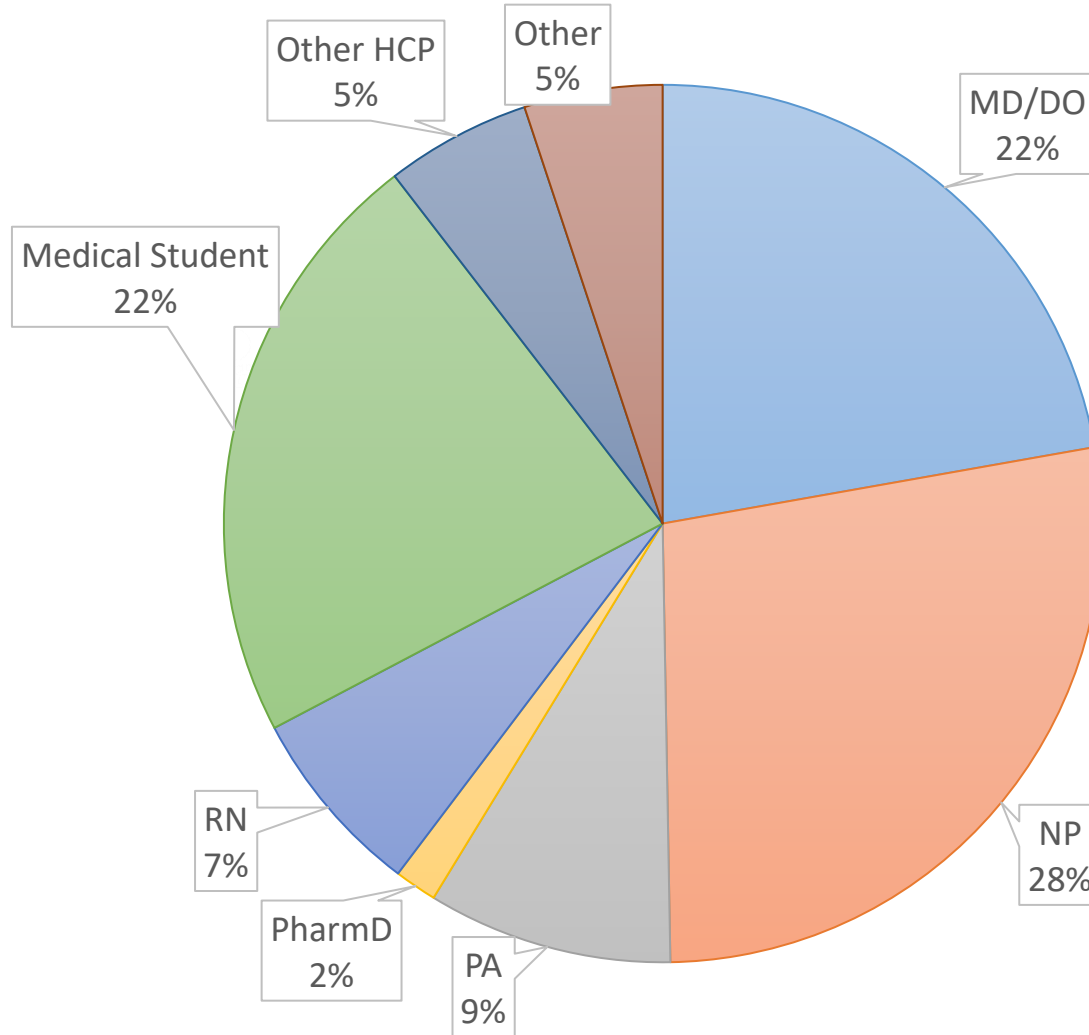
<https://www.epocrates.com/cme/program/EPTKG8MVC3>

