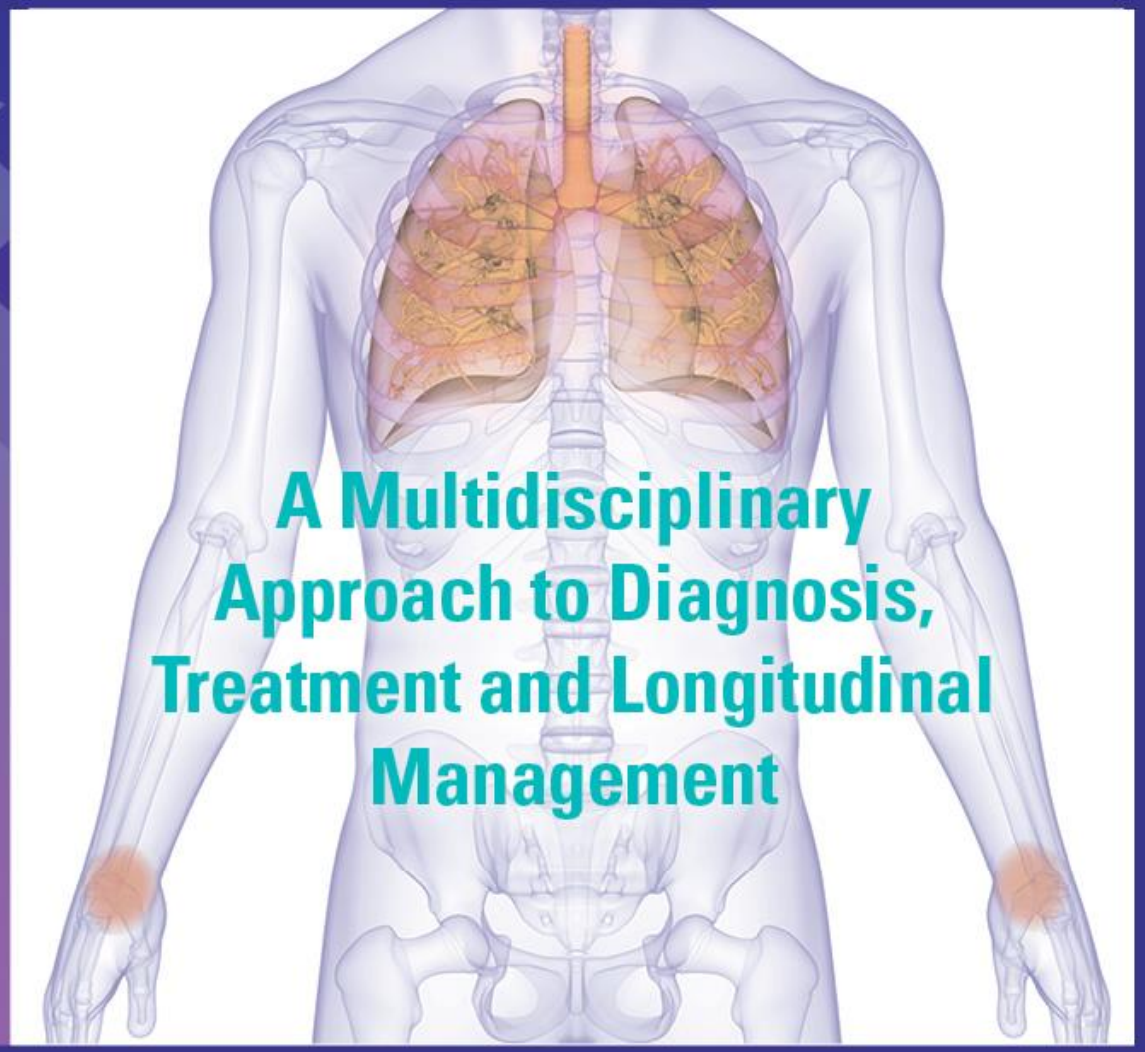
Systemic Sclerosis Interstitial Lung Disease (SSc-ILD)



Final Outcomes Report:
Live and Online Enduring Activity

This educational activity was supported by an educational grant from Boehringer Ingelheim

Respiratory Institute®

National Jewish Health®

Mount Sinai

Jefferson Health.

