



Challenging Cases in COPD:

Early Diagnosis, Management, and Exacerbation Prevention

Online Enduring and Live Virtual Webinar Series
Final Outcomes Summary
AstraZeneca Grant 57508597

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Final Outcomes]

Program Overview

The goal of this case-based, multimedia program is to improve the knowledge and competence of pulmonologists, primary care physicians and advanced practice providers in the diagnosis, management (including mitigation of exacerbation risk), and treatment of COPD. The four live webinars and chapterized online activity included interactive video cases, a patient perspective video clip, ARS polling with immediate feedback, and a clinical reference aid to help attendees convert information into practice. Topics included early COPD diagnosis and management, prevention of exacerbations, treatment selection, and strategies to effectively communicate with patients. Innovations for this program include 4 engaging case-based videos for the online and live webinars that visually highlight key issues related to early diagnosis, exacerbation prevention, treatment of COPD, and patient-centered strategies for communication and personalized treatment selection.

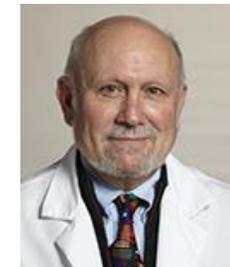
Learning Objectives

- Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations.
- Review current and emerging therapeutics in the treatment of COPD.
- Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence.

Co-Chairs/Presenting Faculty



**Russell P.
Bowler,
MD, PhD**



**Sidney S.
Braman,
MD, FCCP**

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Online Enduring Program: Launched on FreeCME 7/31/2020

<https://learning.freecme.com/a/35167PAeEdoo>

The screenshot shows the FreeCME website interface. At the top left is the FreeCME logo with the tagline 'Always Current. Always Free.' To the right are social media icons for LinkedIn, Facebook, and Twitter, followed by a 'MEMBER LOGIN' link and a search bar with a 'GO' button. Below this is a navigation menu with links for 'Home', 'Courses', 'Specialties', 'Events', and 'About Us'. The main content area features a banner for the course 'Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention' with a lung illustration. Below the banner, the course title is repeated. A table provides details: Released On (July 31, 2020), Expires On (July 30, 2021), Media Type (Internet), and Completion Time (60 minutes). Below the table, the Specialty is listed as Pulmonology and the Topic(s) as COPD. At the bottom, a note explains that clicking 'Start Activity' indicates review of the CME/CE information, and a blue 'Start Activity' button is present.

Released On July 31, 2020	Expires On July 30, 2021	Media Type Internet	Completion Time 60 minutes
Specialty Pulmonology	Topic(s) COPD		

Clicking *Start Activity* indicates that you have reviewed the CME/CE information for this activity.

[Start Activity](#)

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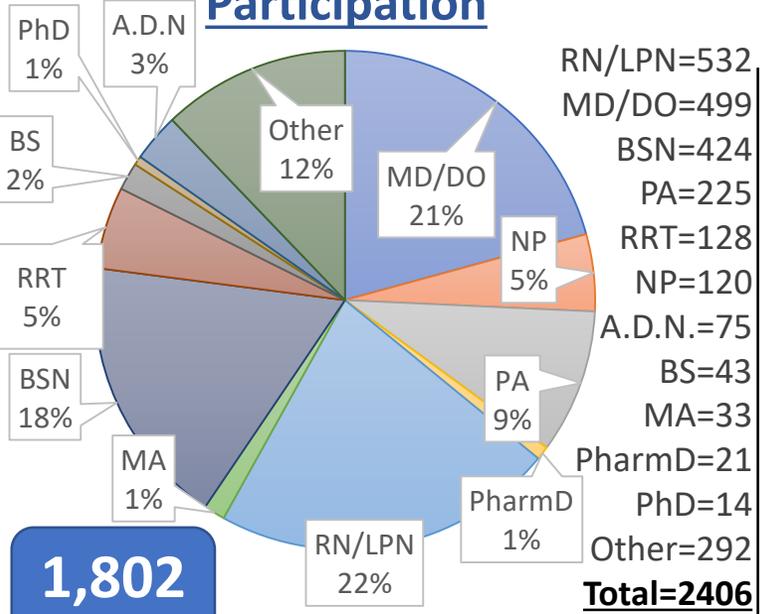




Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Participation



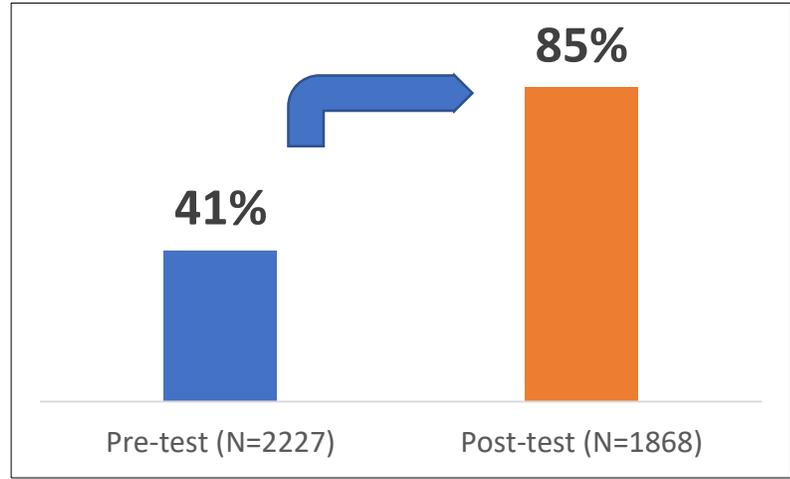
Online Participation: 2,406 Learners

Exceeded projected learner reach by 20% and completer reach by 80%

Potential Impact to 601,952 patient visits this year

RN/LPN=532
MD/DO=499
BSN=424
PA=225
RRT=128
NP=120
A.D.N.=75
BS=43
MA=33
PharmD=21
PhD=14
Other=292
Total=2406

Overall Knowledge Gain



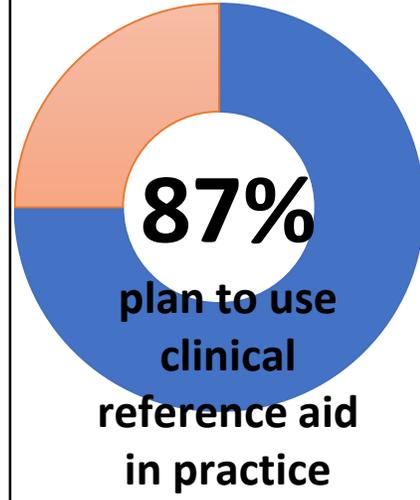
44% absolute gain in knowledge
107% relative gain in knowledge

82% relative gain in confidence
27% absolute gain in confidence

Top 3 Practice Changes

87% (N=1,780) reported they intend to make changes to their practice

- ✓ Proper diagnosis, management & treatment
- ✓ Patient education
- ✓ Utilize pulmonary rehabilitation



“Good reinforcement of medical & patient information.”
- Online enduring program attendee -

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Qualitative Educational Impact Summary: Online Enduring

Participants	Educational Impact	Practice Change
2,406 Total Learners	121% relative knowledge gain seen from learners regarding best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations. [N=1,868]	92% of evaluation respondents reported the activity improved their ability to treat/manage patients [N=1,780]
Who see 11,576 COPD Patients Weekly	105% relative knowledge gain seen from learners with regard to reviewing current and emerging therapeutics in the treatment of COPD [N=1,868]	64% of learners indicated the activity addressed strategies for overcoming barriers to optimal patient care [N=1,780]
Which translates to 601,952 Potential patient Visits Annually	75% relative knowledge gain seen from learners in describing patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence [N=1,868]	<i>“Great presentation of relevant materials.”</i> – Online enduring program attendee

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Marketing Strategies – Distribution Partner Marketing



Distribution Platform partner

Personalized emails and e-newsletters



Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

[START ACTIVITY](#)

Learning Objectives
Upon completion of this activity, participants will be able to:

- Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbation.
- Review current and emerging therapeutics in the treatment of COPD.
- Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence.

Credit Available

- Physicians — maximum of 1.0 AMA PRA Category 1 Credit(s)[™]
- Nurses — maximum of 1.0 Nursing Contact Hour
- All other health care professionals completing this course will be issued a statement of participation.

[START ACTIVITY](#)

Personalized + Customized Intelligent Marketing Platform



Banner placement



Social media ads and posts



Search engine optimization

Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

Released On July 31, 2020	Expires On July 30, 2021	Media Type Internet	Completion Time 60 minutes
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Specialty: Pulmonology
Topic(s): COPD

[Start Activity](#)

Credit Available

- Physicians — maximum of 1.0 AMA PRA Category 1 Credit(s)[™]
- Registered Nurses — 1.0 Nursing contact hour

All other health care professionals completing this course will be issued a statement of participation.

This activity contains four 15-minute chapters each worth .25 credit. Physicians can consume all or part of the segments. Registered nurses will need to complete the full activity to earn 1.0 nursing contact hour.

freeCME September 23, 2020 · 🌐
Tune in for our podcast on early diagnosis, management, and exacerbation prevention for COPD, presented jointly with National Jewish Health, The Mount Sinai Hospital, and Jefferson Health.

freeCME September 10, 2020 · 🌐
Tune into our webinar on early diagnosis, management, and exacerbation prevention of COPD, presented in partnership with National Jewish Health.

freeCME September 10, 2020 · 🌐
Join us on September 18th from 1pm EST for a free live CME/CE webinar about COPD!
<https://register.gotowebrinar.com/it/2762893908795886859...>

Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

REGISTER.GOTOWEBINAR.COM
Challenging Cases in COPD | FreeCME

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Marketing Strategies – NJH Marketing

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Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

The collaborative program was developed and presented by National Jewish Health with the Mount Sinai - National Jewish Health Respiratory Institute and the Jane and Leonard Korman Respiratory Institute - Jefferson Health and National Jewish Health.

Join us for free CME/CNE online course with Dr. Sidney Braman and Russell Bowler

COPD remains a leading cause of death in the United States and each exacerbation increases the chance of mortality. Learn about early diagnosis, exacerbation prevention, treatment of COPD, and patient-centered strategies for communication and personalized treatment selection.

Register Now!

Target Audience:
Pulmonologists, Primary Care Physicians, Advanced Practice Nurses, Physician Assistants, and Registered Nurses who treat patients with COPD

Learning Objectives:
Upon completion of this activity, the participant will be better able to:
1. Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations.
2. Discuss current and emerging therapies in the treatment of COPD.
3. Discuss the patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence.

Program Faculty:

Sidney S. Braman, MD, FCCP
Professor Emeritus
Division of Pulmonary, Critical Care and Sleep Medicine
Rush School of Medicine at Mount Sinai
Mount Sinai Hospital, Jewish Respiratory Institute
New York, NY

Russell S. Bowler, MD, PhD
Professor of Medicine
Division of Pulmonary, Critical Care and Sleep Medicine
National Jewish Health
Denver, CO

Contact:
For questions, please email the Office of Professional Education at education@njhealth.org or call 303.326.1000 or 800.944.2320. To register, please visit <https://fal.cn/3am9r>

Accreditation and Designation Statements:
National Jewish Health is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
National Jewish Health designates this enduring material for a maximum of 1.0 AMA PRA Category 1 CME™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
Approved Nursing Provider approved by the California Board of Registered Nursing, Provider Number 12/24 for 1.0 CEU/CPD hour.

This educational activity is supported by an educational grant from AstraZeneca Pharmaceuticals LP

Health.org/CME
1.800.944.2326
education@njhealth.org

Office of Professional Education
1400 Jackson Street, ST02
Denver, CO 80202

Targeted Emails to NJH Database & AMA list



Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

Register
Live CME/CE webinar
Aug. 31, Sept. 18, 21 & 24



National Jewish Health
7466 followers
16 Sep 2020 9:02 AM

COPD remains a leading cause of death in the US. Register for this free CME/CNE live webinar that is offered Sept 18, 21 and 24 with Russell Bowler, MD, PhD, from National Jewish Health and Sidney Braman, MD, FCCP, with Mount Sinai-National Jewish Respiratory Institute. Learn about early recognition, diagnosis, and effective treatment of COPD to improve patient adherence and quality of life. This collaborative program was developed and is presented by National Jewish Health with the Mount Sinai - National Jewish Health Respiratory Institute and the Jane and Leonard Korman Respiratory Institute - Jefferson Health and National Jewish Health. Register <https://fal.cn/3am9r>



National Jewish Health Back To Main Website | Education & Training

Education & Wellness // Office of Professional Education // Live Events // Challenging Cases in COPD

Office of Professional Education

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Live Events

- 17th Annual Respiratory Disease Young Investigators' Forum
- Clinical Review of Air Travel with Pulmonary Disorders
- COPD Now
- Frontiers in Oncology 2019
- Interstitial Lung Disease (ILD) for Primary Care Providers
- IPF Best Practices 2017
- Managing Adverse Reactions to Vaccines
- 42nd Annual Pulmonary and Allergy Update at Keystone
- Personalized Medicine in Severe Asthma
- Primary Prevention of Cardiovascular Disease - Update 2019
- Pulmonary Symptoms Related to Commonly Prescribed Medications

Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

A free CME/CE live webinar
A collaborative program was developed and presented by National Jewish Health with the Mount Sinai - National Jewish Health Respiratory Institute and the Jane and Leonard Korman Respiratory Institute - Jefferson Health and National Jewish Health.

Dates and Times:

- Monday, September 21, 2020 - 5:00 pm to 7:00 pm PDT (Begins at 7:00 pm CDT, 6:00 pm EDT, and 4:00 pm PT)
- Thursday, September 24, 2020 - 5:00 pm to 7:00 pm PDT (Begins at 7:00 pm CDT, 6:00 pm EDT, and 4:00 pm PT)

Register Now!

Description:
COPD remains a leading cause of death in the United States and each exacerbation increases the chance of mortality, yet COPD exacerbations are not generally considered as severe as a heart attack. Literature reveals that many patients with COPD are not effectively diagnosed until they are hospitalized. Early recognition, appropriate diagnosis, and effective treatment of COPD is urgent in light of the mortality, morbidity and economic consequences of the disease. This activity includes case-based scenarios that highlight key issues related to early diagnosis, exacerbation prevention, treatment of COPD, and patient-centered strategies for communication and personalized treatment selection.

National Jewish Health @NJHealth · 18 Sep 2020 7:36 AM

Providers, learn best practices for diagnosis, management & treatment of COPD in this free CME/CNE live webinar offered 9/18, 21, & 24 presented by clinical partners @njhealth, @Respiratory_NYC & @TJUHospital. Register fal.cn/3ap2o

Challenging Cases in COPD: Early Diagnosis, Management, and Exacerbation Prevention

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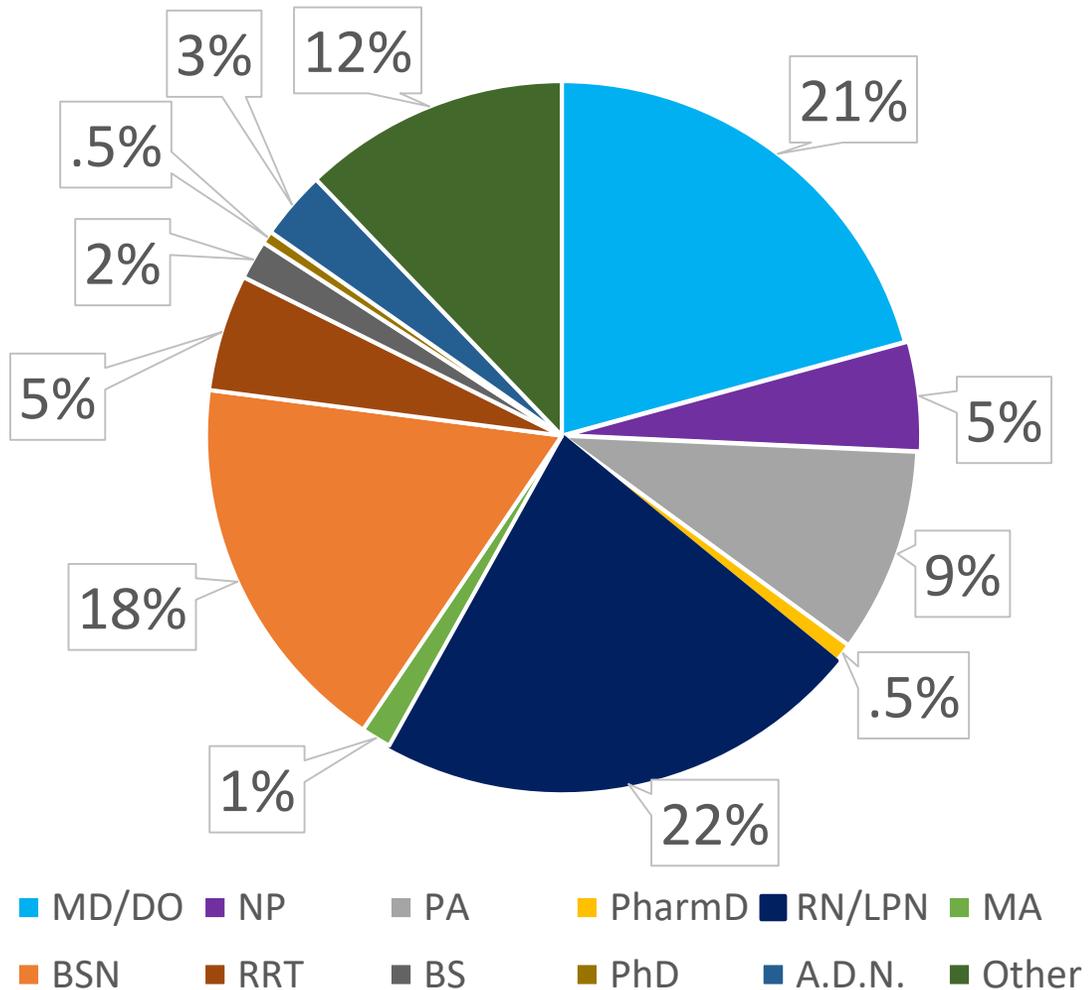




Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 1 Outcomes: Online Enduring: Participation by Degree



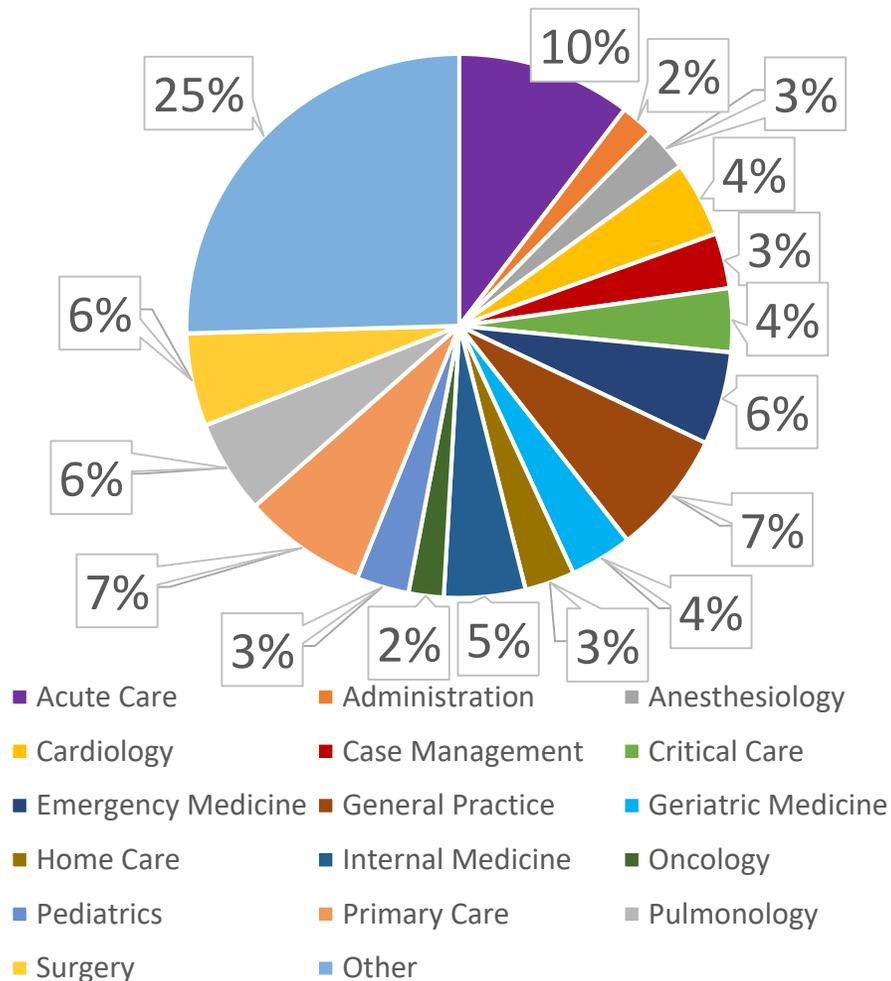
Degree	Total
RN/LPN	532
MD/DO	499
BSN	424
PA	225
RRT	128
NP	120
A.D.N.	75
BS	43
MA	33
PharmD	21
PhD	14
Other	292
	2,406