Launch Date: 3/31/2025

End Date: 3/31/2026

Level (1) Outcomes: Participation

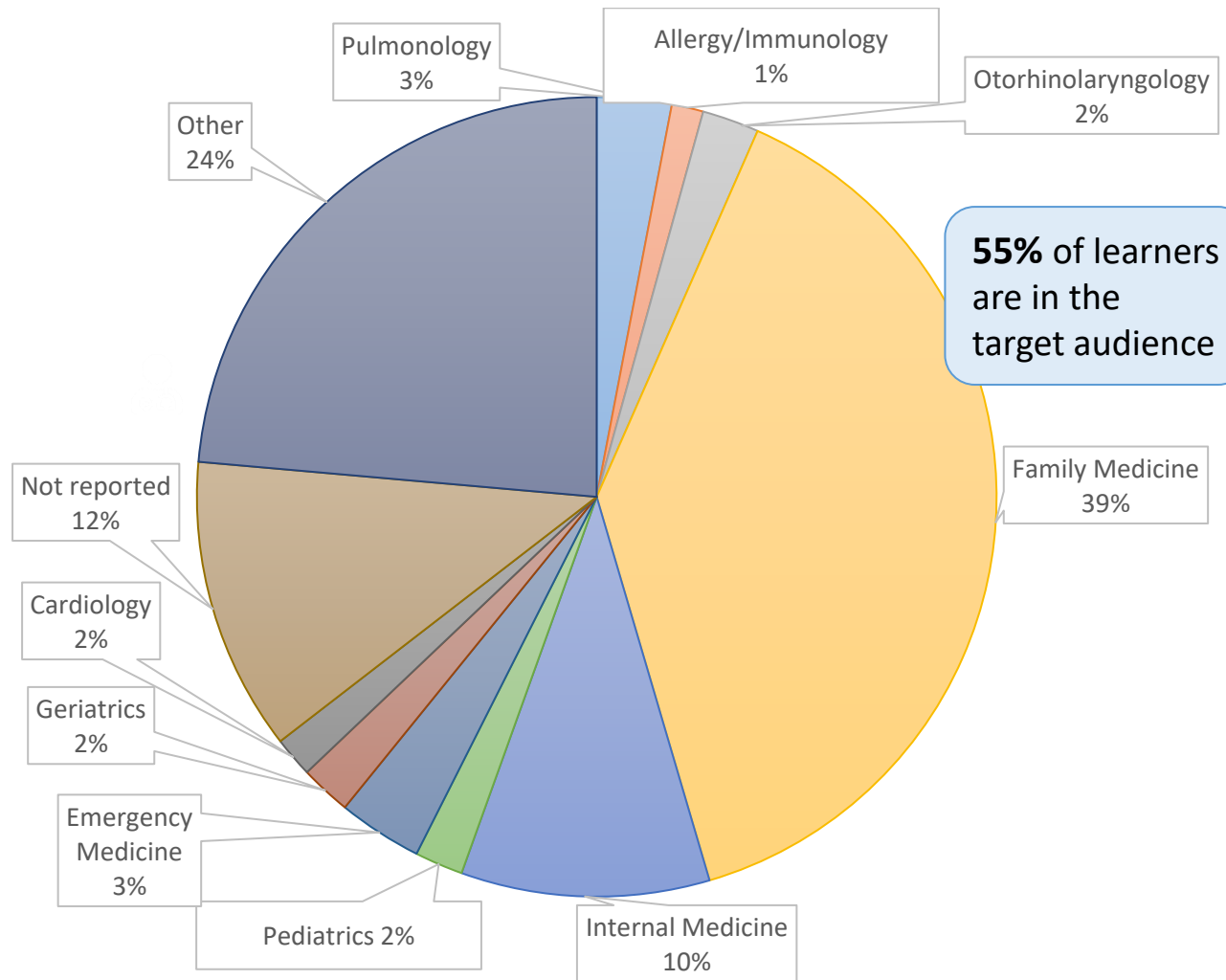
Final Outcomes Summary



Degree	# of Learners
MD/DO	1,024
NP	1,268
PA	416
PharmD	72
RN	322
Medical Student	1,026
Other HCP	247
Other	235
Total	4,610