Executive Summary: Activity Details

The CME symposium was held in conjunction with American College of Chest Physicians (ACCP) Annual Meeting (CHEST 2019) in New Orleans, LA and subsequently provided as an online enduring activity. The program consisted of a one-hour roundtable discussion led by three pulmonologists considered to be key opinion leaders in ILD and one rheumatologist. They provided their perspective in the multidisciplinary approach to SSc-ILD. The experts led discussion on screening and diagnosis, current and emerging treatments, and longitudinal management. National Jewish Health is the accredited provider for the collaborative program presented with the Mount Sinai – National Jewish Health Respiratory Institute and the Jane and Leonard Korman Respiratory Institute - Jefferson Health and National Jewish Health.

Learning Objectives

1. Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.
2. Apply practice guidelines and clinical evidence related to current and emerging therapies to select treatments for patients with SSc-ILD.
3. Evaluate strategies for longitudinal management of SSc-ILD using a multidisciplinary approach.

Features included:

- ✓Panel discussion
- ✓Challenging cases
- ✓Infographic clinical aid
- ✓Audience Response System

Patient Perspective Video

Faculty Presenters

Mehrnaz Maleki Fischbach, MD
Associate Professor of Medicine
Division of Rheumatology
Director of the Rheumatology Clinic
National Jewish Health
Denver, CO

Jeffrey Swigris, DO, MS
Director, Interstitial Lung Disease Program
Professor of Medicine
Division of Pulmonary, Critical Care & Sleep Medicine
National Jewish Health
Denver, CO

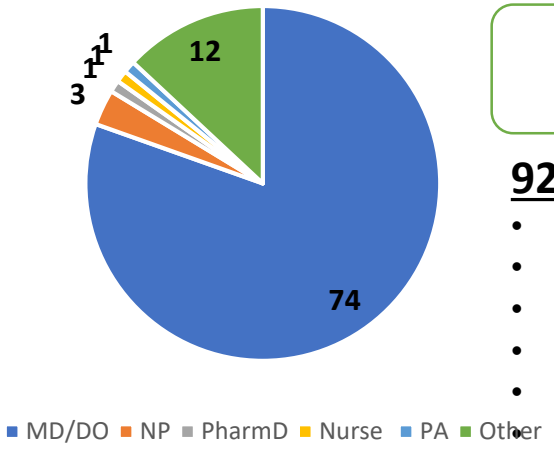
Jesse Roman, MD
Professor of Medicine
CEO, Jane & Leonard Korman Respiratory Institute - Jefferson Health and National Jewish Health
Ludwig Kind Professor of Medicine and Pharmacology & Experimental Therapeutics
Enterprise Division Chief -Pulmonary, Allergy & Critical Care Medicine
Jefferson Health
Philadelphia, PA

Maria Padilla, MD
Director, Advanced Lung Disease & Interstitial Lung Disease Program
Professor of Medicine
Pulmonary, Critical Care and Sleep Medicine
Mount Sinai-National Jewish Health Respiratory Institute
New York City, NY

Activity Dashboard : Live Symposium

National Jewish Health®

Participation



82% MD/DO

92 Attendees

- 74 MD/DO
- 1 PA
- 3 NP
- 1 PharmD
- 1 Nurse
- 12 Other

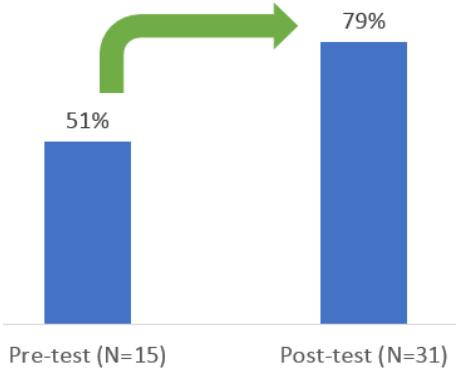
Satisfaction

100% of respondents indicated that the activity:

- Met their learning needs
- Reinforced or improved current skills
- Improved ability to treat patients

"Great job! Speakers presentations were well done! **CHEST attendee in New Orleans, LA**

Learner Impact



55% overall relative knowledge gain

70% of all questions represented a medium to large effect

NARROWING THE GAPS

Identify clinical features and risk factors	**44%** increase in knowledge from pre to post test
Apply practice guidelines and clinical evidence related to current and emerging therapies	**111%** increase in knowledge from pre to post test
Evaluate strategies for longitudinal management	**13%** increase in knowledge from pre to post test