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 1 Outcomes: Online Enduring: Participation by Specialty



Specialty	Total
Acute Care	249
Primary Care	177
General Practice	177
Pulmonology	134
Surgery	133
Emergency Medicine	133
Internal Medicine	116
Cardiology	108
Critical Care	91
Geriatric Medicine	89
Case Management	79
Pediatrics	75
Home Care	71
Anesthesiology	64
Oncology	50
Administration	48
Other (<i>radiology, infectious disease, gastroenterology, nephrology, psychiatry, pharmacy, allergy and immunology</i>)	612
Total	2,406

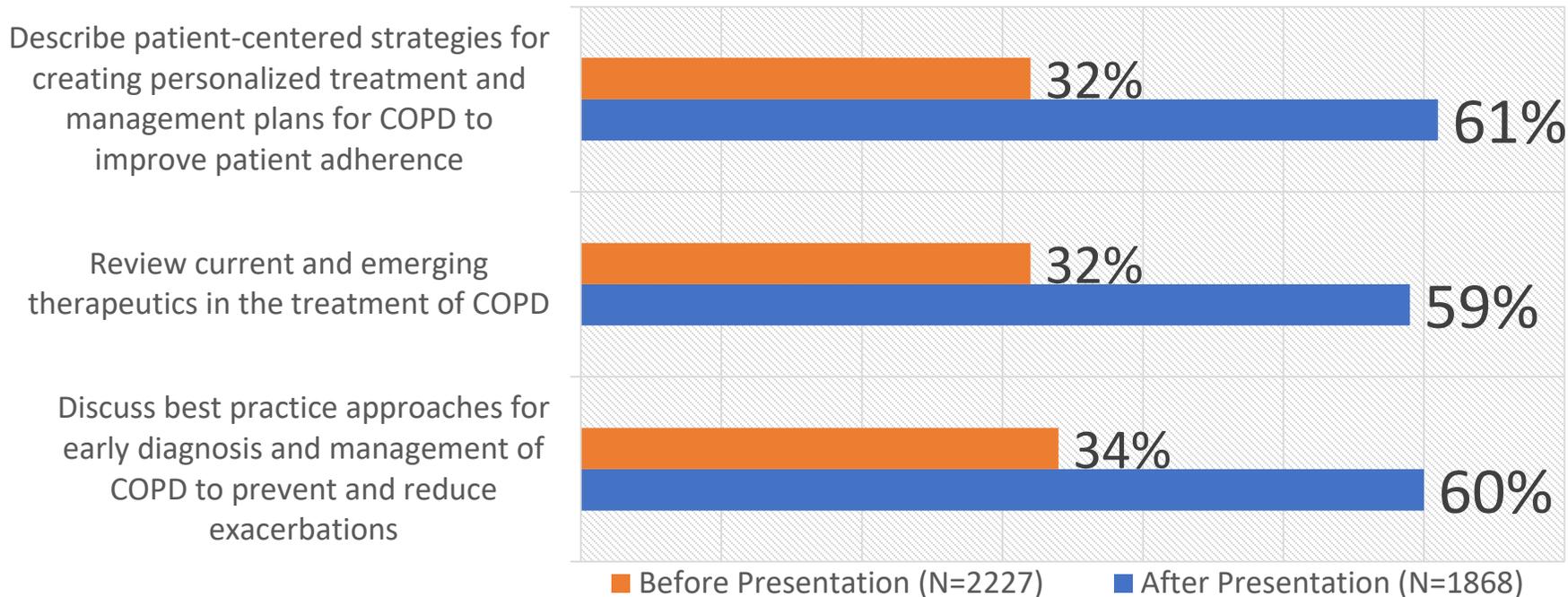


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 2&3 Outcomes: Learning & Satisfaction – Online Enduring

Learners reported their confidence on the learning objectives before and after the presentation (somewhat confident – very confident)



Relative Gain in Confidence: 82%

Absolute Gain in Confidence: 27%



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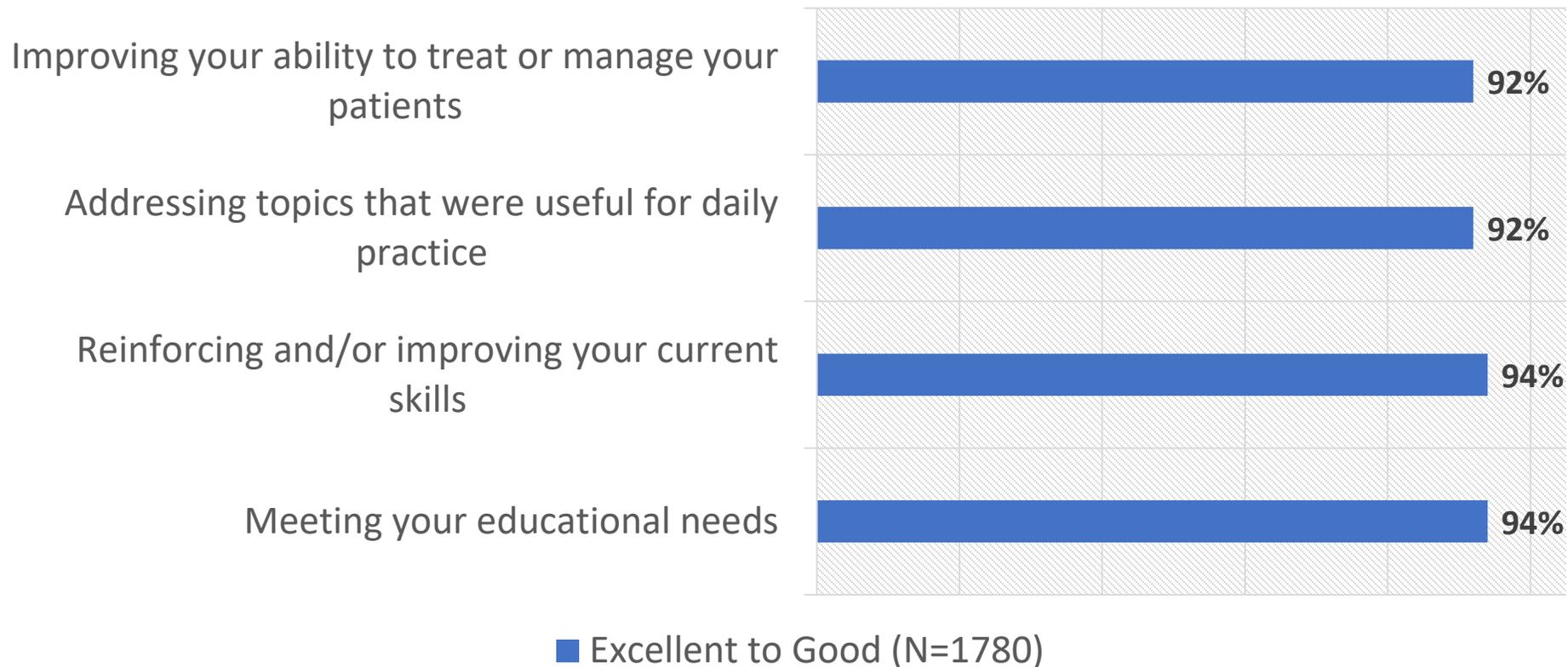
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 2&3 Outcomes: Learning & Satisfaction – Online Enduring

Analysis of participant responses related to educational needs

Participants reported the activity was “Excellent” to “Good” at:



Learners reported high levels of satisfaction related to the ability of the activity to impact practical applications

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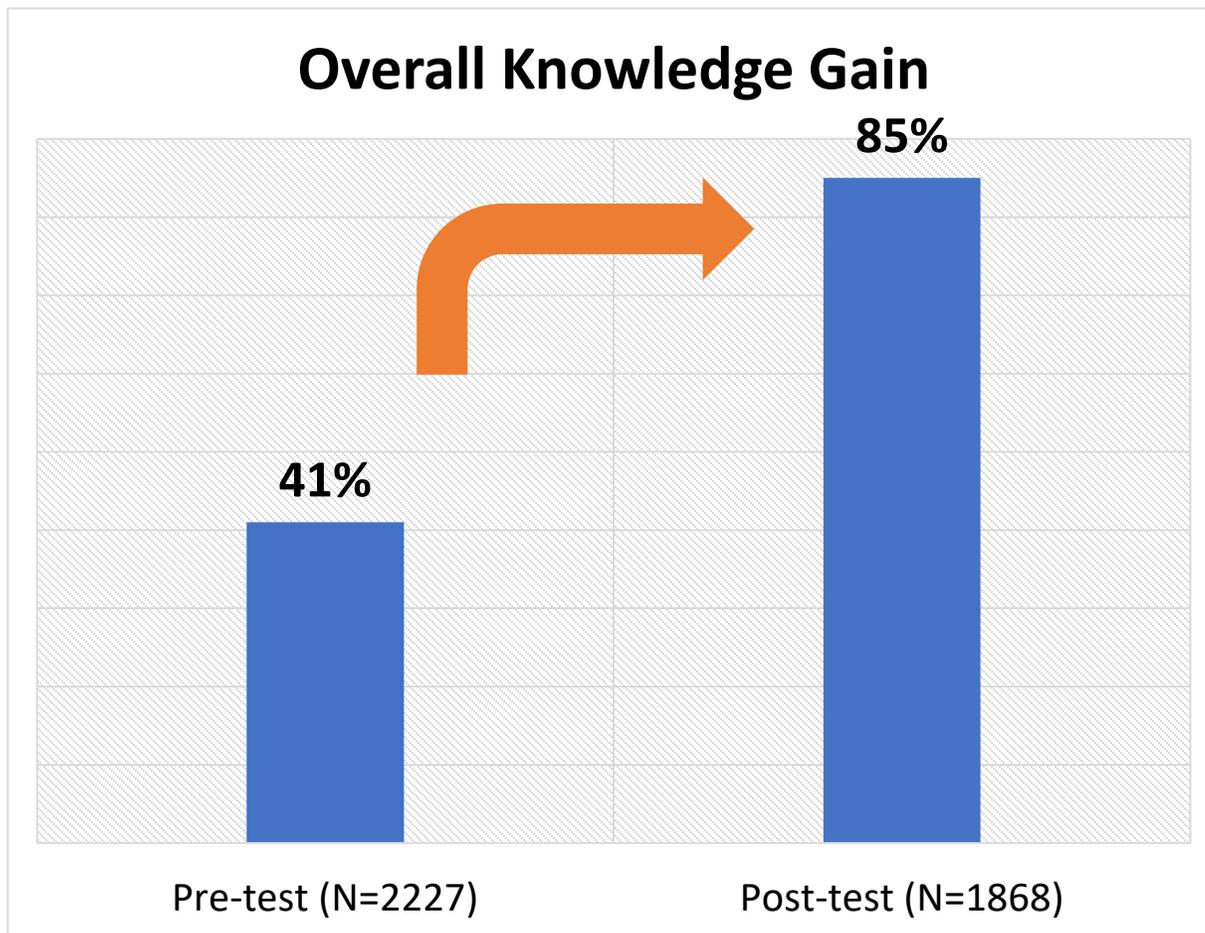




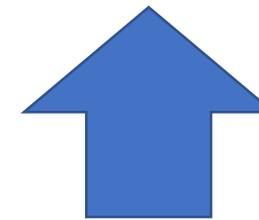
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[Online Final Outcomes]

Level 3 Outcomes (Knowledge): Online Enduring: Overall Knowledge Gain



107% Relative Knowledge Gain



44% Absolute Knowledge Gain

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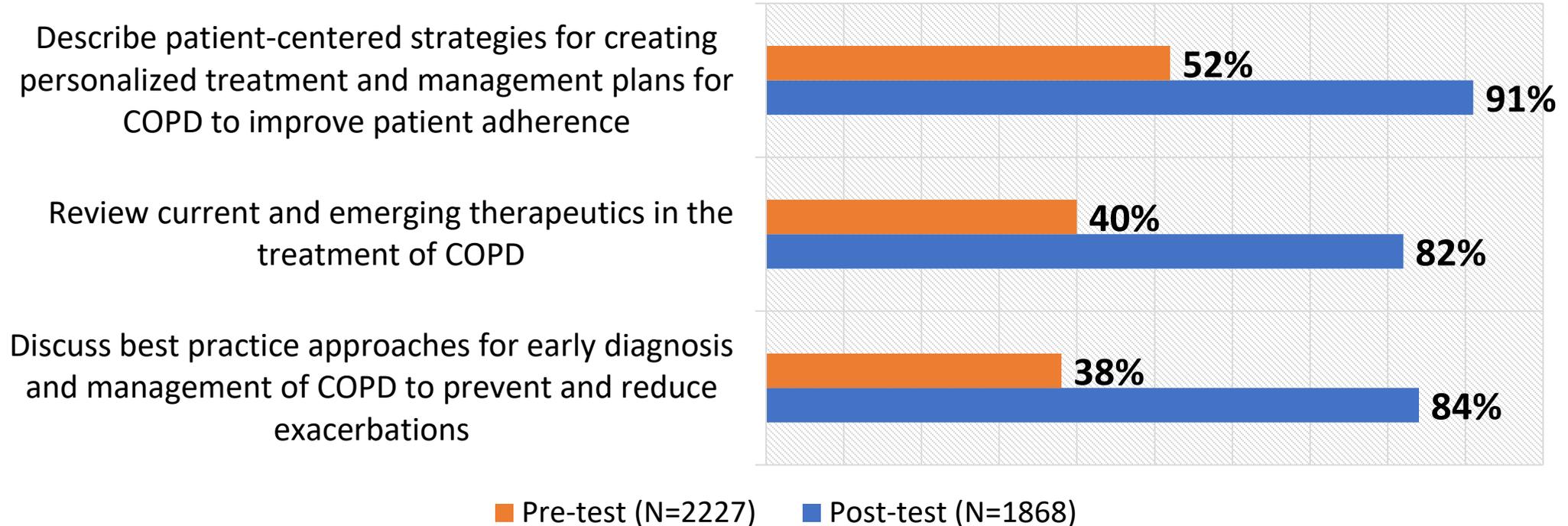


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 3 Outcomes (Knowledge) – Online Enduring By Learning Objective

Knowledge Gain by Learning Objectives



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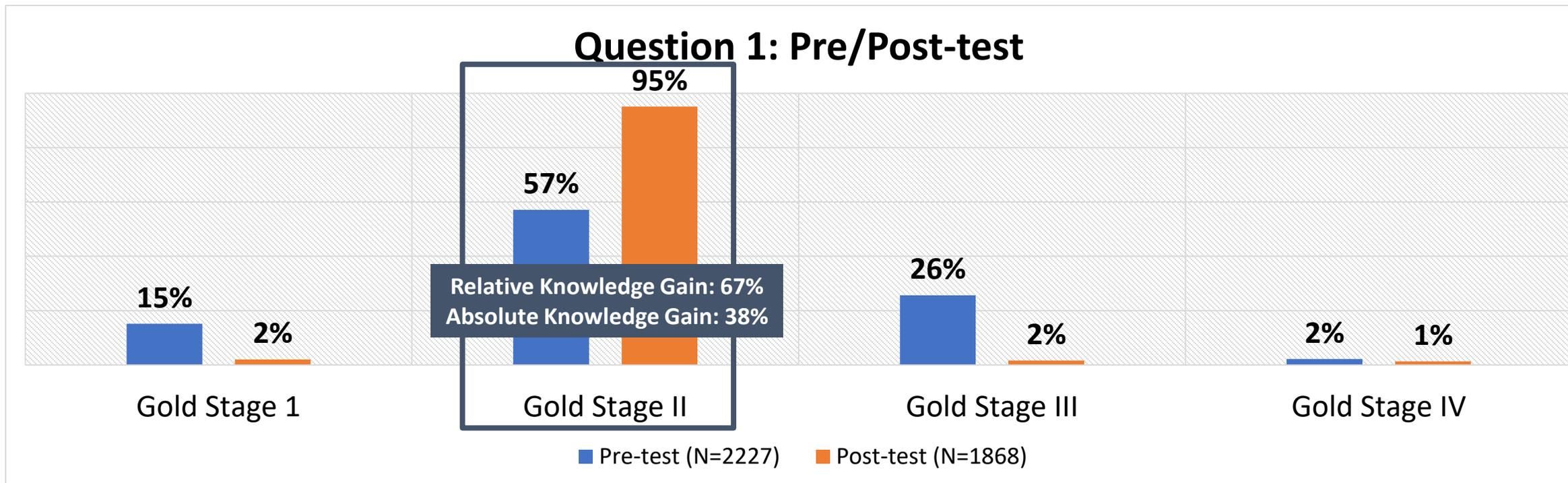
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: Question 1

Learning Objective: *Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

Question 1: A 60-year-old smoker presented with shortness of breath on exertion. His spirometry findings were pre-bronchodilator 1.23 L (67% predicted) with FEV1/FVC of 59% and post-bronchodilator 1.37 L (75% predicted) with FEV1/FVC of 66%. Using the GOLD criteria for staging COPD, he would be:





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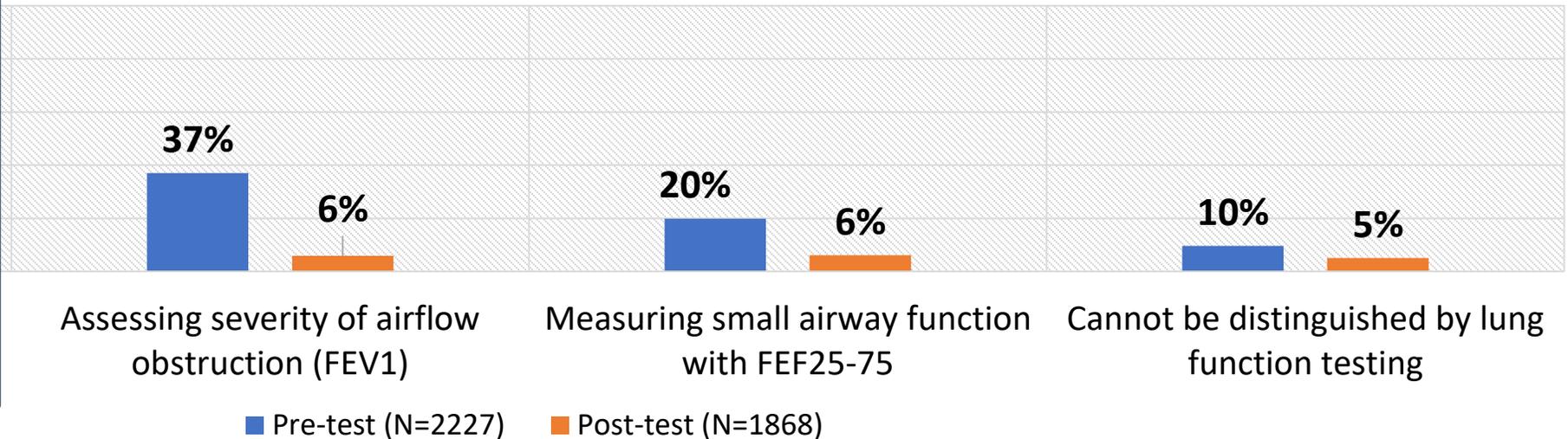
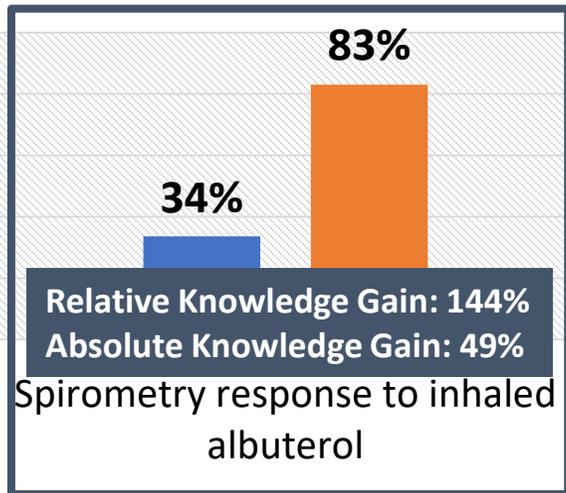
[Online Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: Question 2

Learning Objective: *Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

Question 2: A 55-year-old former heavy smoker presents with a history of shortness of breath and intermittent wheezing that responds to 2 inhalations of albuterol using a MDI device. Using pulmonary function testing, which of the following can be the most helpful in distinguishing whether he has asthma or COPD?