Level (1) Outcomes: Specialty

Final Outcomes Summary

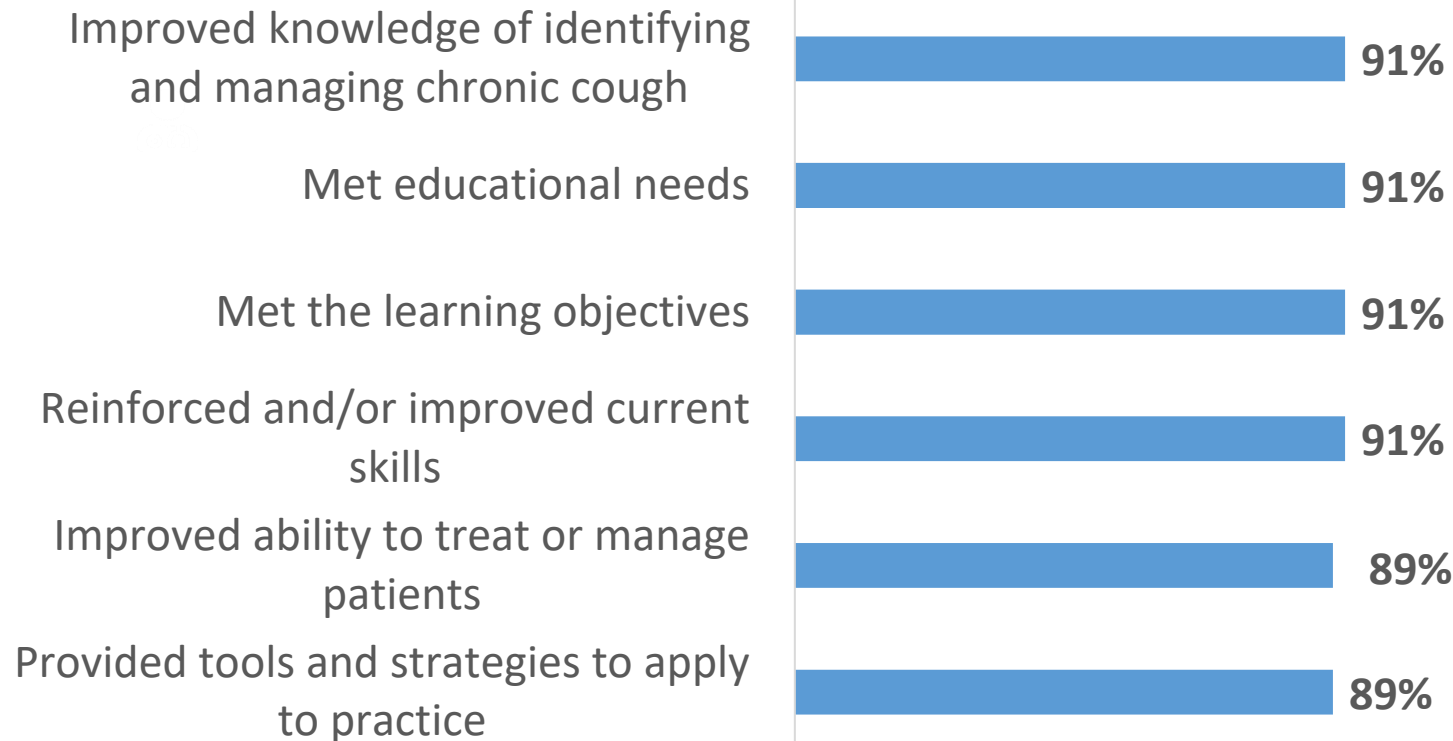


Specialty	# of Learners
Pulmonology	139
Allergy/Immunology	59
Otorhinolaryngology	106
Family Medicine	1,791
Internal Medicine	463
Pediatrics	90
Emergency Medicine	157
Geriatrics	95
Cardiology	75
Not reported	547
Other (surgery, dermatology, infectious disease, neurology)	1,088
Total	4,610