Performance

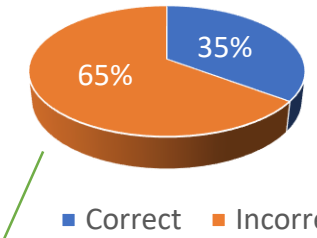
100% of learners report that they are somewhat to extremely likely to make changes to their practice based on what they learned

Intended changes include:

- Start treatment earlier
- Screening tools (with HRCT)
- Work up for dyspnea

Persistent Gaps/Needs

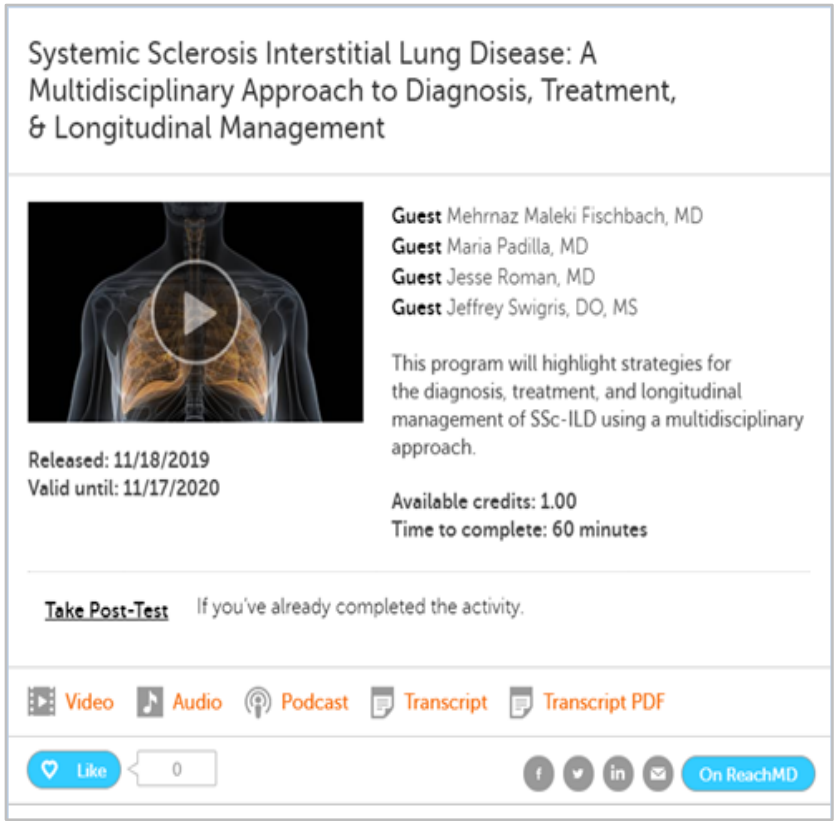
A gap persists related to identifying clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.



65% were unable to identify the risk for progressive ILD

Online Outcomes: Overview

Online Enduring Activity on ReachMD:
November 18, 2019 - November 17, 2020



https://reachmd.com/programs/cme/systemic-sclerosis-interstitial-lung-disease-a-multidisciplinary-approach-to-diagnosis-treatment-man/11055/

Because streaming learners on ReachMD are less likely to engage with the post-test and evaluation, National Jewish Health posted the online enduring activity on two distribution platforms to ensure robust program data.

Online Enduring Activity on FreeCME:
April 24, 2020 - November 17, 2020

https://learning.freecme.com/a/34680PAdwUsa

Activity Dashboard: Online Activity

National Jewish Health®

Reach

10,431
Registered Learners

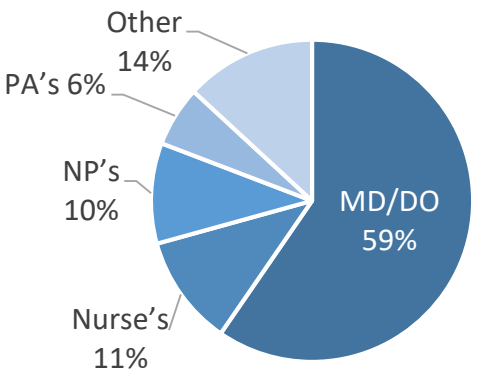
7,210
Streaming

3,221
On Demand

Exceeded anticipated reach by 90%!