Question 2: Pre/Post-test



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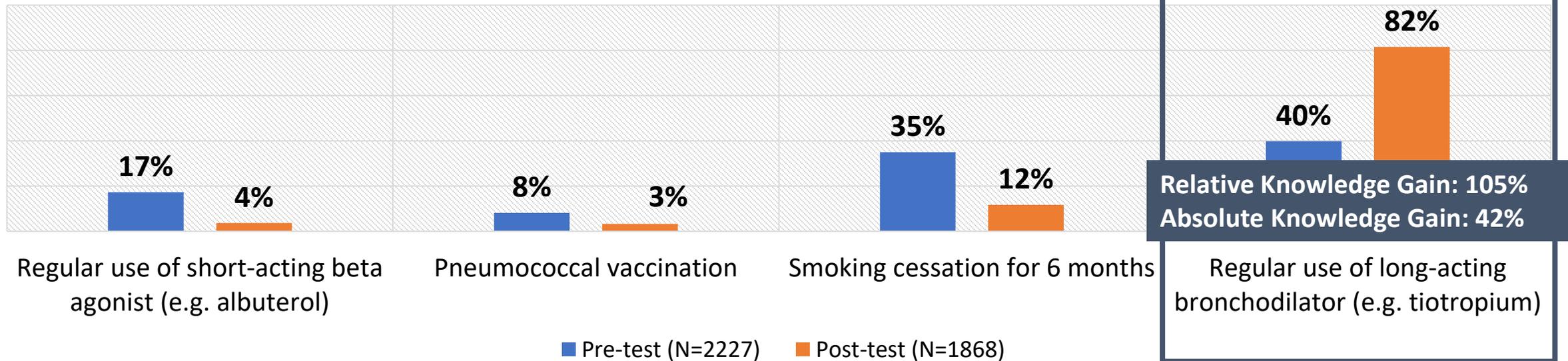
[Online Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: Question 3

Learning Objective: *Review current and emerging therapeutics in the treatment of COPD*

Question 3: Which of these has been proven to reduce exacerbations of COPD?

Question 3: Pre/Post-test



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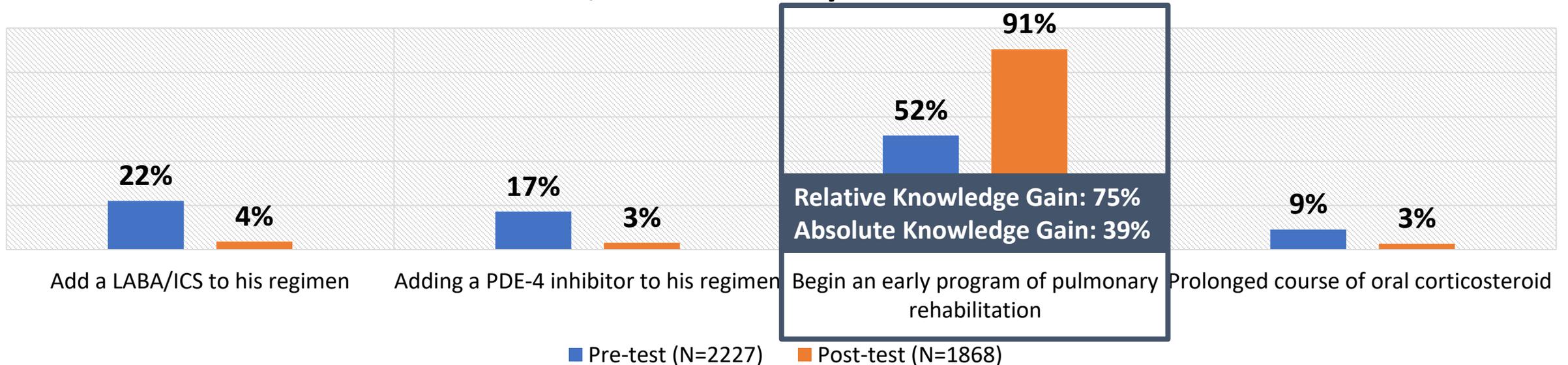
[Online Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: Question 4

Learning Objective: *Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence*

Question 4: A 60-year-old man has been admitted to the hospital for a COPD exacerbation. Following discharge, which of the following measures has been shown to improve his survival (mortality)?

Question 4: Pre/Post-test





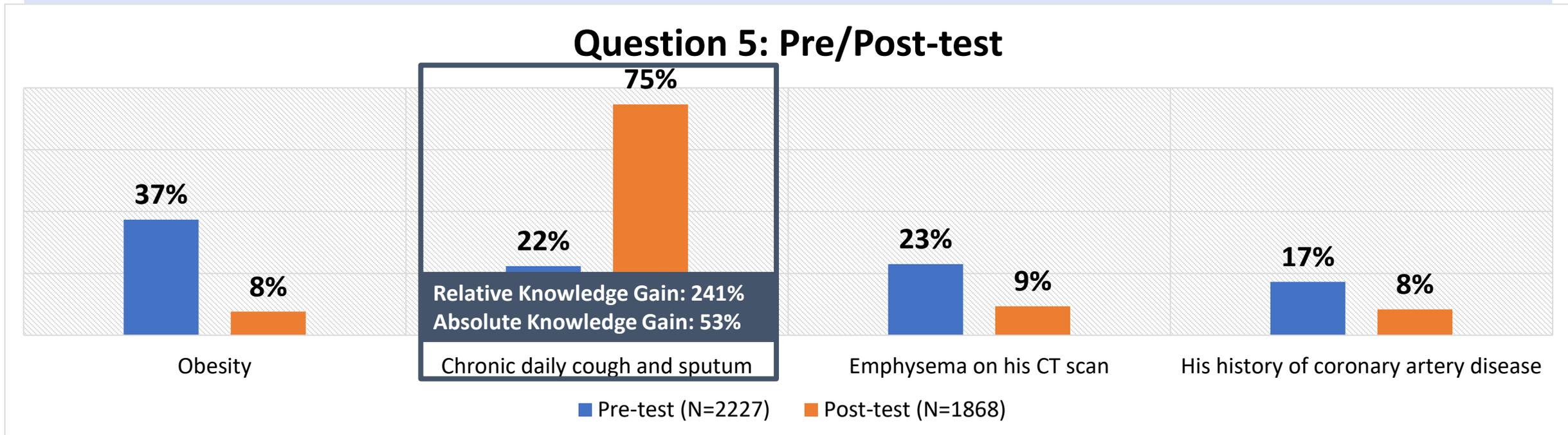
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: Question 5

Learning Objective: *Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

Question 5: A 55 year old obese man (BMI 35 kg/m²) is smoking 1 pack of cigarettes a day. He admits to chronic daily cough and sputum production. He is GOLD stage II COPD and has previous myocardial infarction. Which of the following puts the patient at most risk for recurrent exacerbations?





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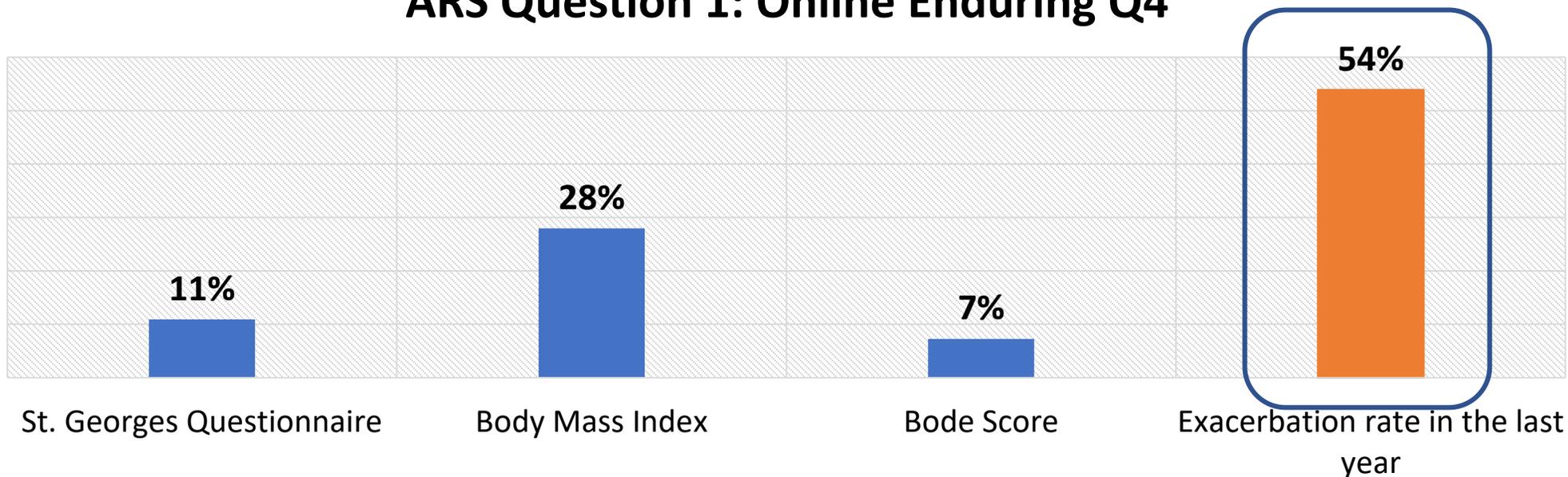
[Online Final Outcomes]

Level 3 Outcomes (Knowledge): Online Enduring: ARS Question 1

Learning Objective: *Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

ARS Question 1: For many years, staging COPD severity relied on lung function measurements such as the FEV1. A new GOLD COPD staging assessment added exercise capacity using the modified Medical Research Council score or COPD assessment test (CAT score) to the assessment. What additional measure is needed to stage COPD using new GOLD criteria?

ARS Question 1: Online Enduring Q4



N=716

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

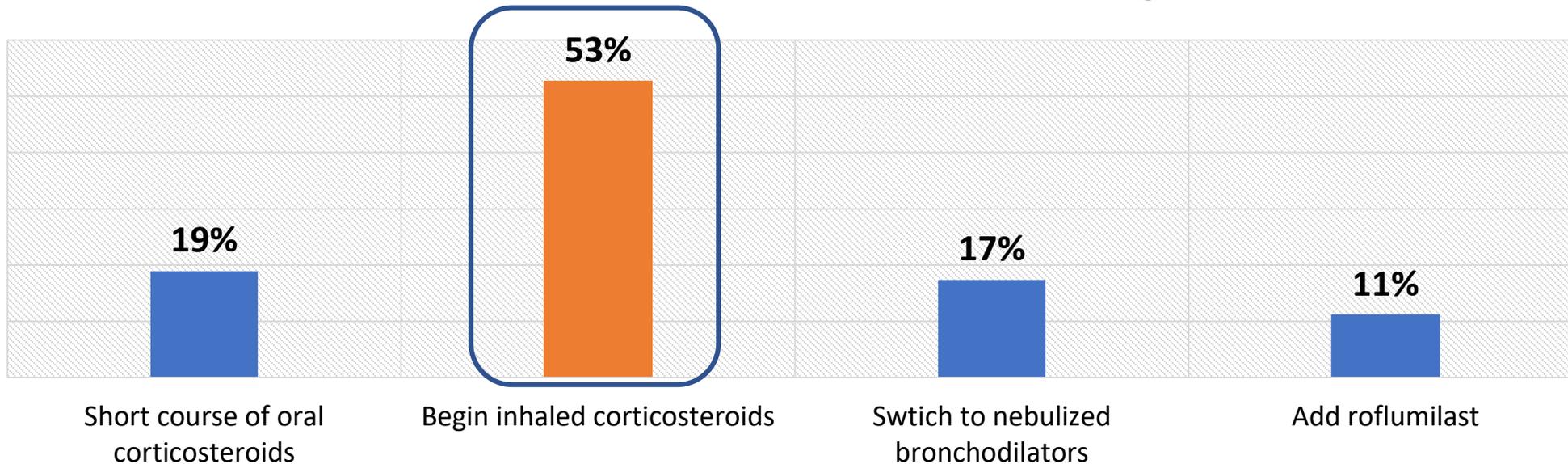
[Online Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: ARS Question 2

Learning Objective: *Discuss best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

ARS Question 2: A 60-year-old female executive has been having increasing difficulty with her symptoms of COPD and has an increased frequency of exacerbations (2 exacerbations within the past 6 months). She has advanced COPD and has been using a LABA/LAMA. What additional therapy is suggested in the GOLD Guidelines for this patient?

ARS Question 2: Online Enduring Q4



N=640

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

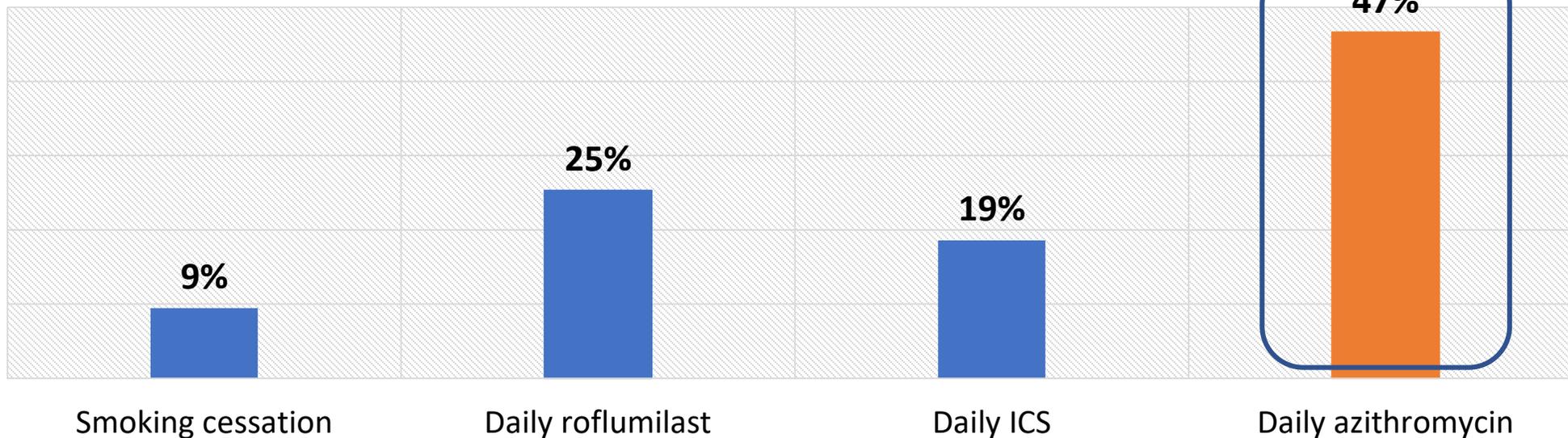
Level 3&4 Outcomes (Knowledge/Competence): Online Enduring: ARS Question 3

Learning Objective: *Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence*

ARS Question 3: 65 year old man from East Texas with multiple visits to physician for flare ups of breathing problems including frequent prednisone and antibiotics about every 2 months. He continues to smoke 1 ppd and coughs up several tablespoons of sputum every day. He has been taking LAMA/LABA for more than a year. His FEV1 is 43%. His eosinophil count off prednisone is 400 cells/ μ l. Which of the following is NOT indicated?

N=549

ARS Question 3: Online Enduring Q4



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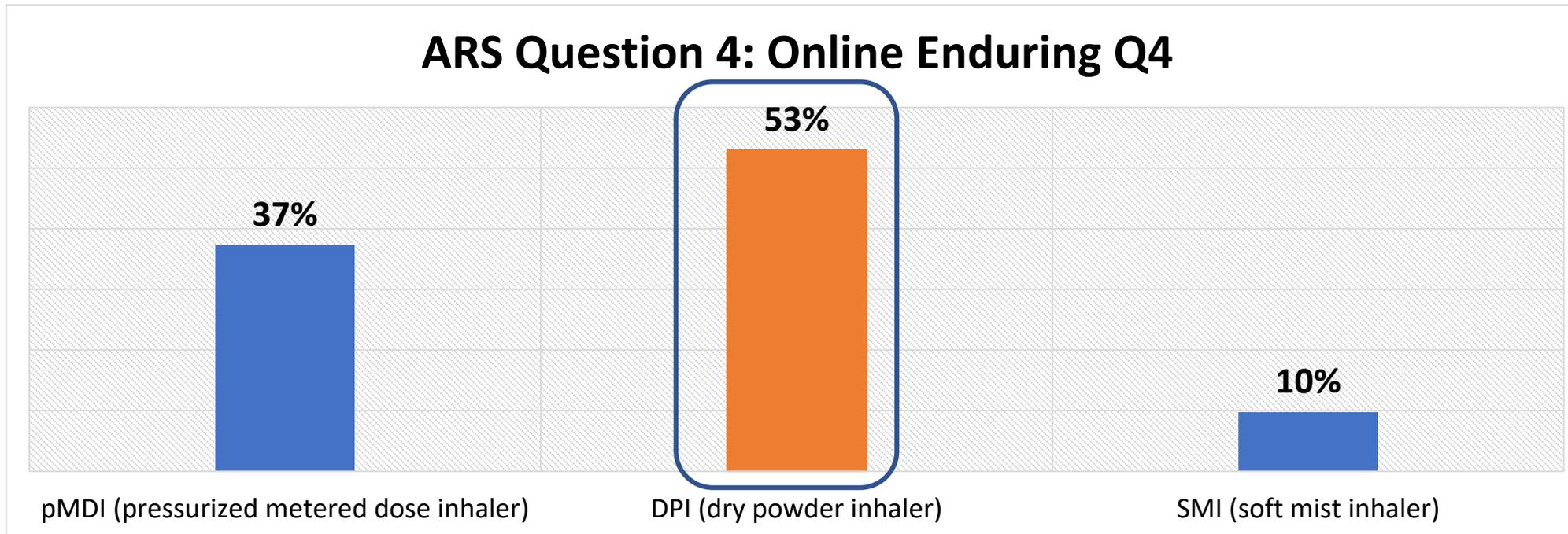
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Level 3 Outcomes (Knowledge): Online Enduring: ARS Question 4

Learning Objective: *Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence*

ARS Question 4: Which of the following inhaler types has the most inspiratory flow resistance?