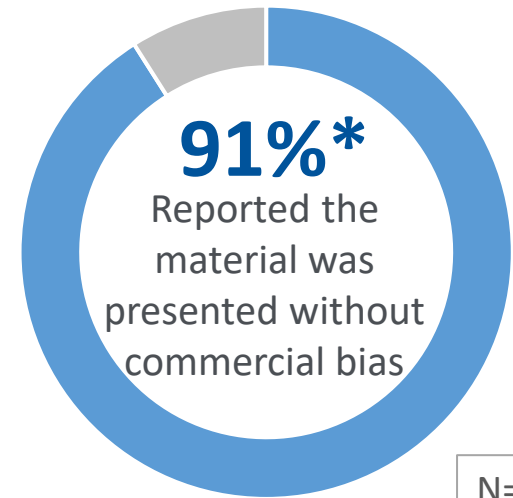
Level (2) Outcomes: Satisfaction

Final Outcomes Summary

Evaluation Respondents reported they “Strongly Agree” or “Agree” that the activity:



N=1,838



N=1,838

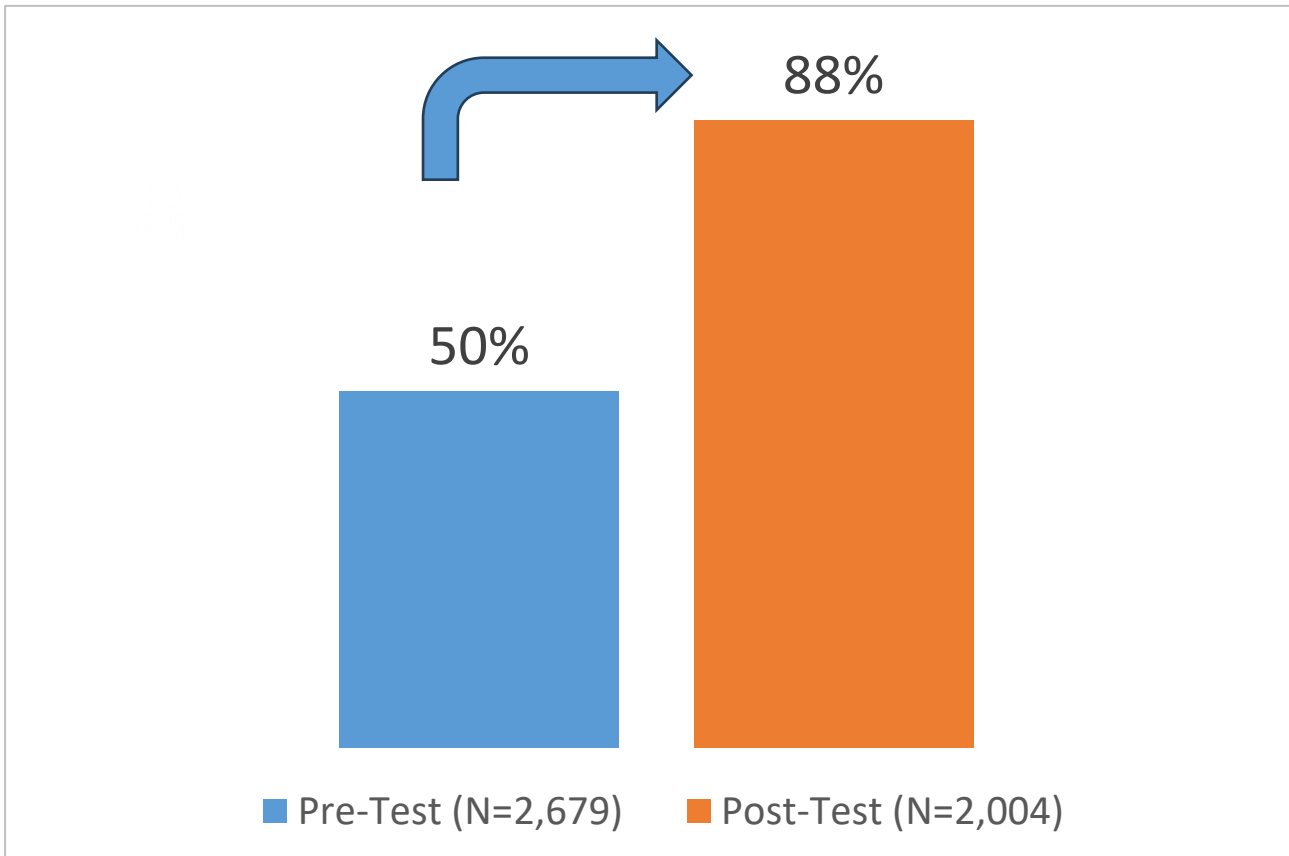


**An additional 6% reported they were “neutral”*

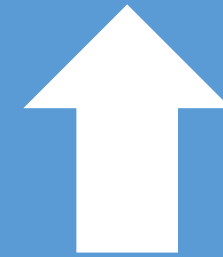
Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary

Overall Knowledge Gain Across Learning Objectives



76% Overall Relative Knowledge Gain



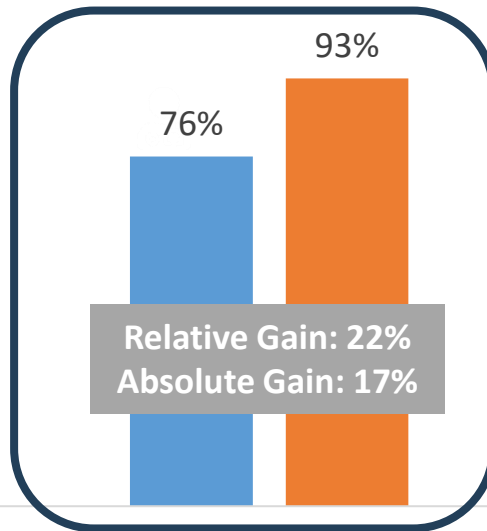
38% Overall Absolute Knowledge Gain

Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary

Learning Objective: *Discuss the prevalence, characteristics, and burden associated with refractory chronic cough.*

Question 1: Which statement best reflects current understanding of the epidemiology, pathophysiology, and burden of refractory chronic cough (RCC)?



RCC represents a significant health care burden in the adult population, often persisting despite optimal treatment of known underlying conditions, and can be associated with central sensitization of the cough reflex.

RCC is primarily caused by unrecognized infections, and its prevalence is highest in immunocompromised populations.

The impact of RCC is limited to physical symptoms, with little to no effect on psychological health, social interactions, or economic burden.

RCC is commonly misdiagnosed as asthma or gastroesophageal reflux disease (GERD), but unlike these conditions, it rarely requires specialized evaluation or targeted therapy.

■ Pre-Test (N=2,679)