714 completers
(measured by post-test engagement)

Participation

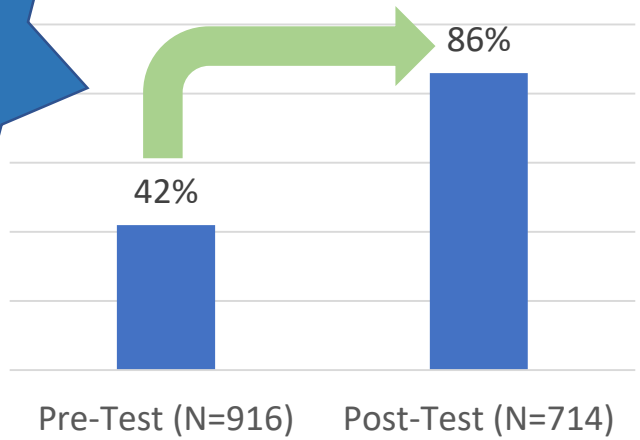


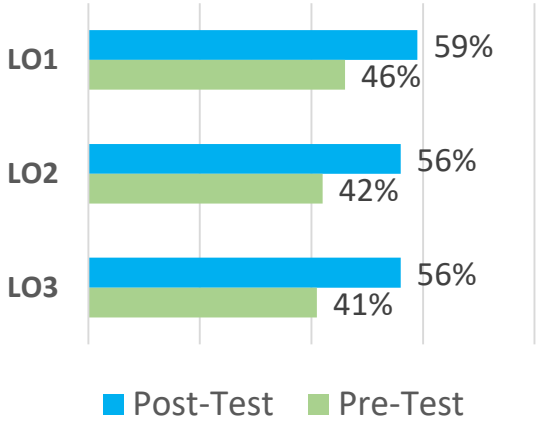
76% of learners were physicians and advanced practice providers

N = 10,431

Educational Impact

105% overall relative gain in knowledge from pre to post activity.





33% overall increase in confidence across all learning objectives

Practice Change

80% of evaluation respondents (N=572) report that they are somewhat to extremely likely to make changes to their practice following the activity.

"In the surgical setting, I will be able to identify abnormal lung tissue."

"I will utilize a multidisciplinary approach more frequently."

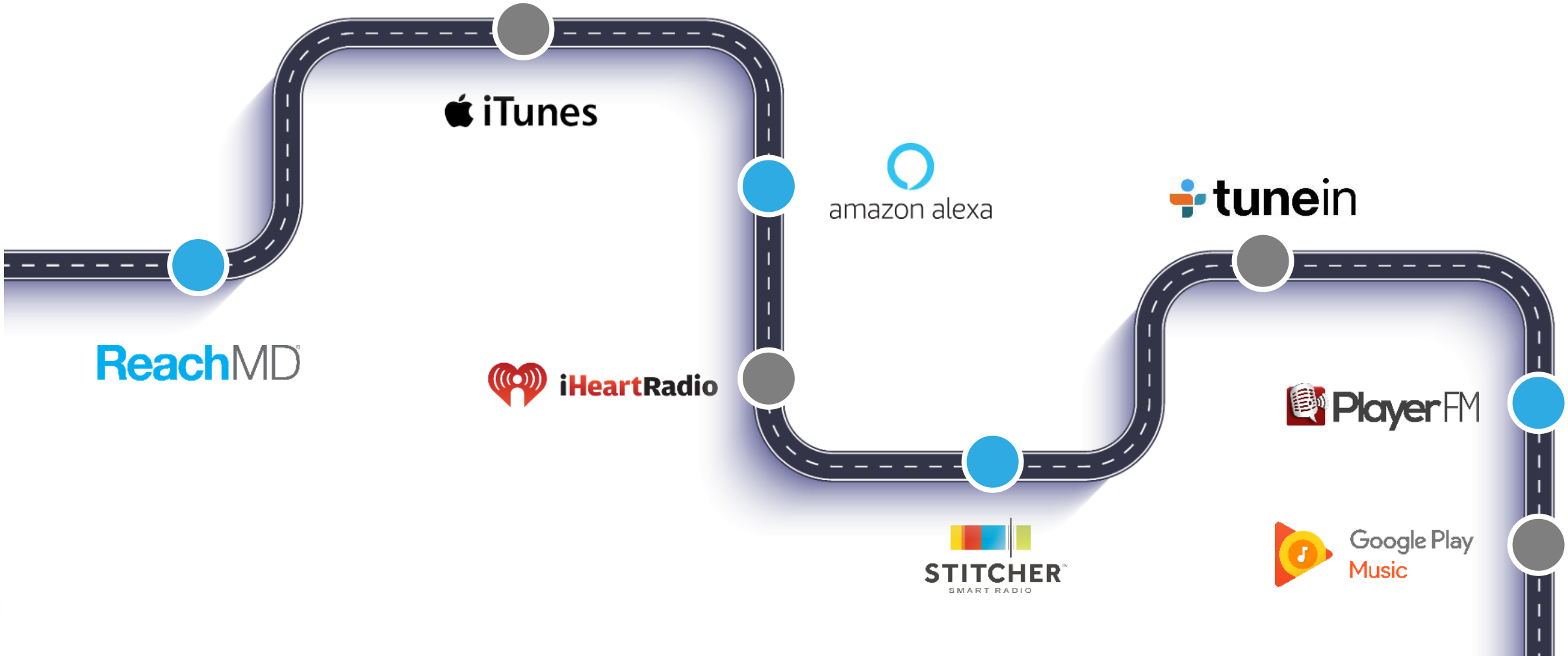
"Additional antibody testing for new ILD evaluations and move earlier to anti-fibrotic therapy."