N=523

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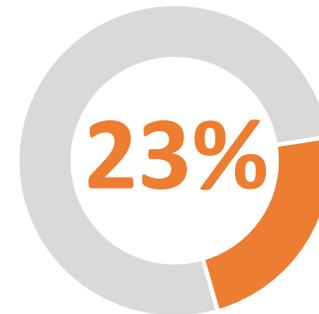
[Online Final Outcomes]

Level 4 Outcomes (Competence): Online Enduring

An analysis of open-ended comments demonstrates the following changes learners intend to make:



Improve diagnosis, treatment and management of COPD and exacerbations



Patient education including inhaler technique and smoking cessation



Encourage pulmonary rehabilitation

N=1,091



Proper use of medications



Refer to pulmonologist



Application of current GOLD guidelines for the treatment of COPD



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Program Evaluation: Online Enduring

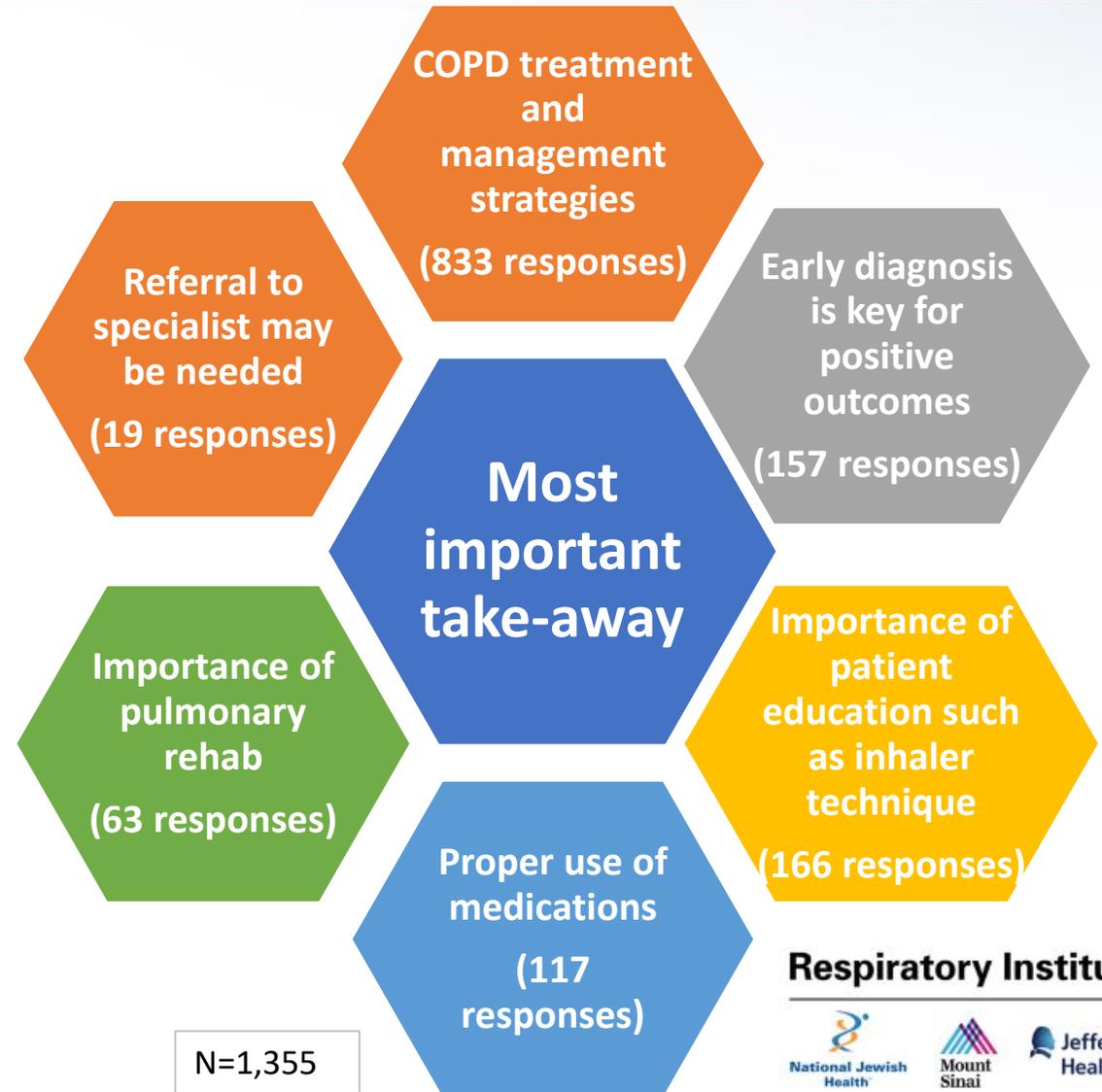
98%

- Material presented in an objective manner and free of commercial bias

99%

- Content presented was evidence-based and clinically relevant

N=1,780



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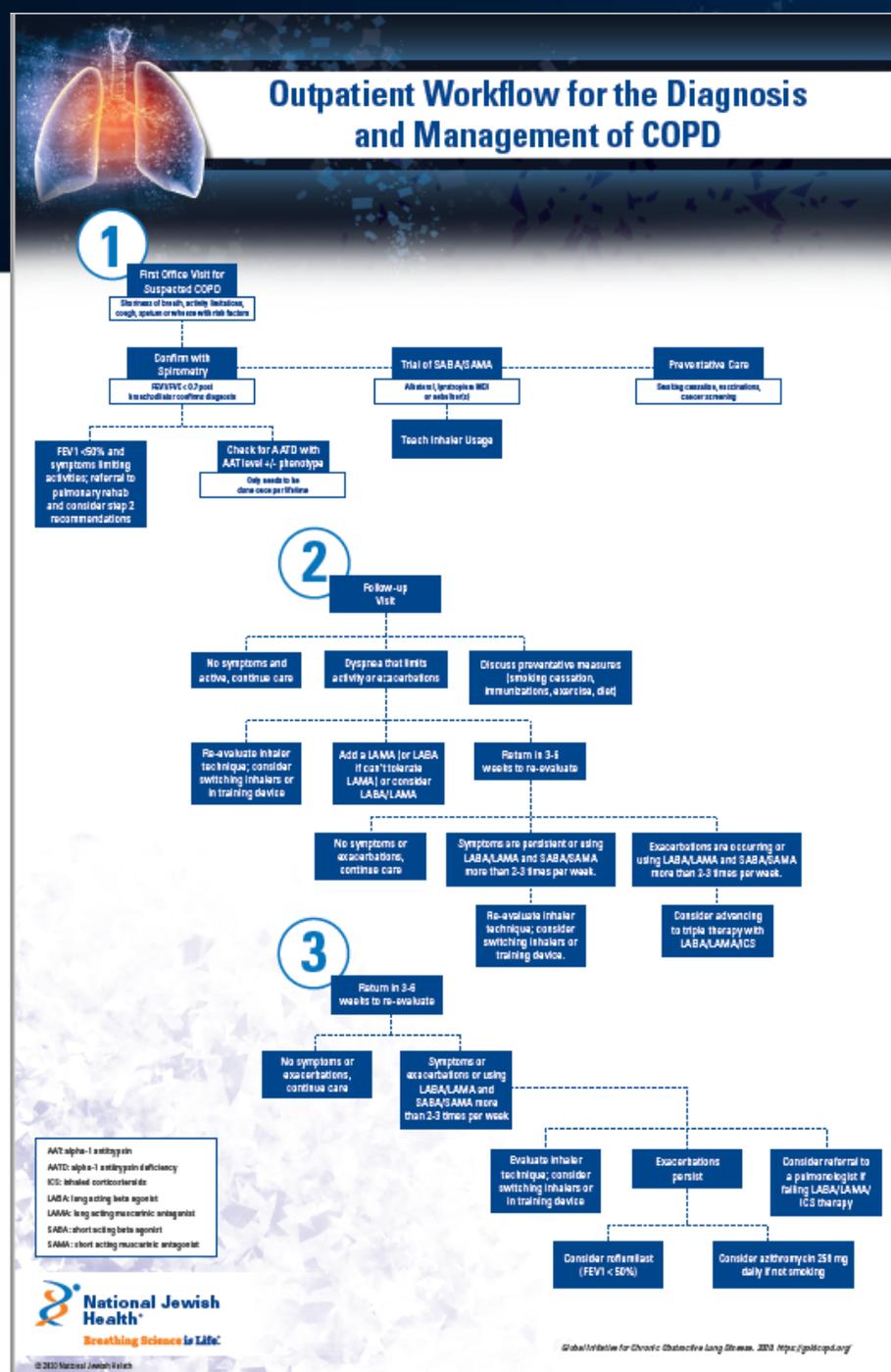




Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

87% of learners indicated they plan to use the clinical reference aid in practice.

N=1693





Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Program Evaluation: Online Enduring

What do you think is the primary reason why making a diagnosis of COPD is so difficult?

Difficult to diagnose early as it is found more when in advanced stage	Presents like other diseases
Lack of effective diagnostic tools	Lack of ability to perform spirometry and PFT
Patient adherence and cooperation	Performing spirometry correctly
Accurate medications and history from patients	Existing comorbidities limit accuracy of lung function tests
Lack of pulmonologists in the area	Lack of testing available
Resembles asthma	Lack of awareness of disease
People having coughs but not addressing them	Lack of interprofessional team support
Time constraints	Barriers to resources
COVID-19 pandemic	Fragmented healthcare



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Program Evaluation: Online Enduring Strategies for Overcoming Barriers

- Patient compliance
- Smoking cessation
- Inhaler technique
- Access to care
- Proper nursing assessment
- Consistency of practicing GOLD guidelines
- Recognition and treatment of COPD
- Education material to provide to patients
- Improving patient quality of life
- Communication with patients

64%

N=1780

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

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Online Final Outcomes]

Program Evaluation: Online Enduring

What topics would you like more information about in future educational activities?	
Eosinophilia	Early treatment of COPD
Emphysema	Differences between asthma and COPD
Geriatric care	When to initiate pulmonary rehab
Tuberculosis	Asthma
Bronchiectasis	Pulmonary rehab
Upper respiratory tract infection	Interstitial lung disease
More in-depth inhaler therapies	Further information on prevention of COPD
More on triple therapy and use of nebulizers	Spirometry interpretation

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Live Webinar Series 8/31/2020-9/24/2020

COPD Comorbidities Are Common

Dr. Sidney Braman

Sleep apnea
Lung cancer
Emphysema

Pulmonary hypertension

Anemia

Metabolic syndrome

Cachexia

Anxiety, depression

Cardiovascular disease

Peripheral muscle wasting and dysfunction

Osteoporosis

Peptic ulcers
Gastrointestinal complications

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Adapted from Kao C et al.
Atlas of COPD. 2008.

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Live Webinar Sessions

[Live Final Outcomes]

Faculty Presenters (4) Live Activities



Russell P. Bowler, MD, PhD
Professor of Medicine
Division of Pulmonary, Critical Care and Sleep
Medicine
National Jewish Health
Denver, CO



Sidney S. Braman, MD, FCCP
Professor Emeritus
Division of Pulmonary, Critical Care and Sleep
Medicine
Icahn School of Medicine at Mount Sinai
Mount Sinai-National Jewish
Respiratory Institute
New York, NY

Live Webinar Series

Webinar (1) – targeted to Denver, CO (8/31/2020):
56 Learners

Webinar (2) – targeted to Philadelphia, PA (9/18/2020):
103 Learners

Webinar (3) – targeted to New York, NY (9/21/2020):
41 Learners

Webinar (4) – targeted nationally (9/24/2020):
77 Learners

Total: 277 Learners

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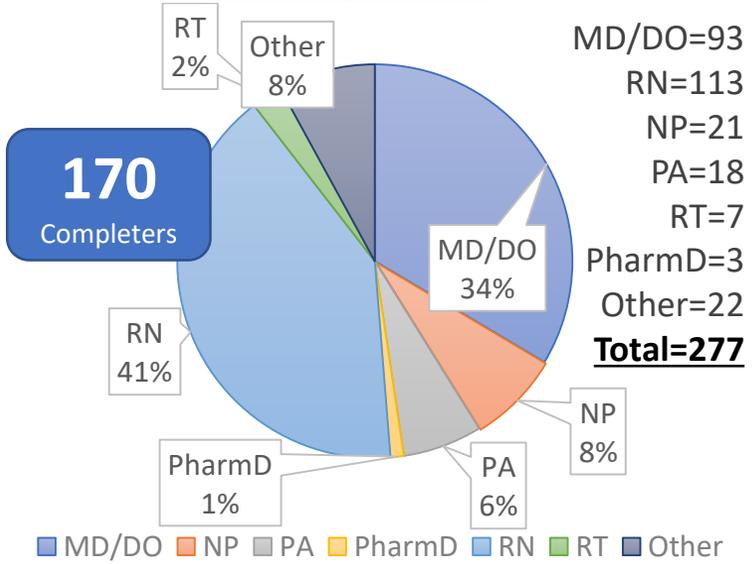




Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Participation



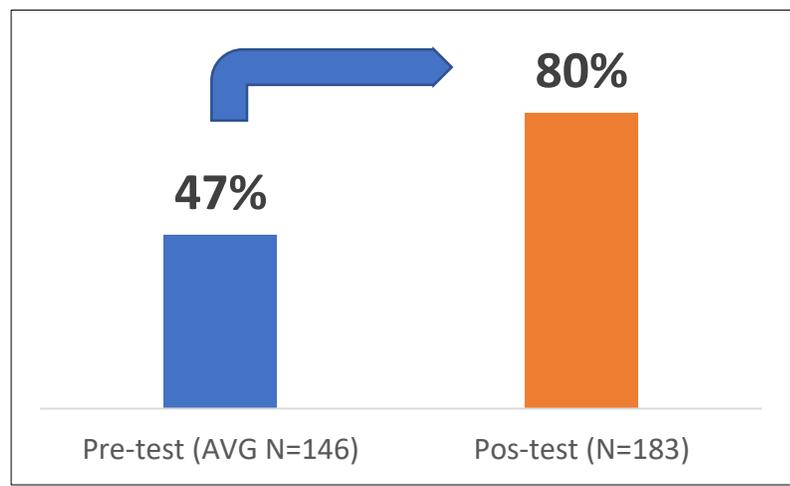
170 Completers

Live Participation: 277 Learners

Exceeded projections by 137 learners

Potential Impact to **53,768** patient visits this year

Overall Knowledge Gain

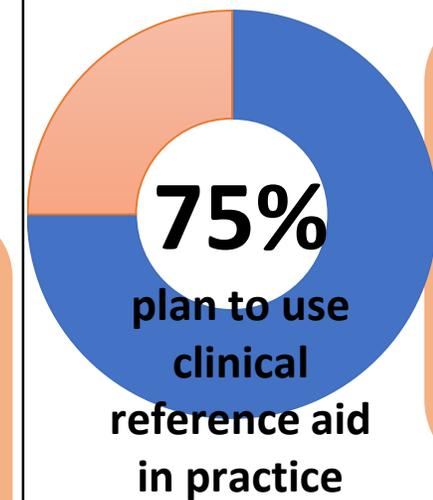


33% absolute gain in knowledge
70% relative gain in knowledge

167% relative gain in confidence
40% absolute gain in confidence

Top 3 Practice Changes

- 92%** (N=177) reported they intend to make changes to their practice
- ✓ Increased use of spirometry in diagnosis
 - ✓ Application of current guidelines for COPD
 - ✓ Patient education



"The delivery method was excellent and felt so involved like I was in an in-person setting."
 - Live virtual session attendee -

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Qualitative Educational Impact Summary: Live Webinar Sessions

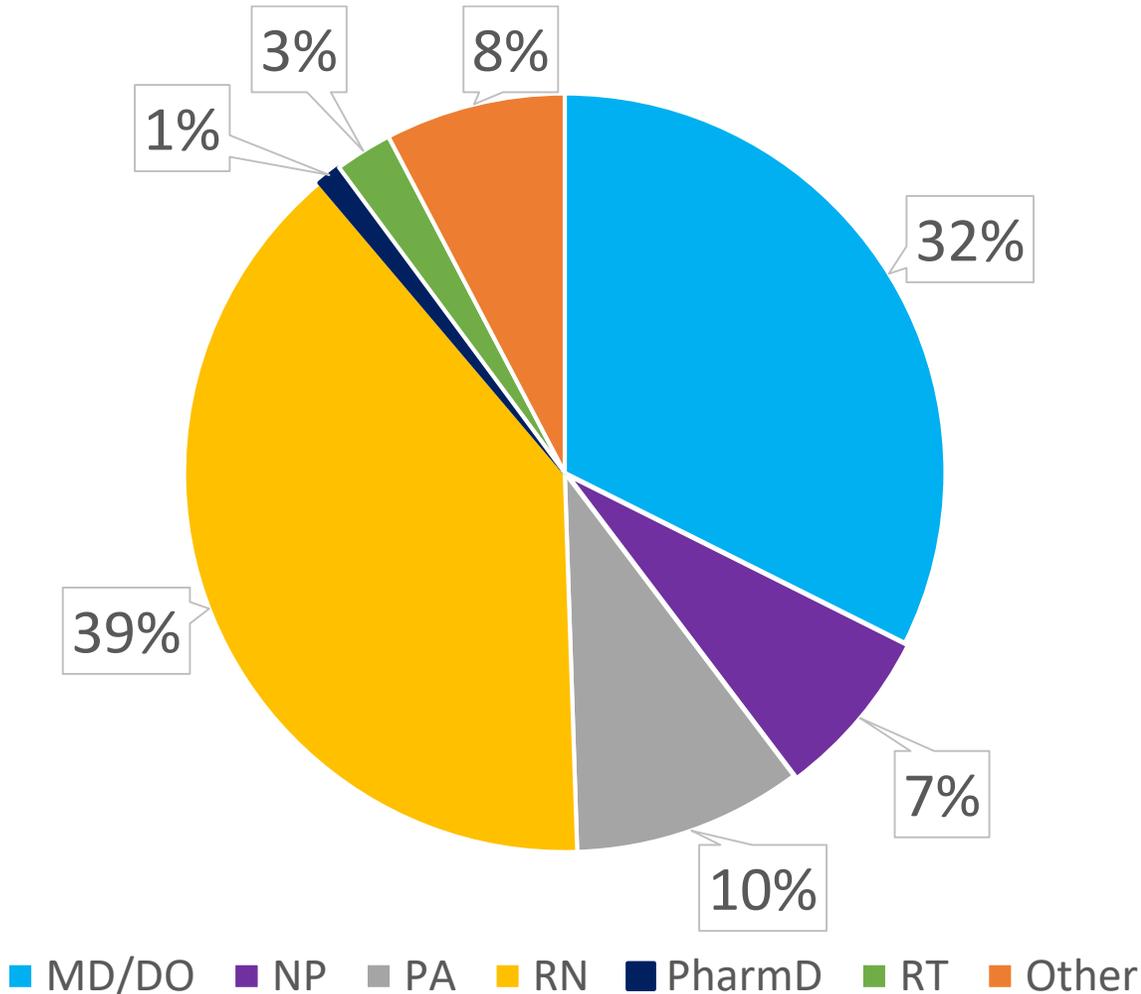
Participants	Educational Impact	Practice Change
277 Total Learners	86% relative knowledge gain seen from learners regarding discussing best practice approaches for early diagnosis and management of COPD to prevent and reduce exacerbations. [N=183]	92% of evaluation respondents reported they intended to make changes to their practice as a result of the educational activity [N=177]
Who see 1,034 COPD Patients Weekly	44% relative knowledge gain seen from learners in regards to reviewing current and emerging therapeutics in the treatment of COPD [N=183]	69% of learners indicated the activity addressed strategies for overcoming barriers to optimal patient care [N=177]
Which translates to 53,768 Potential patient Visits Annually	53% relative knowledge gain seen from learners in describing patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence [N=183]	<i>“Enjoyed the lecture and the doctors were very knowledgeable and clear to understand.” – Live virtual session attendee</i>