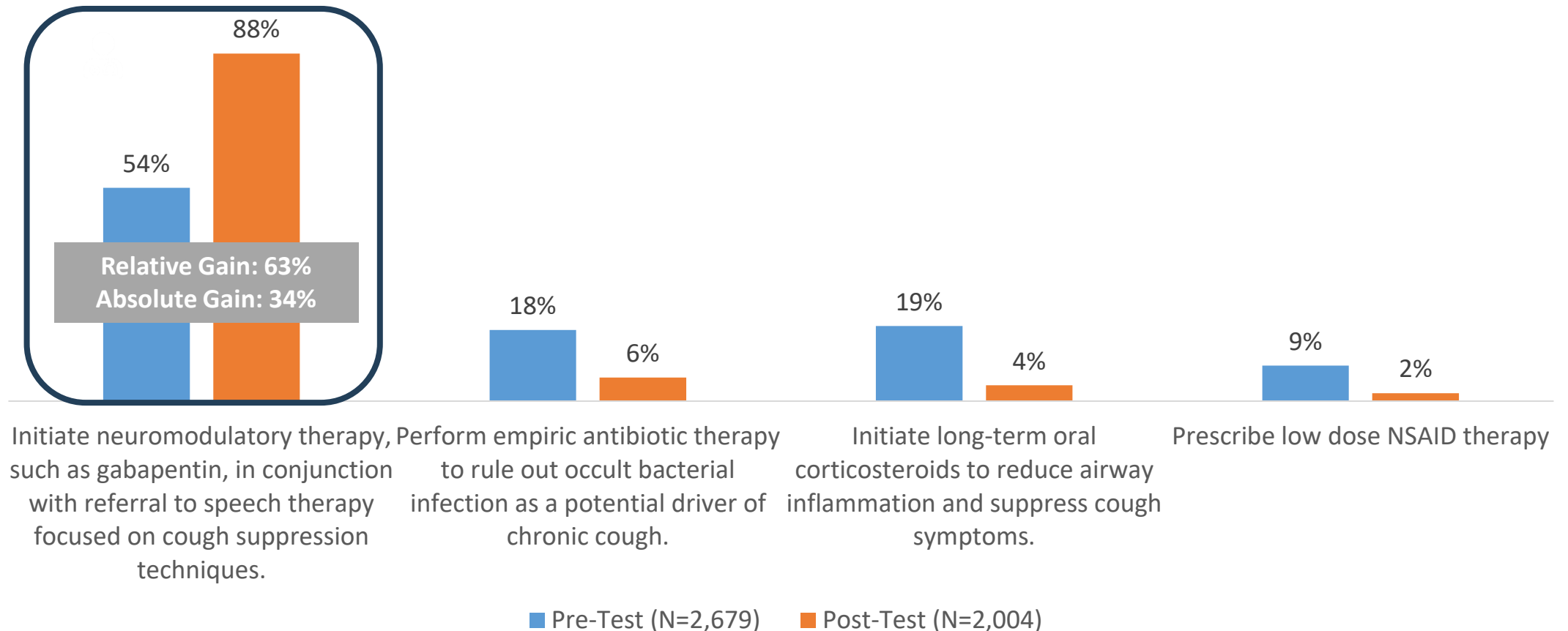
■ Post-Test (N=2,004)

Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary

Learning Objective: *Apply guideline-based recommendations to improve the diagnosis and optimize the treatment of refractory chronic cough.*

Question 2: According to current clinical guidelines, which of the following is the most appropriate next step in the management of a patient with suspected refractory chronic cough (RCC) after common underlying causes have been treated or excluded?