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 1 Outcomes: Live Webinar Sessions: Participation by Degree



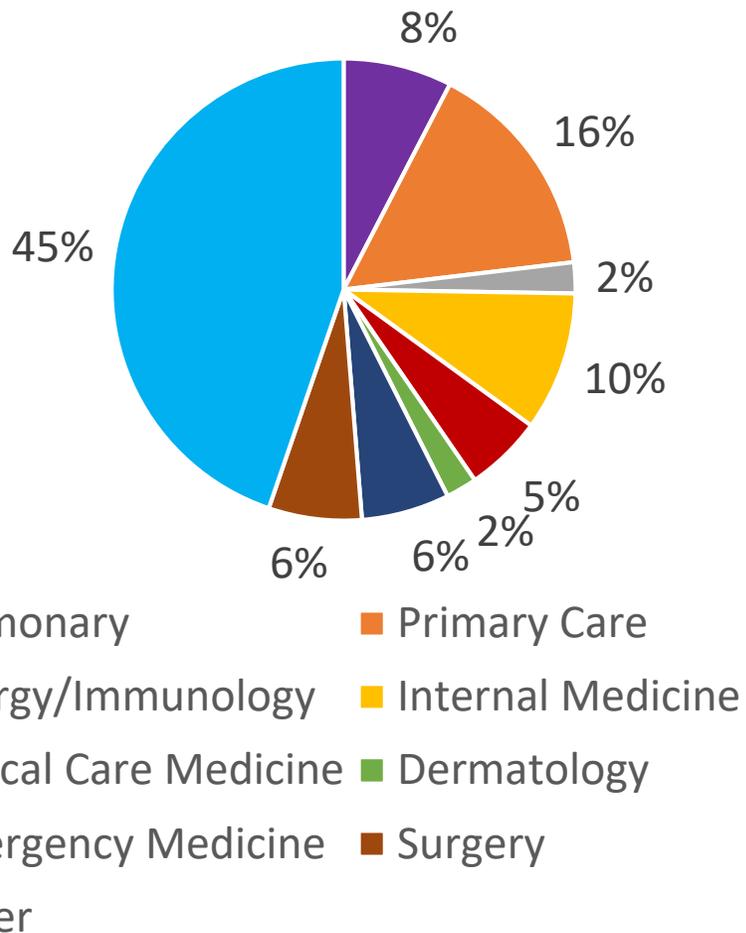
Degree	Total
MD/DO	93
RN	113
NP	21
PA	18
RT	7
PharmD	3
Other	22
	277



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 1 Outcomes: Live Webinar Sessions: Participation by Specialty



Specialty	Total
Primary Care	43
Internal Medicine	27
Pulmonary	21
Surgery	18
Emergency Medicine	17
Critical Care Medicine	15
Allergy/Immunology	6
Dermatology	6
Other	124
	277

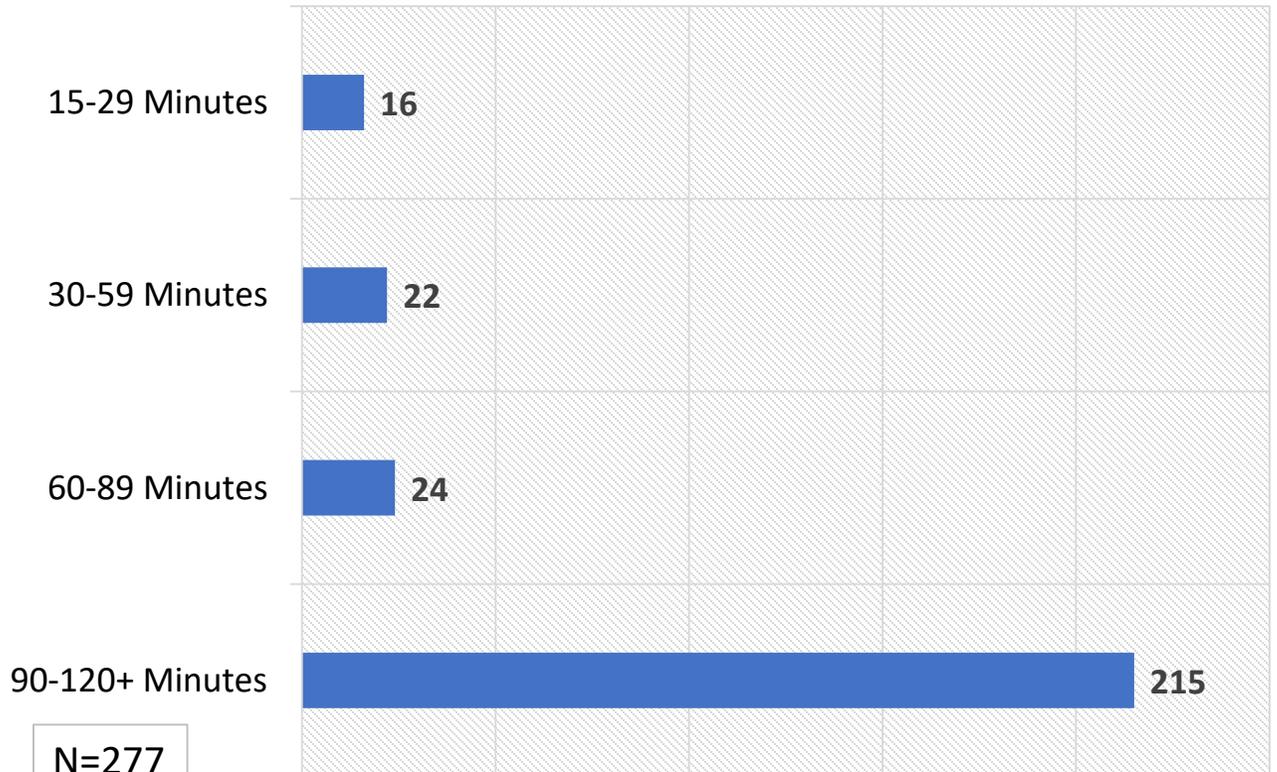


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 1 Outcomes: Live Webinar Sessions: Participation by Engagement

Time in Webinar



Interest rating - the percentage of time the GoToWebinar player was the primary tab open on the participant's screen

170 out of 277 learners completed the full two hour webinar
77% of Learners stayed on at least 90 minutes

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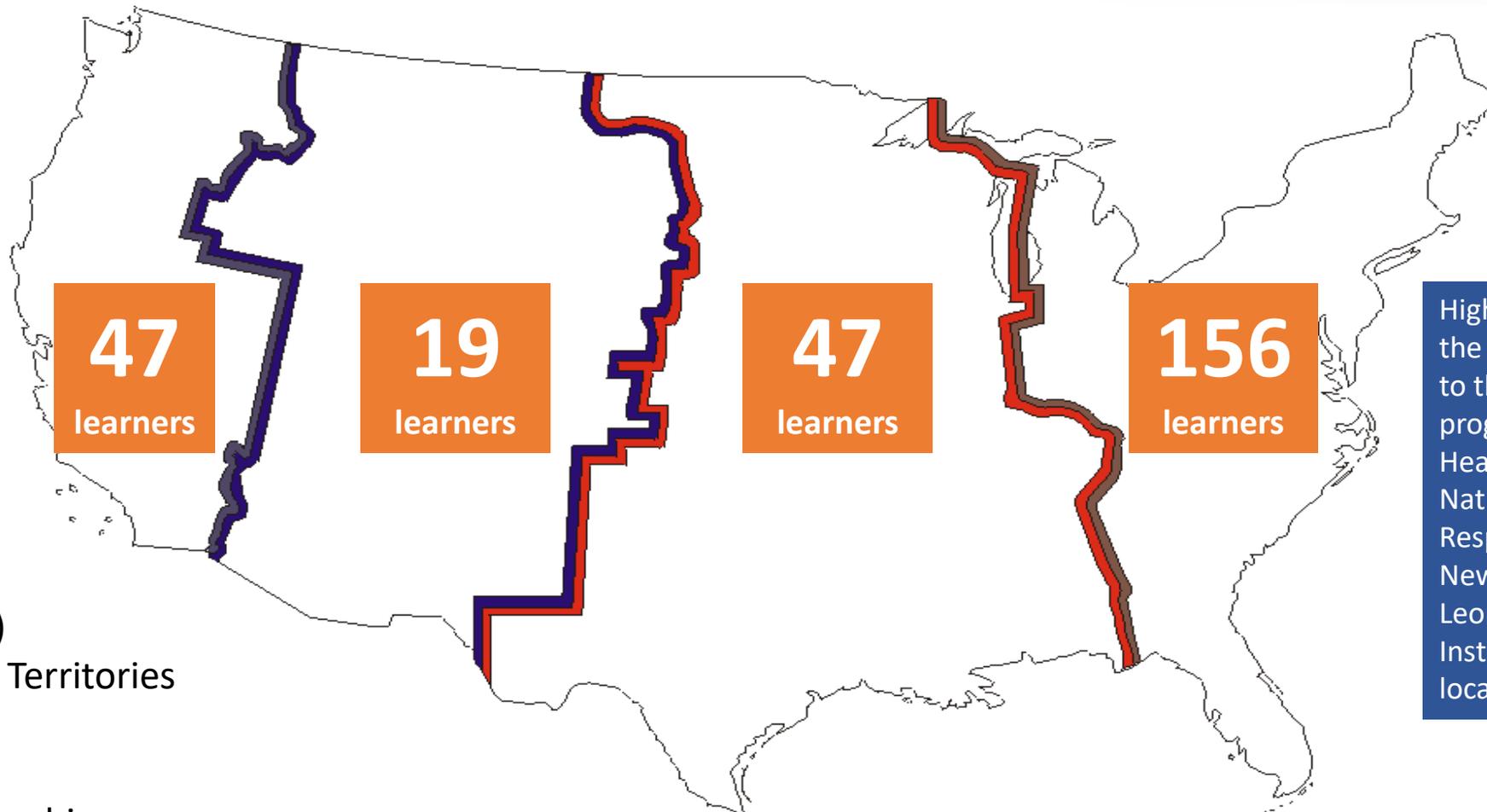


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 1 Outcomes: Live Webinar Sessions: Participation by Region

N=277



Higher participation numbers on the East Coast can be attributed to the collaboration on this program with National Jewish Health and the Mount Sinai – National Jewish Health Respiratory Institute, located in New York, and the Jane and Leonard Korman Respiratory Institute - Jefferson Health, located in Philadelphia.

Other

- Quebec (2)
- Northwest Territories
- Yukon (2)
- Guam (2)
- British Columbia

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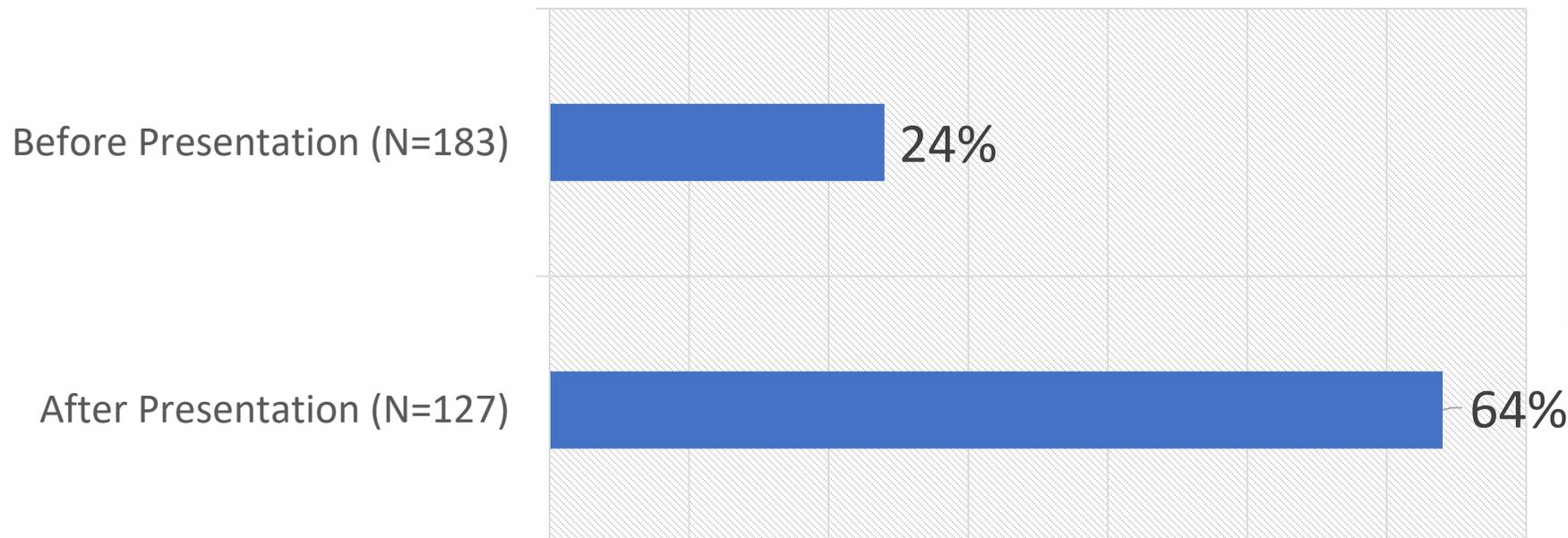


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 2&3 Outcomes: Learning & Satisfaction - Live Webinar Sessions

Learners reported their confidence on the learning objectives before and after the presentation (somewhat confident – very confident)



Relative Gain in Confidence: 167%

Absolute Gain in Confidence: 40%



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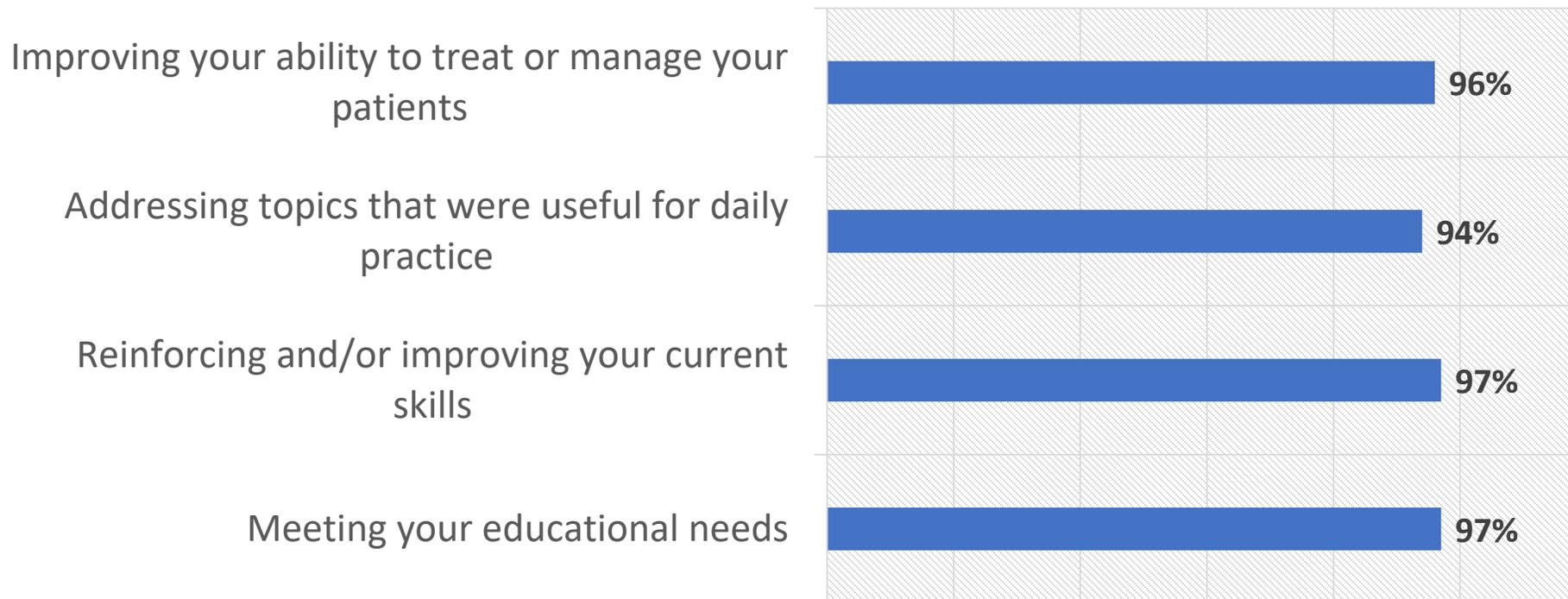
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 2&3 Outcomes: Learning & Satisfaction - Live Webinar Sessions

Analysis of participant responses related to educational needs

Participants reported the activity was “Excellent” to “Good” at:



■ Excellent to Good (N=177)

Learners reported high levels of satisfaction related to the ability of the activity to impact practical applications

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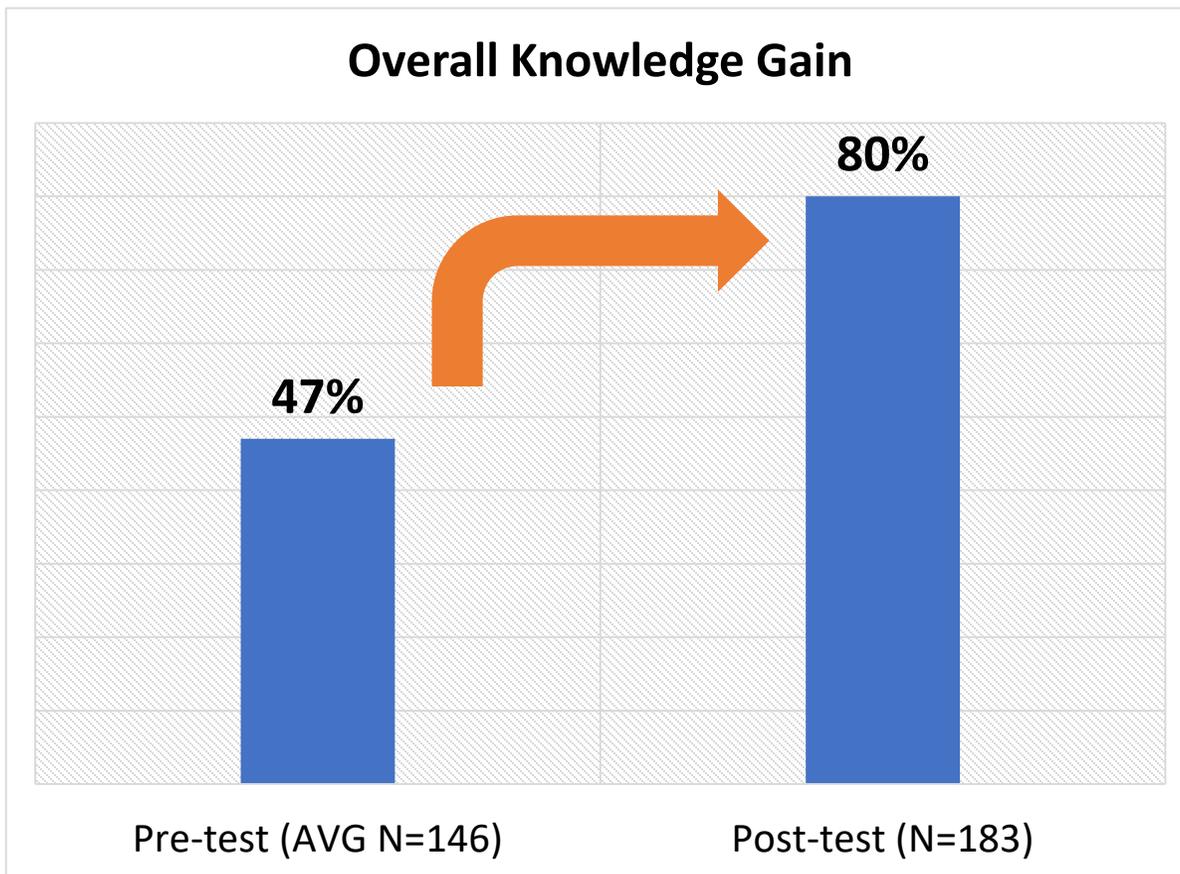




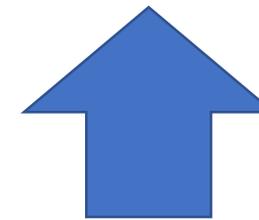
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 3 Outcomes (Knowledge): Live Webinar Sessions: Overall Knowledge Gain



70% Relative Knowledge Gain



33% Absolute Knowledge Gain

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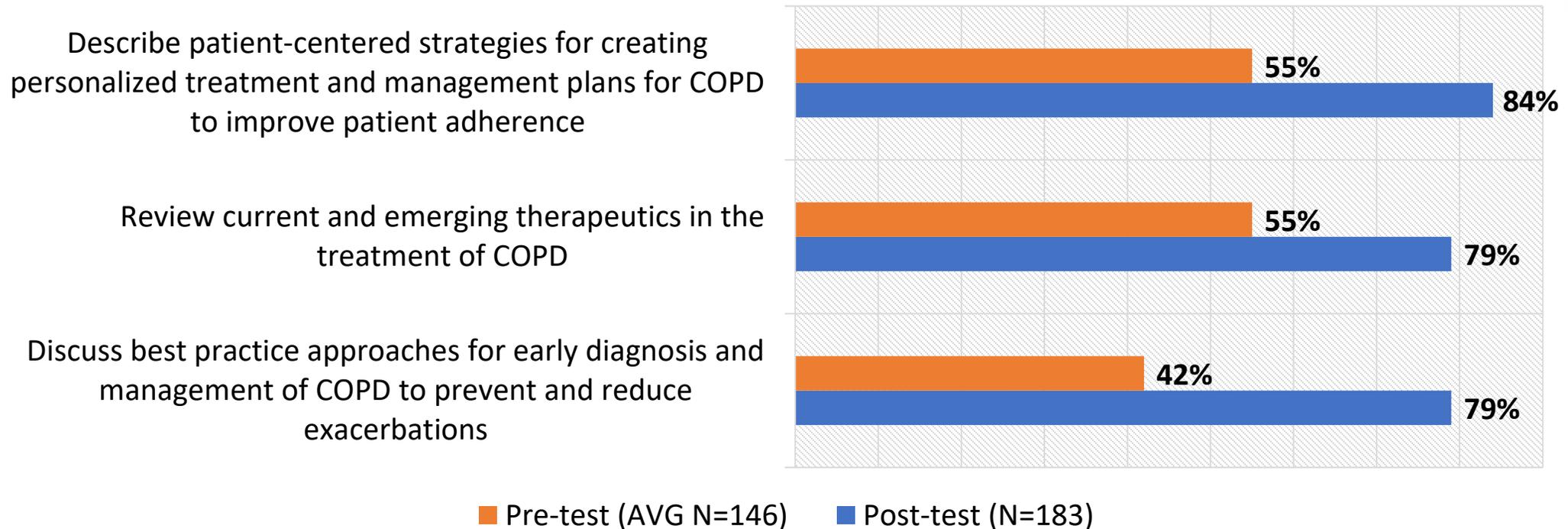


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 3 Outcomes (Knowledge) - Live Webinar Sessions By Learning Objective

Knowledge Gain by Learning Objectives



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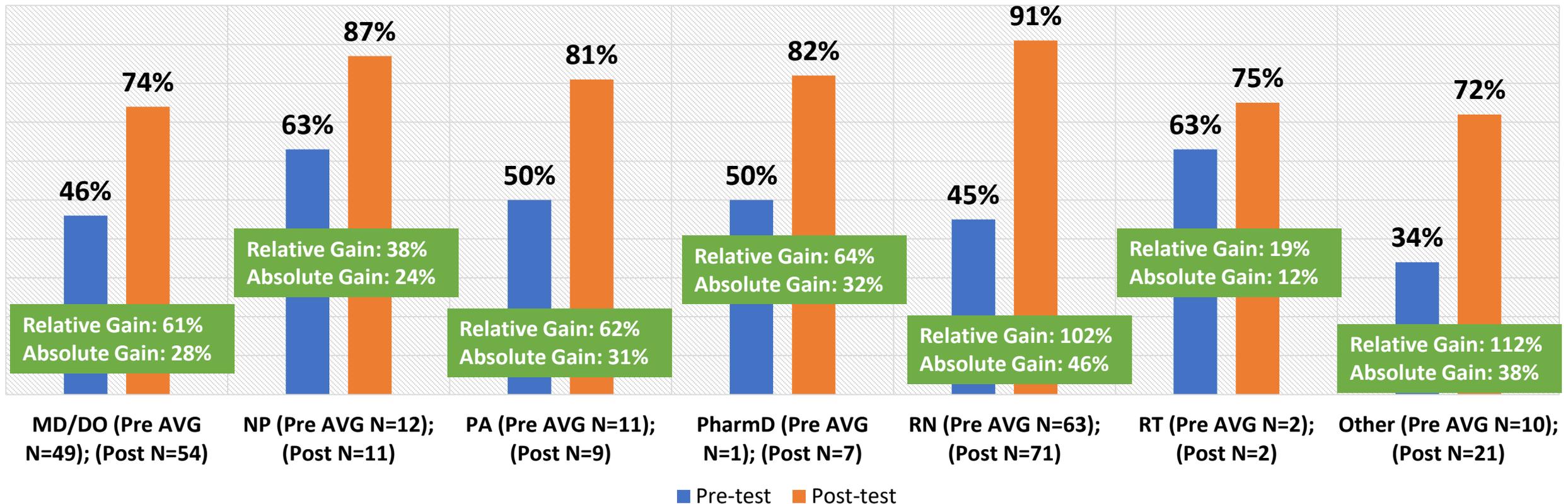


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 3 Outcomes (Knowledge): Live Webinar Sessions: Overall Knowledge Gain

Overall Knowledge Gain by Provider Type





Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

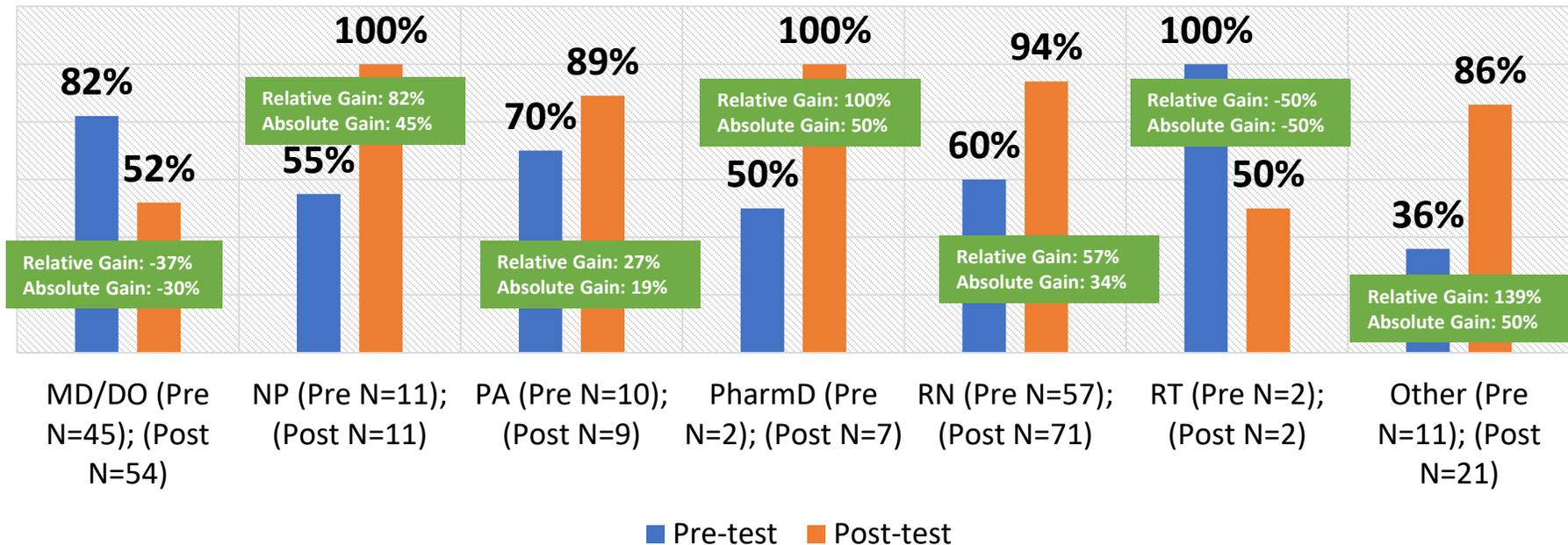
Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: Question 1

Learning Objective: *Discuss best practices approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

Question 1: A 60-year-old smoker presented with shortness of breath on exertion. His spirometry findings were pre-bronchodilator 1.23 L (67% predicted) with FEV1/FVC of 59% and post-bronchodilator 1.37 L (75% predicted) with FEV1/FVC of 66%. Using the GOLD criteria for staging COPD, he would be:

- a. Gold Stage I
- b. **Gold Stage II**
- c. Gold Stage III
- d. Gold Stage IV

Question 1: Pre/Post-test



Average Knowledge Gain (Question 1): 26%



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

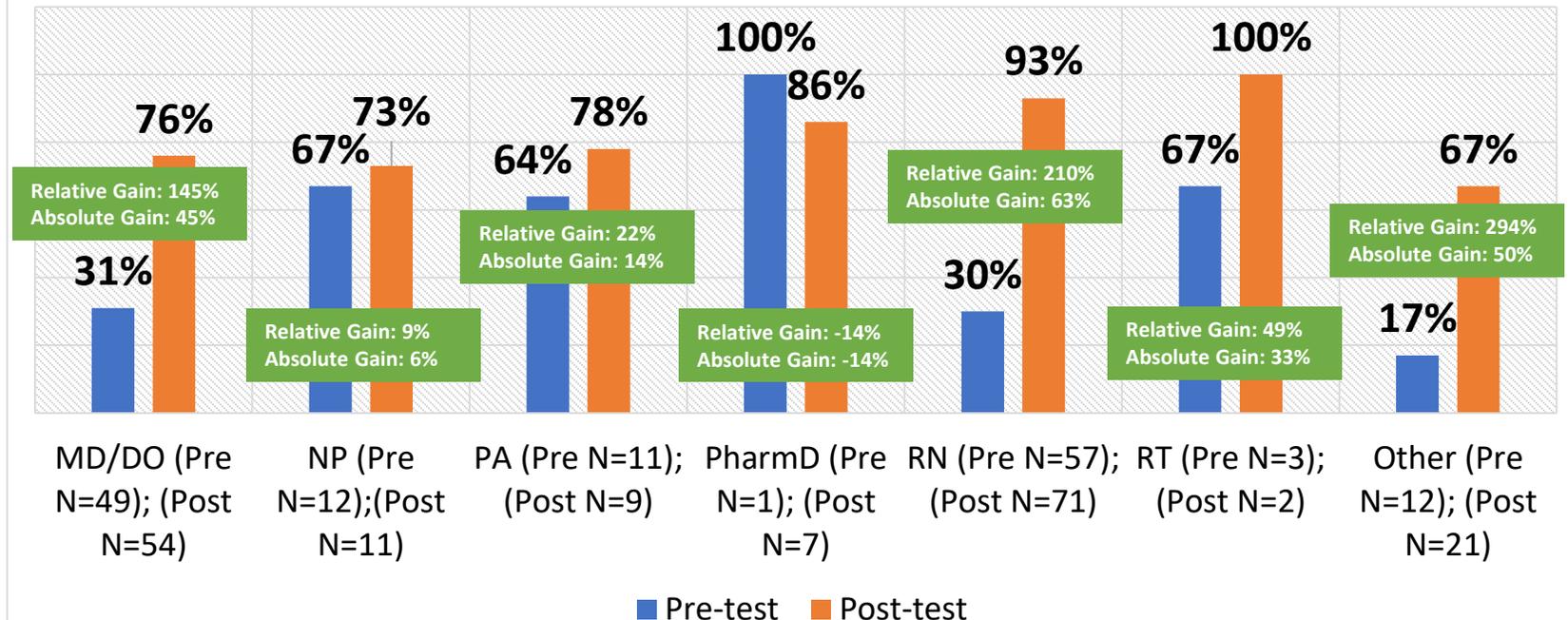
Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: Question 2

Learning Objective: *Discuss best practices approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

Question 2: A 55-year-old former heavy smoker presents with a history of shortness of breath and intermittent wheezing that responds to 2 inhalations of albuterol using a MDI device. Using pulmonary function testing, which of the following can be the most helpful in distinguishing whether he has asthma or COPD?

- a. Spirometry response to inhaled albuterol
- b. Assessing severity of airflow obstruction (FEV1)
- c. Measuring small airway function with FEF₂₅₋₇₅
- d. Cannot be distinguished by lung function testing

Question 2: Pre/Post-test



Average Knowledge Gain (Question 2): 52%



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

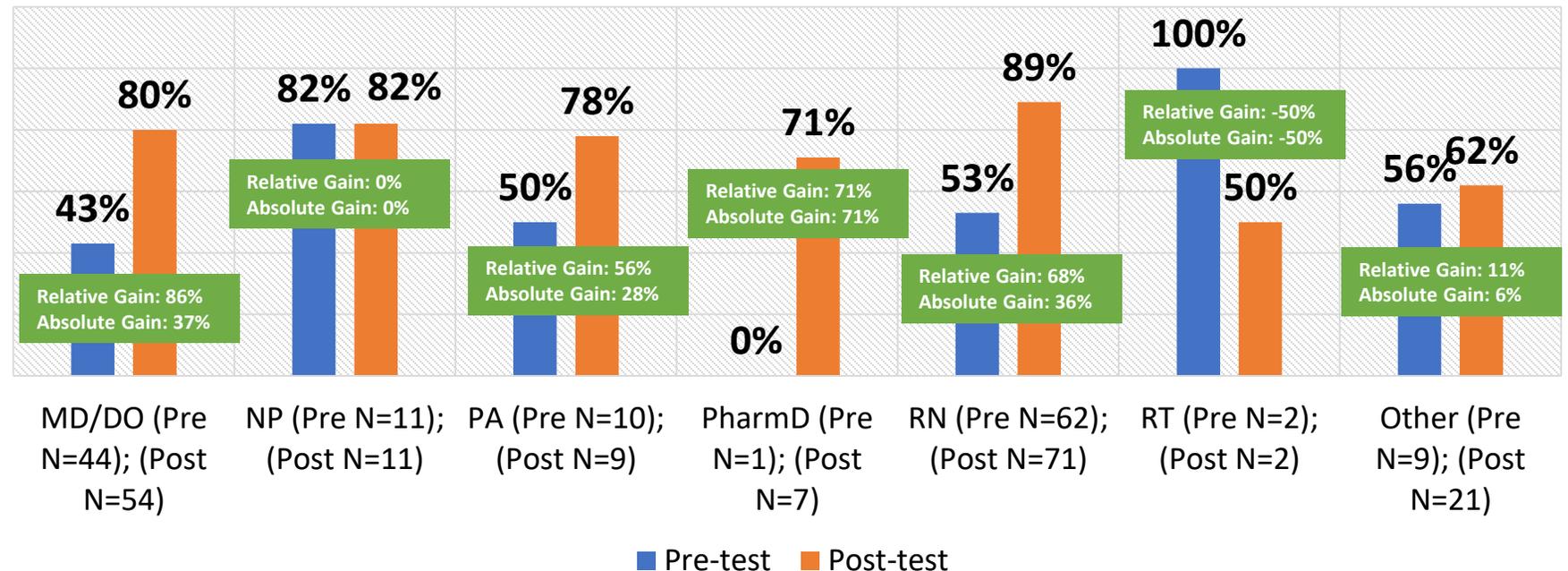
Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: Question 3

Learning Objective: Review current and emerging therapeutics in the treatment of COPD

Question 3: Which of these has been proven to reduce exacerbations of COPD?

- a. Regular use of short-acting beta agonist (e.g. albuterol)
- b. Pneumococcal vaccination
- c. Smoking cessation for 6 months
- d. **Regular use of long-acting bronchodilator (e.g. tiotropium)**

Question 3: Pre/Post-test



Average Knowledge Gain (Question 3): 33%



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

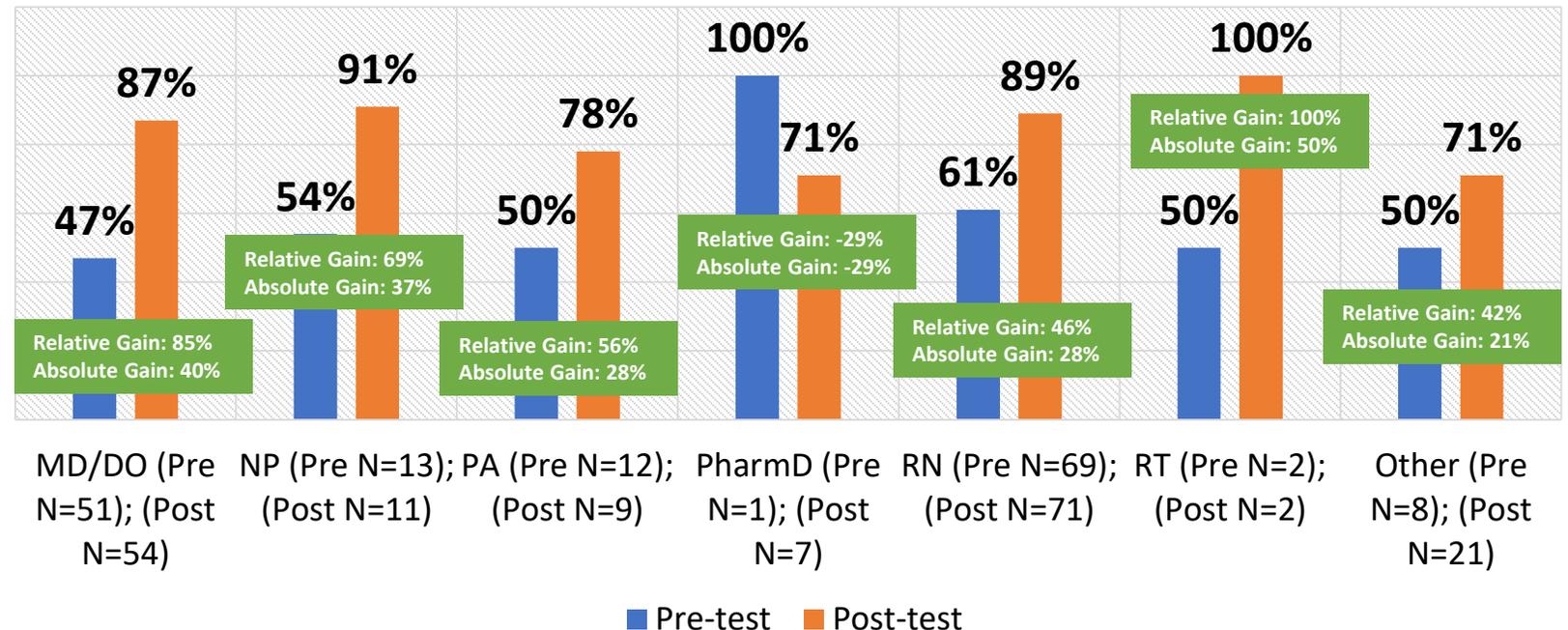
Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: Question 4

Learning Objective: *Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence*

Question 4: A 60-year-old man has been admitted to the hospital for a COPD exacerbation. Following discharge, which of the following measures has been shown to improve his survival (mortality)?