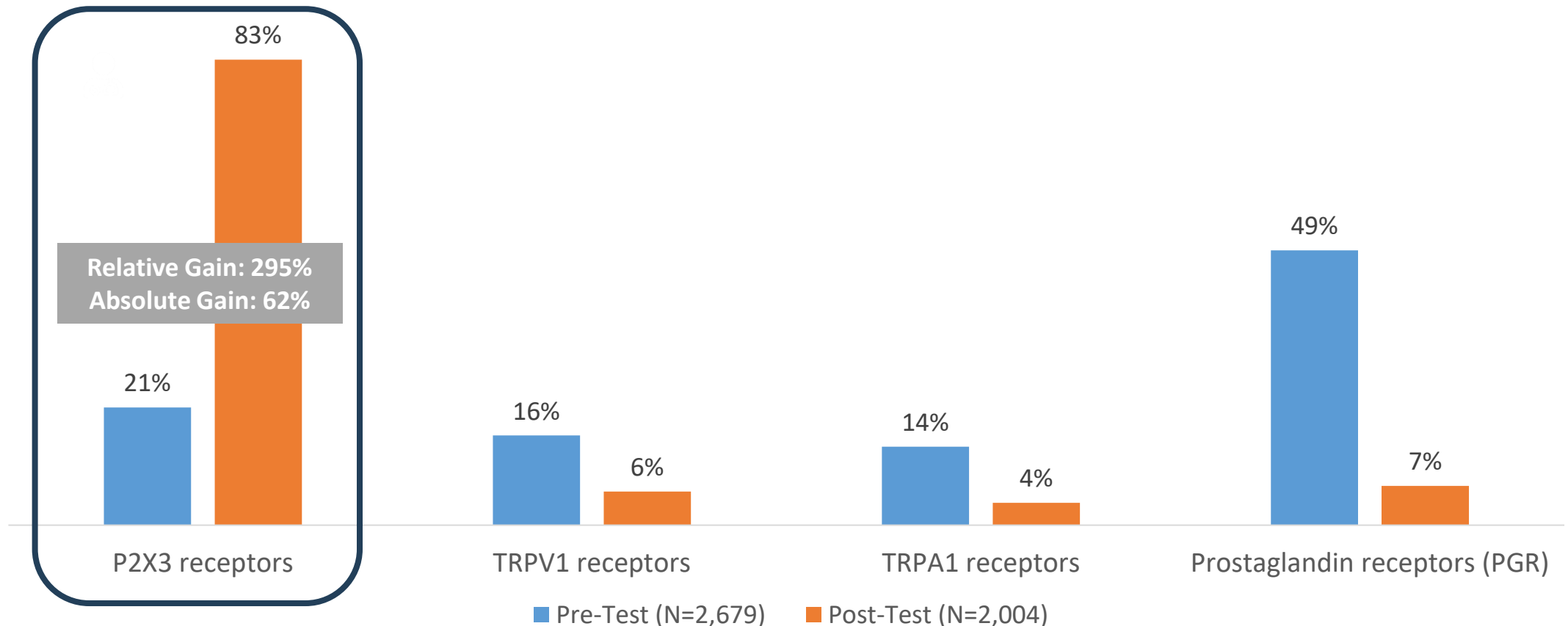


Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary

Learning Objective: *Describe the pathophysiology of refractory chronic cough and the potential pathophysiologic therapeutic targets for management.*