- a. Add a LABA/ICS to his regimen
- b. Add a PDE-4 inhibitor to his regimen
- c. **Begin an early program and pulmonary rehabilitation**
- d. Prolonged course of oral corticosteroid

Question 4: Pre/Post-test



Average Knowledge Gain (Question 4): 42%



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: Question 5

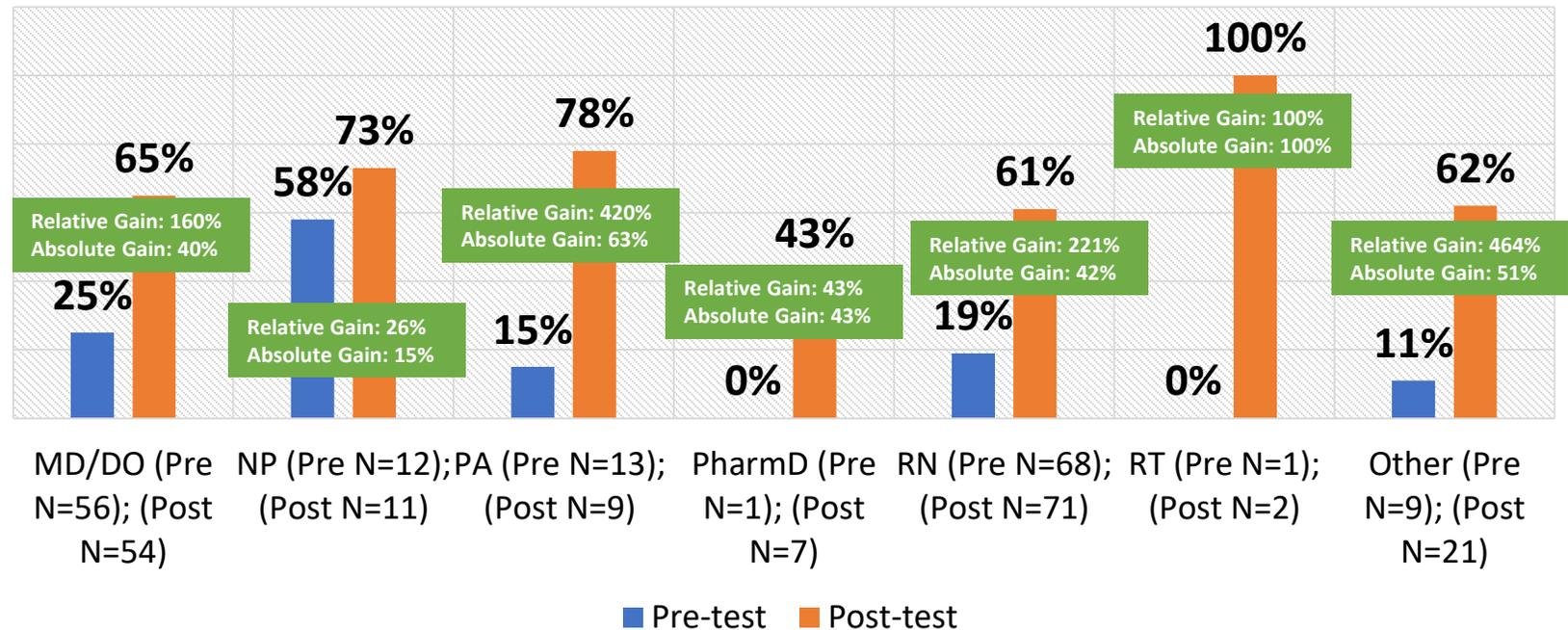
Learning Objective: *Discuss best practices approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

Question 5: A 55 year old obese man (BMI 35 kg/m²) is smoking 1 pack of cigarettes a day. He admits to chronic daily cough and sputum production. He is GOLD stage II COPD and has previous myocardial infarction. Which of the following puts the patient at most risk for recurrent exacerbations?

- a. Obesity
- b. Chronic daily cough and sputum**
- c. Emphysema on his CT scan
- d. His history of coronary artery disease

Average Knowledge Gain (Question 5): 283%

Question 5: Pre/Post-test





Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

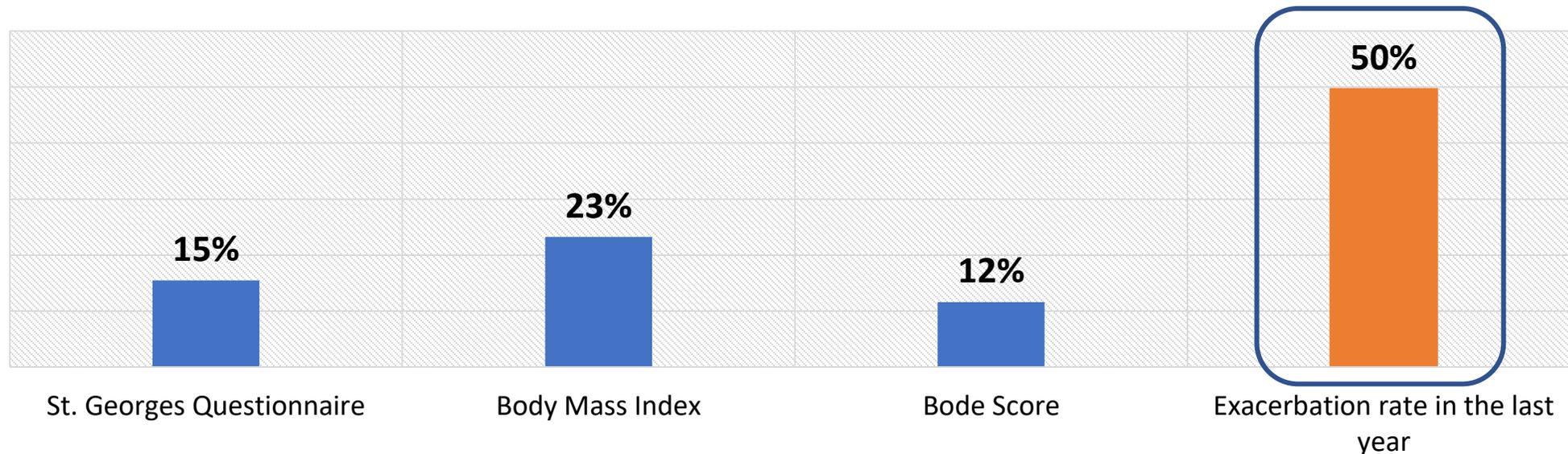
[Live Final Outcomes]

Level 3 Outcomes (Knowledge): Live Webinar Sessions: ARS Question 1

Learning Objective: *Discuss best practices approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

ARS Question 1: For many years, staging COPD severity relied on lung function measurements such as the FEV1. A new GOLD COPD staging assessment added exercise capacity using the modified Medical Research Council score or COPD assessment test (CAT score) to the assessment. What additional measure is needed to stage COPD using new GOLD criteria?

ARS Question 1: Four Webinars



N=155

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

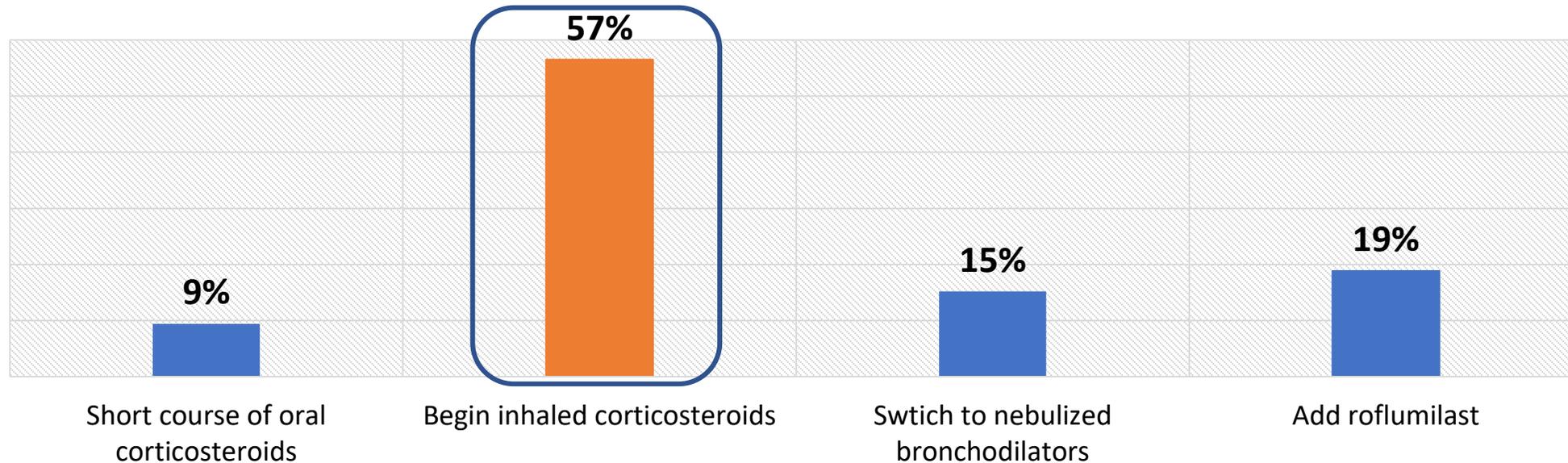
[Live Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: ARS Question 2

Learning Objective: *Discuss best practices approaches for early diagnosis and management of COPD to prevent and reduce exacerbations*

ARS Question 2: 60-year-old female executive, has been having increasing difficulty with her symptoms of COPD and has an increased frequency of exacerbations (2 exacerbations within the past 6 months). She has advanced COPD and has been using a LABA/LAMA. What additional therapy is suggested in the GOLD Guidelines for this patient?

ARS Question 2: Four Webinars



N=138

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

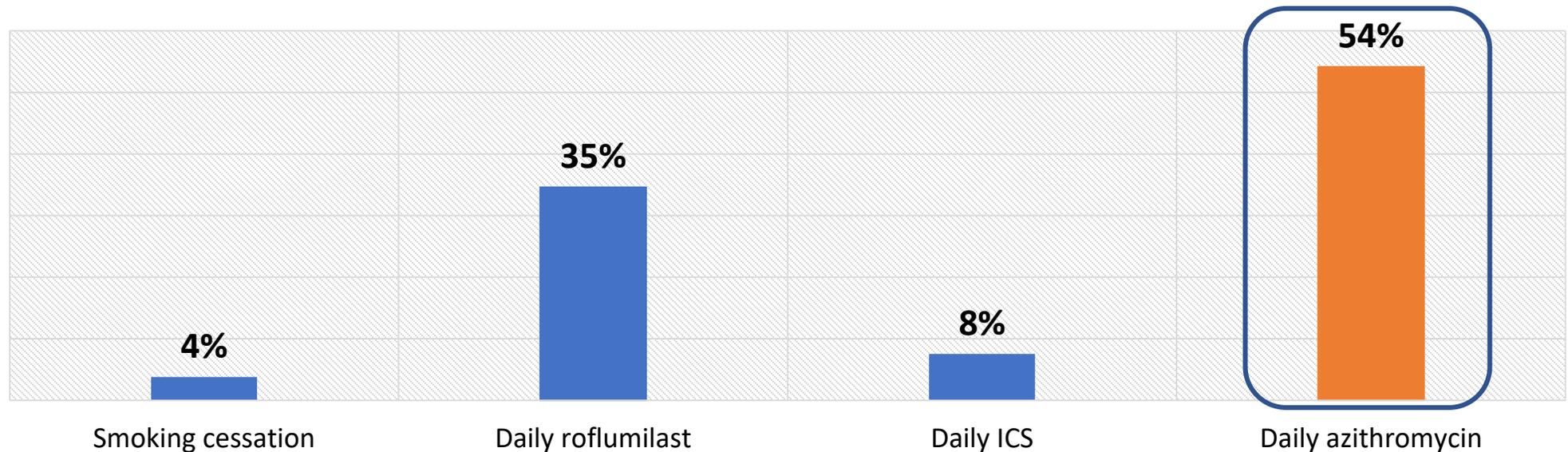
[Live Final Outcomes]

Level 3&4 Outcomes (Knowledge/Competence): Live Webinar Sessions: ARS Question 3

Learning Objective: *Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence*

ARS Question 3: 65 year old man from East Texas with multiple visits to physician for flare ups of breathing problems including frequent prednisone and antibiotics about every 2 months. He continues to smoke 1 ppd and coughs up several tablespoons of sputum every day. He has been taking LAMA/LABA for more than a year. His FEV1 is 43%. His eosinophil count off prednisone is 400 cells/ μ l. Which of the following are NOT indicated?

ARS Question 3: Four Webinars



N=133

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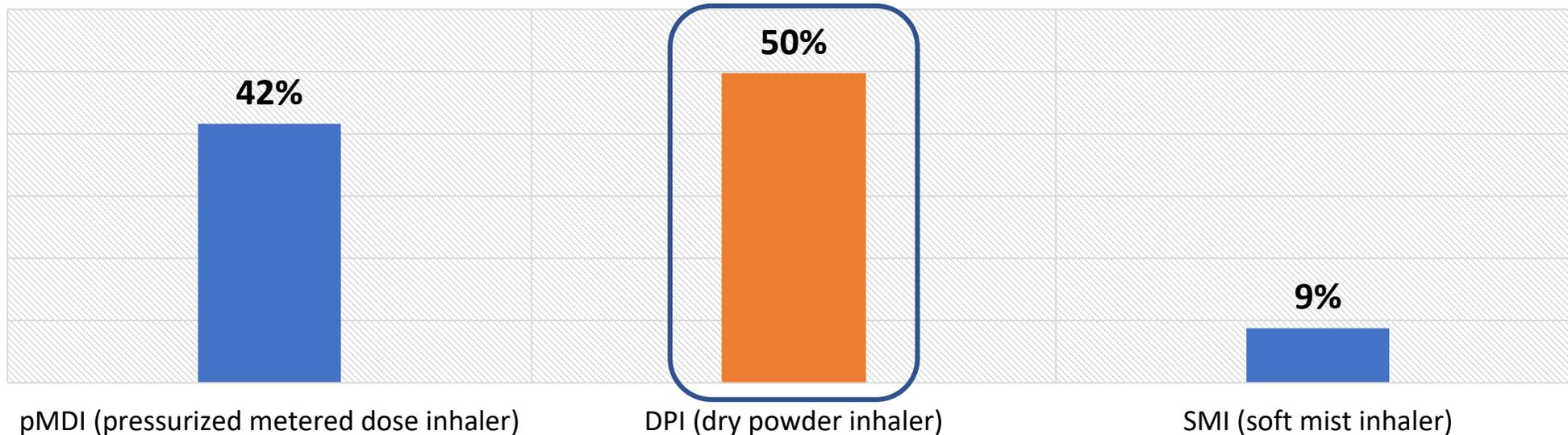
[Live Final Outcomes]

Level 3 Outcomes (Knowledge): Live Webinar Sessions: ARS Question 4

Learning Objective: *Describe patient-centered strategies for creating personalized treatment and management plans for COPD to improve patient adherence*

ARS Question 4: Which of the following inhaler types has the most inspiratory flow resistance?

ARS Question 4: Four Webinars



N=137

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Level 4 Outcomes (Competence): Live Webinar Sessions

An analysis of open-ended comments demonstrates the following changes learners intend to make:

92%

N=177

Learners intend to make changes to practice as a result of the activity

30%

Increase in overall knowledge including treatment and management of exacerbations

21%

Patient education including inhaler technique and smoking cessation

14%

Application of current guidelines for the treatment of COPD

13%

Proper use of medications

12%

Encourage pulmonary rehabilitation

10%

Use of spirometry to establish diagnosis

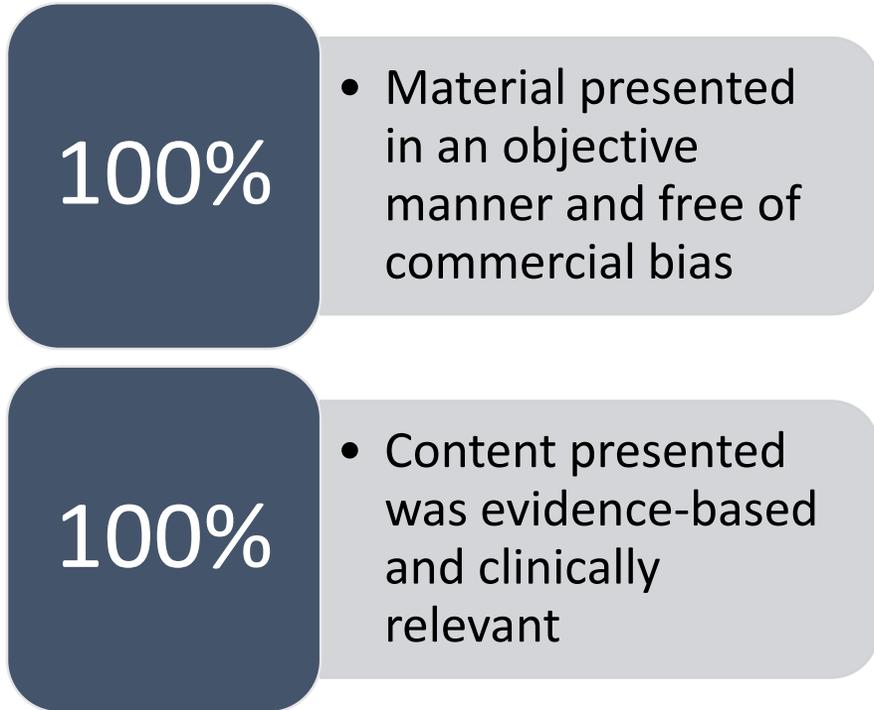
N=151



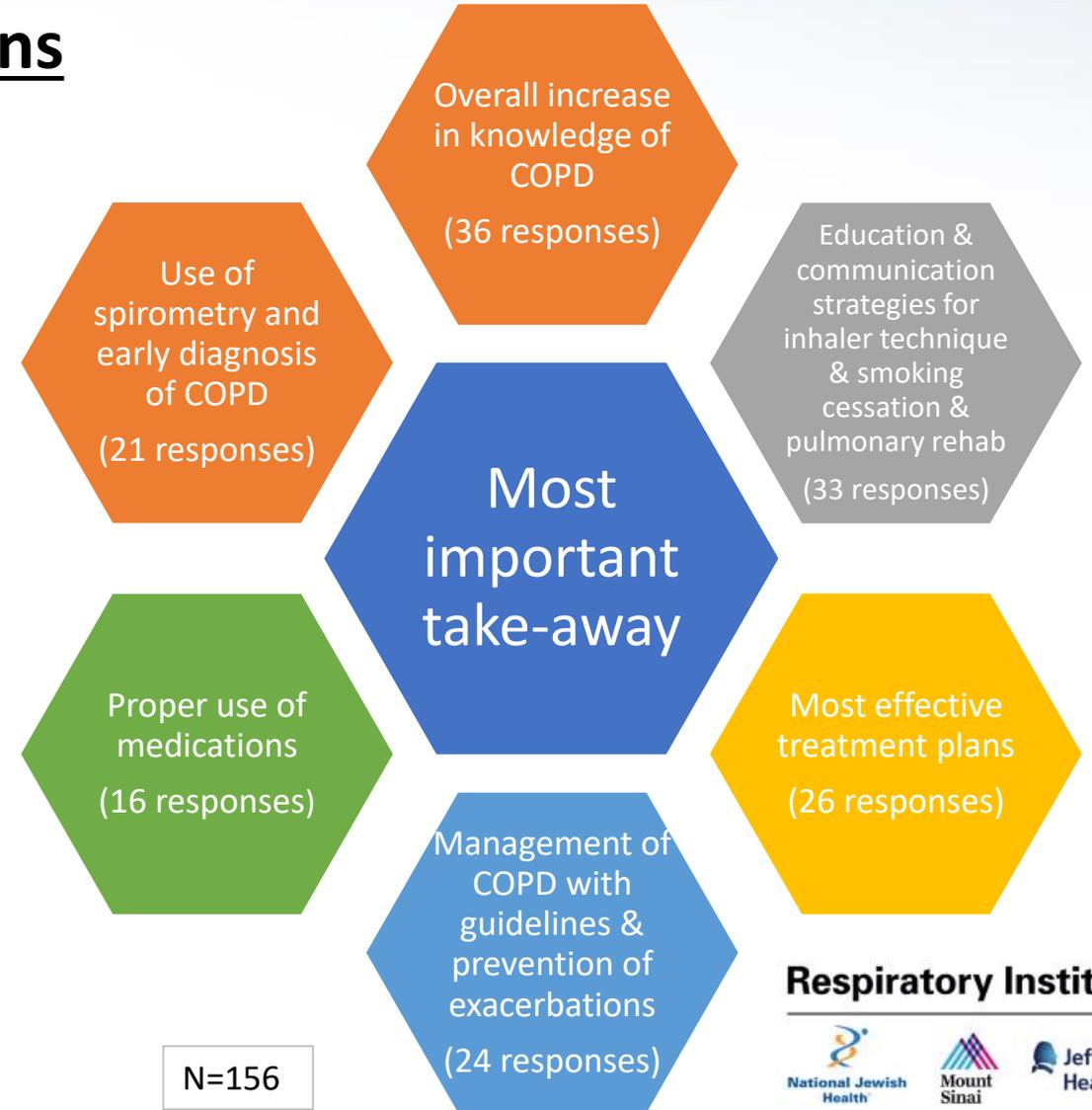
Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: Live Webinar Sessions