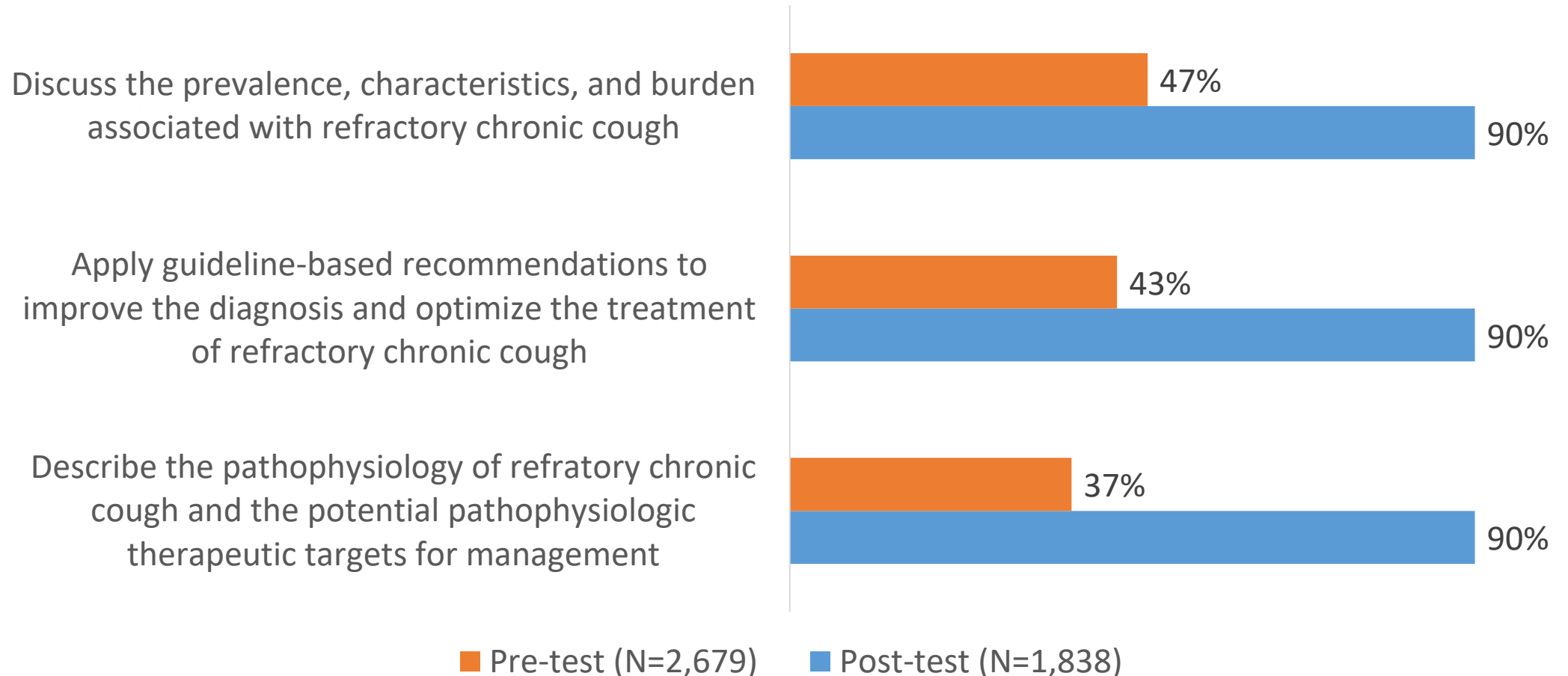
Question 3: Current research on the treatment of refractory chronic cough (RCC) is primarily focused on targeting which of the following mechanisms involved in cough hypersensitivity?