N=177

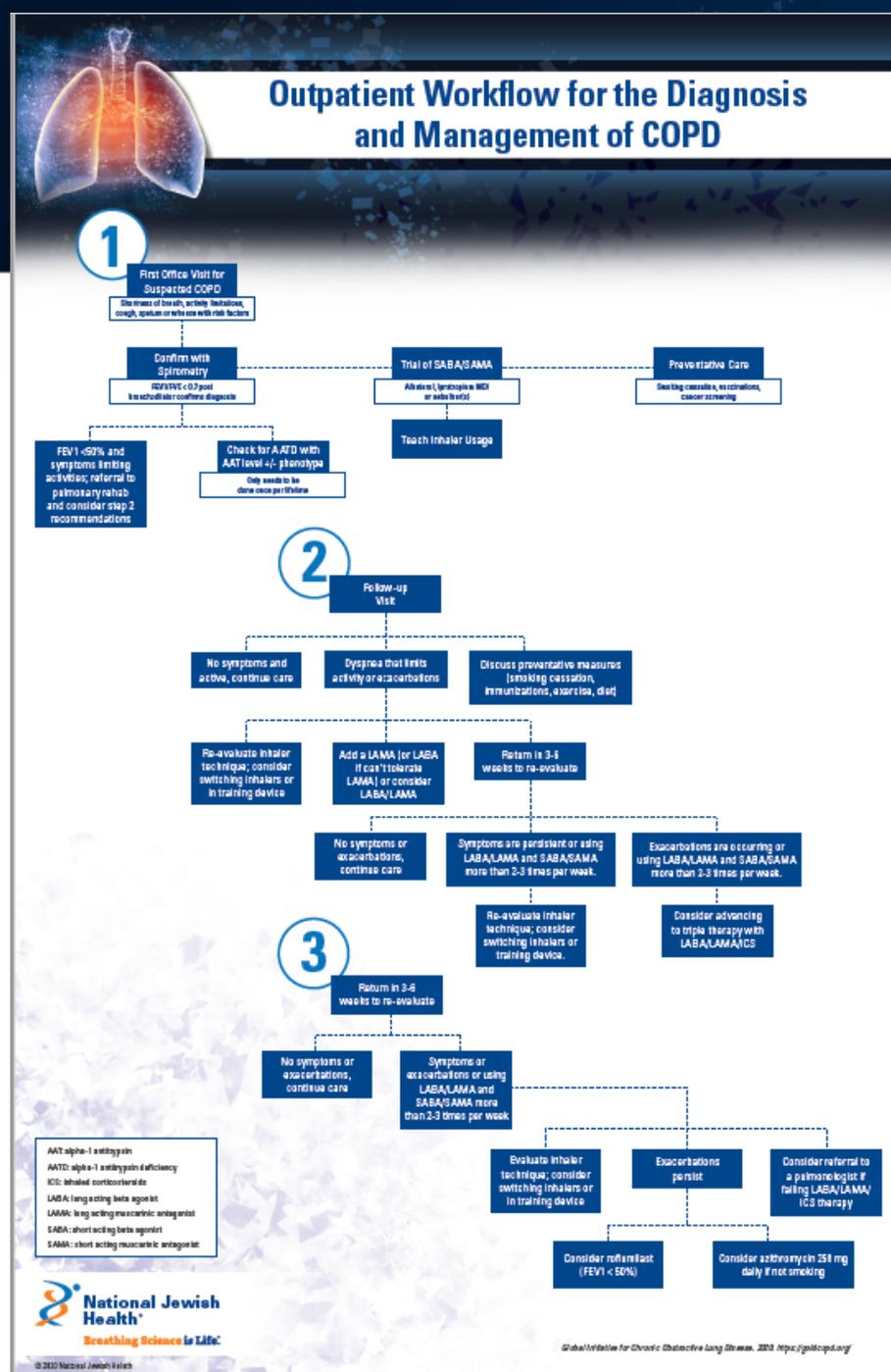




Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

75% of learners indicated they plan to use the clinical reference aid in practice.

N=177





Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: Live Webinar Sessions

What do you think is the primary reason why making a diagnosis of COPD is so difficult?

Variability in patterns of clinical presentation	Ease of access to spirometry
Symptoms can overlap with asthma	Lack of understanding by primary care providers
Symptoms are subjective	Time constraints
Lack of referral to pulmonologists	Patient history and conversation
Poor understanding of the pathophysiology	Access to testing
Clinical limits and policies	Variability of clinical presentation
Proper diagnostic testing for proper diagnosis	Lack of understanding the data
Lack of attention to current guidelines for care	Obtaining a reliable patient history

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: Live Webinar Sessions Strategies for Overcoming Barriers

- Education for inhaler technique
- Early diagnosis
- Spirometry testing
- Motivational interviewing
- Management of exacerbations
- Appropriate interpretation of PFTs and how to guide therapy
- Help patients and families/caregivers understand the treatment plan
- Referral to pulmonary rehab

69%

N=177

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

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: Live Webinar Sessions

What topics would you like more information about in future educational activities?

Chronic urticaria	Disaster medicine
COVID-19	NTM infections
Cardiology	Dermatology
Ventilator management	Pediatric emergencies
Chronic kidney disease	Lyme disease
Triple therapy	Renal disease
Diabetes	Immune deficiency
Atrial fibrillation	Severe asthma
Cancer	Pulmonary hypertension
Sleep	Neurology

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: 45-day Follow-up Survey: Live Webinar Sessions

66%

Respondents to the follow-up survey N=32

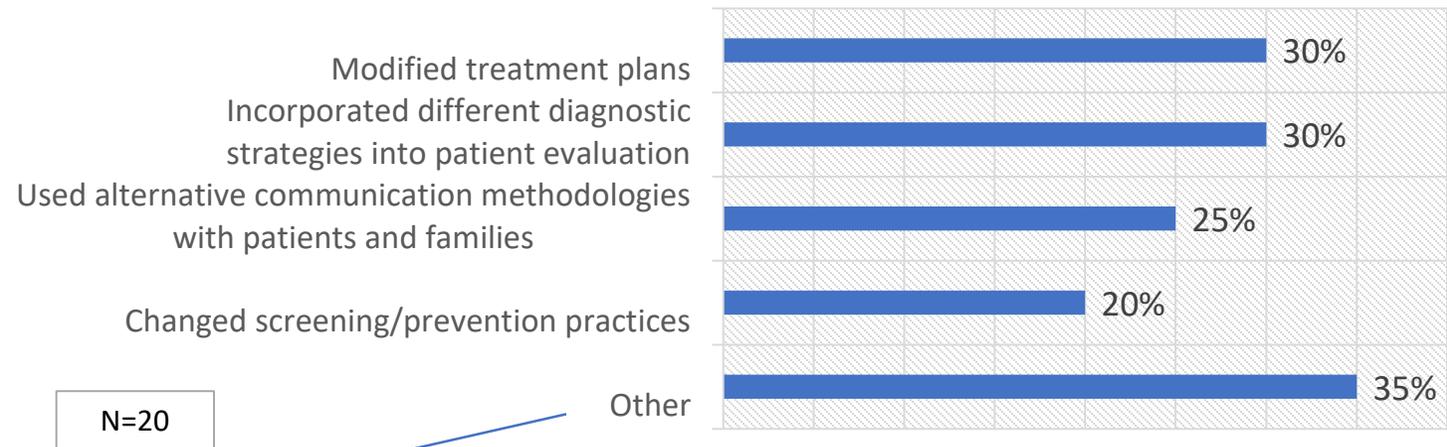
reported they have made or are still thinking about making changes to their practice

63%

Respondents to the follow-up survey N=32

reported the activity provided new ideas and information to use in practice.

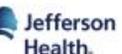
Changes Incorporated into Practice as Result of Activity



Other Includes:

- Early airway management, preventing respiratory fatigue, triage screening tools, using CAT questionnaire
 - Modified treatment plan
- Pulmonary rehabilitation program
 - Care plan

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Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: 45-day Follow-up Survey: Live Webinar Sessions

63%

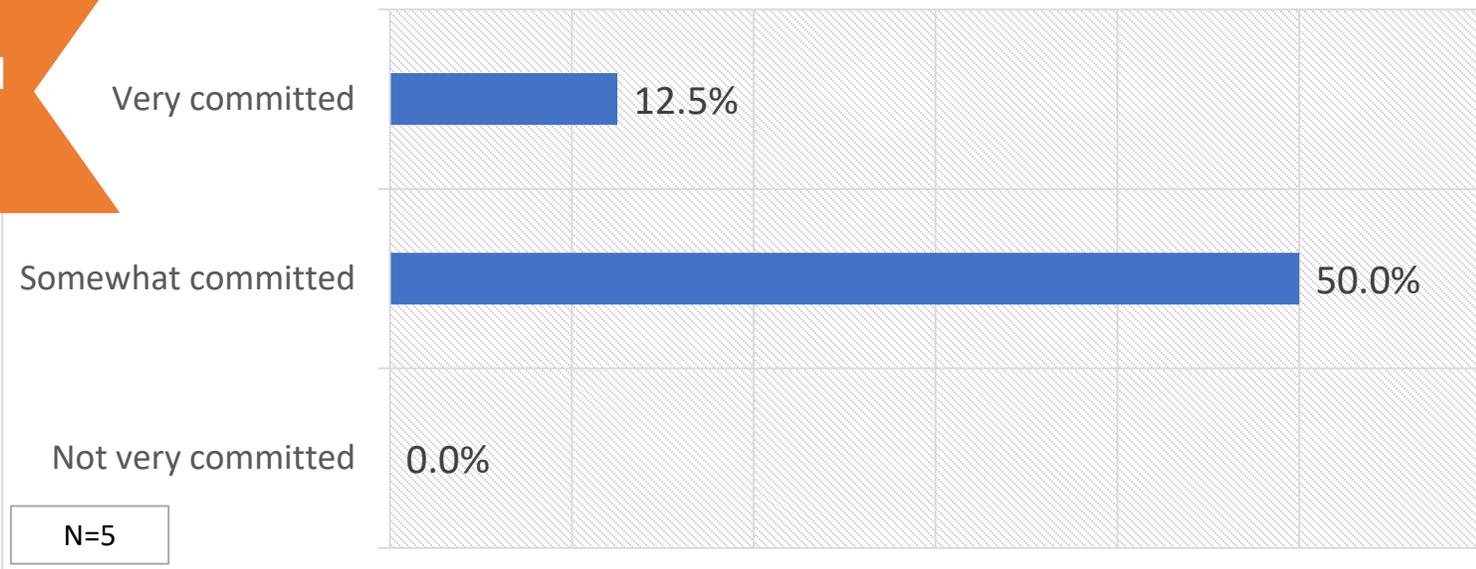
Respondents to the follow-up survey

N=8

who have not made changes yet are still thinking of making changes

68 patients have benefited from this information

Commitment Level to Still Make Changes to Practice



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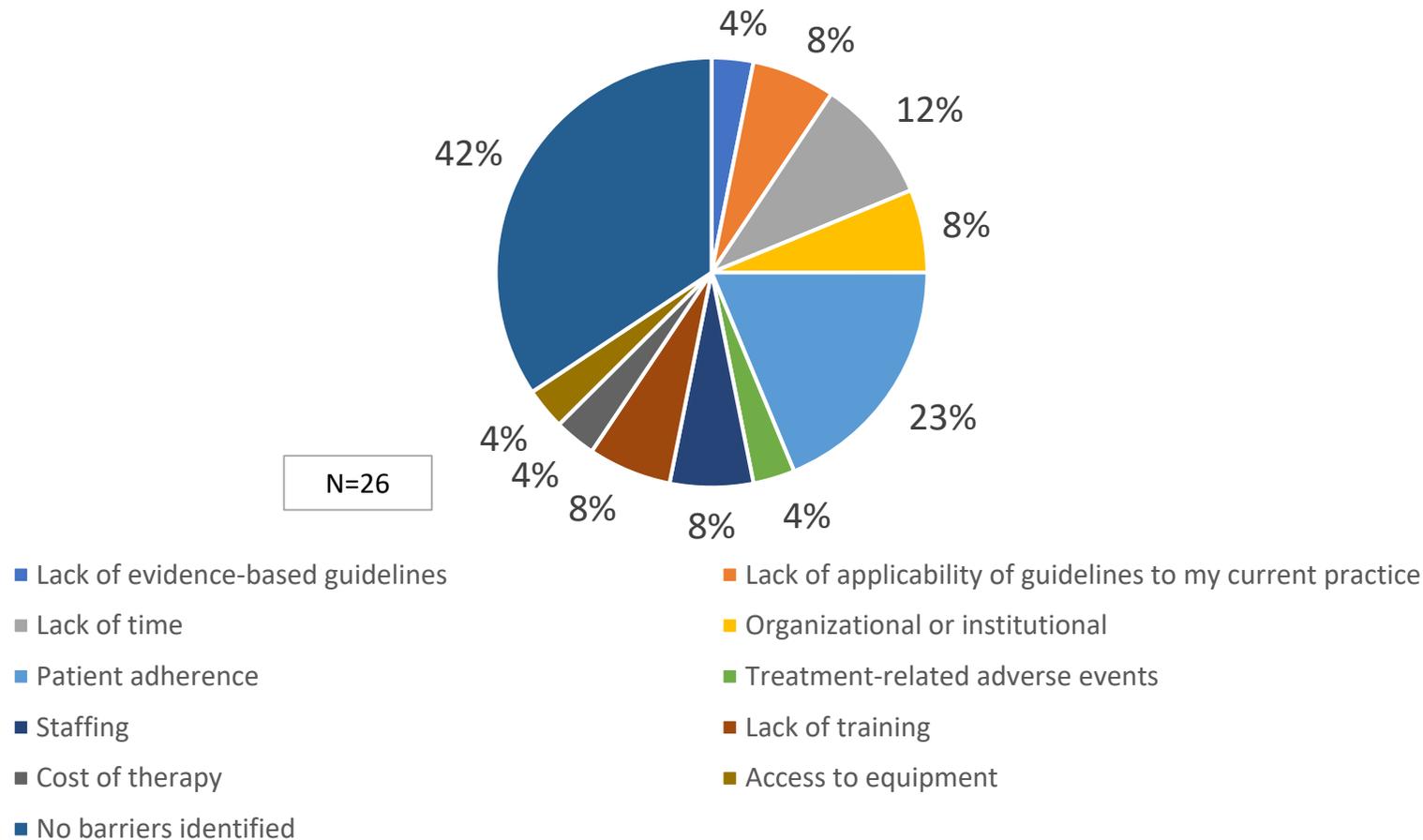


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: 45-day Follow-up Survey: Live Webinar Sessions

Barriers Experienced that Impact Patient Outcomes



42%

N=26

Learners indicated the activity provided information, education, tools, or resources to address barriers.

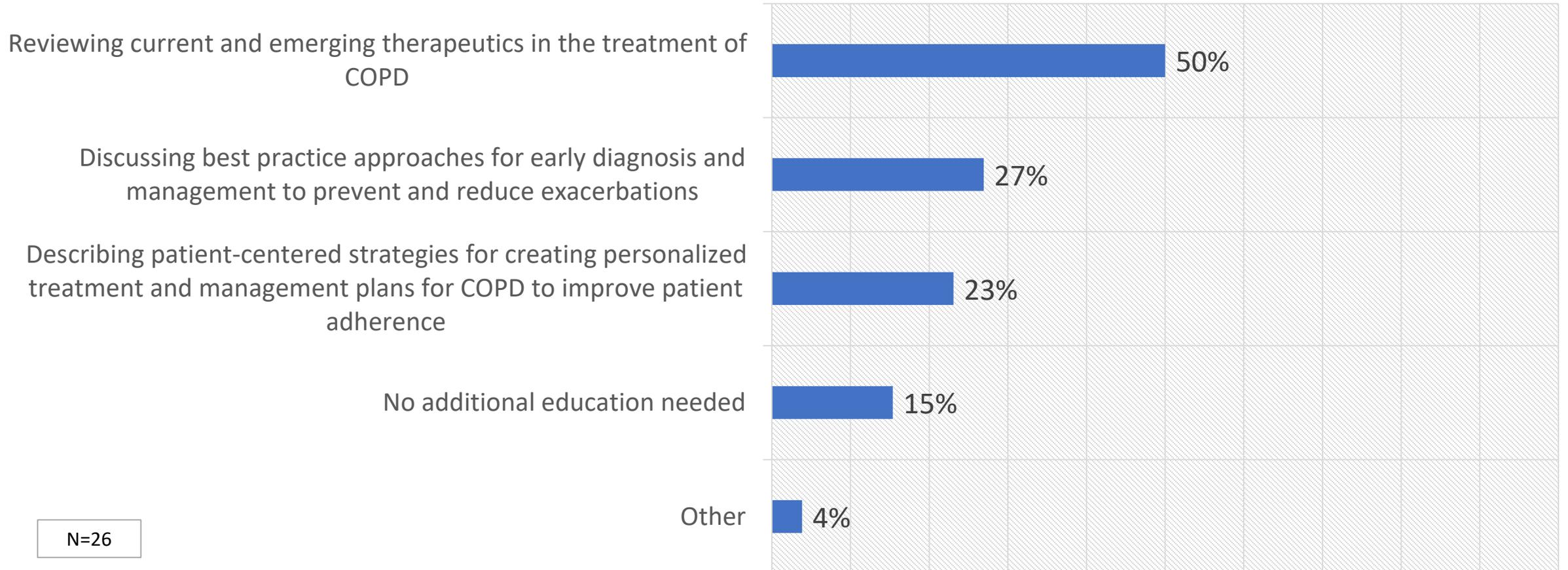


Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Live Final Outcomes]

Program Evaluation: 45-day Follow-up Survey: Live Webinar Sessions

In what areas do you feel you need more education?



N=26



Challenging Cases in COPD: Early Diagnosis, Management and Exacerbation Prevention

[Final Outcomes]

Accreditation

NJH is accredited 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.

Online Enduring

NJH designates this enduring material for a maximum of 1.0 *AMA PRA Category 1 Credit*[™].

Provider approved by the California Board of Registered Nursing, Provider Number 12724 for 1.0 nursing contact hours.

Live Webinar Series

NJH designates this live activity for a maximum of 2.0 *AMA PRA Category 1 Credits*[™].

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