Level (4) Outcomes: Competence

Final Outcomes Summary

**Evaluation respondents reported their confidence as it relates to the learning objectives before and after the activity
("Very Confident" to "Somewhat Confident")**



Level (4) Outcomes: Competence

Final Outcomes Summary

What changes will you incorporate in practice as a result of what you've learned in the activity?

97%

N=1,682

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

- Increased screening for cough
- Referrals to speech therapy
- Earlier use of treatments aimed at cough hypersensitivity
- Recognize multiple causes of chronic cough
- Better awareness of the complexity of etiology of chronic cough and need for educated follow-up
- Consider use of neuromodulators
- Educate patients to cough with pursed lips and not to use a straw
- Add gabapentin
- Improved communication with patients
- Increased awareness of newer treatment options
- Referral to pulmonology
- Increased attention to symptoms of chronic cough
- HRCT with dynamic imaging
- Additional testing to identify underlying factors
- Sleep study and speech therapy to all chronic cough patients
- Consider multiple diagnoses for the chronic cough and guidelines for treatment

“Loved this CME activity and would love to see more like it!” – Online
Enduring Learner



Key Takeaways

- Etiologies of cough and treatment
- New treatment options
- Referral to speech therapy
- Consider all possible causes of chronic cough
- There are many extra modalities to help treat chronic coughs that most practitioners may not be aware of
- Treat underlying causes of chronic cough first
- Consider other diagnoses
- More in-depth workup for chronic cough
- Differential diagnosis of chronic cough
- Teaching patients coughing techniques
- Best practices of evaluation of chronic cough
- New strategies for diagnosis and treatment
- Consideration for additional treatment measures
- Patient education



Future Topics

- Comparison of pharmaceutical options for cough
- COPD
- Cough suppressive techniques
- Dry cough
- Easier ways to evaluate in primary care
- Effect of Tessalon pearls
- Eosinophilic Esophagitis
- GERD
- Immunomodulators
- Interpretation of imaging and pulmonary tests
- Interstitial Lung Disease
- Non-pharmacologic tools for cough management
- Post-COVID cough
- Rare infectious causes
- Respiratory health
- Type of speech therapy recommended

“All this information was new to me. I learned a lot and happy I chose this program.” – Online Enduring Learner

Program Impact Summary — Key Highlights

Final Outcomes Summary

The program significantly advanced clinician competence and readiness to implement evidence-based chronic cough care, with exceptionally high intent to change practice.

- **97%** of learners intend to change clinical practice based on the activity.
- **91%** reported the activity fully met all learning objectives.
- **75%** overall relative knowledge gain across learning objectives, with a **295%** relative knowledge gain related to chronic cough pathophysiology and treatment targets.
- **90%** said animations improved their understanding of pathophysiology.
- Potential impact to **505,900+** annual patient visits.
- Learners expressed strong interest in further education on emerging therapies.

Thank you to GSK for supporting independent medical education!

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 0.5 *AMA PRA Category 1 Credits*™ and 0.5 ABIM MOC Points.