81% are likely to use the infographic clinical reference aid in their practice.

Online Outcomes: ReachMD Distribution

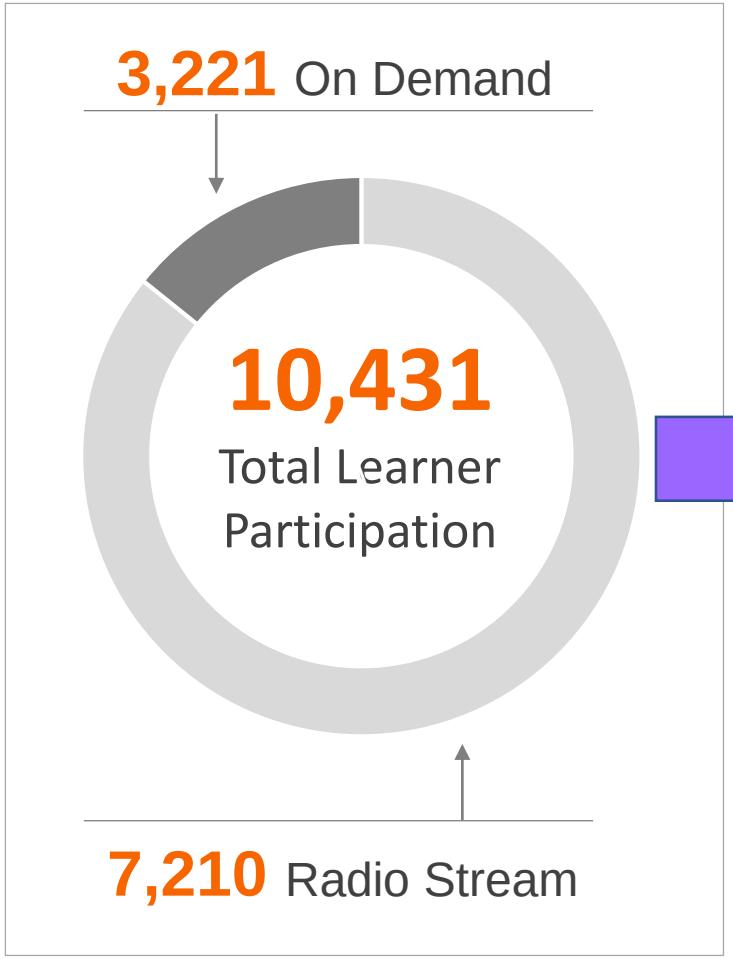
National Jewish Health

Accessible on websites, mobile apps, and podcast in connected cars across the ReachMD Network



Level 1 Online Outcomes: Participation Breakdown

National Jewish Health®



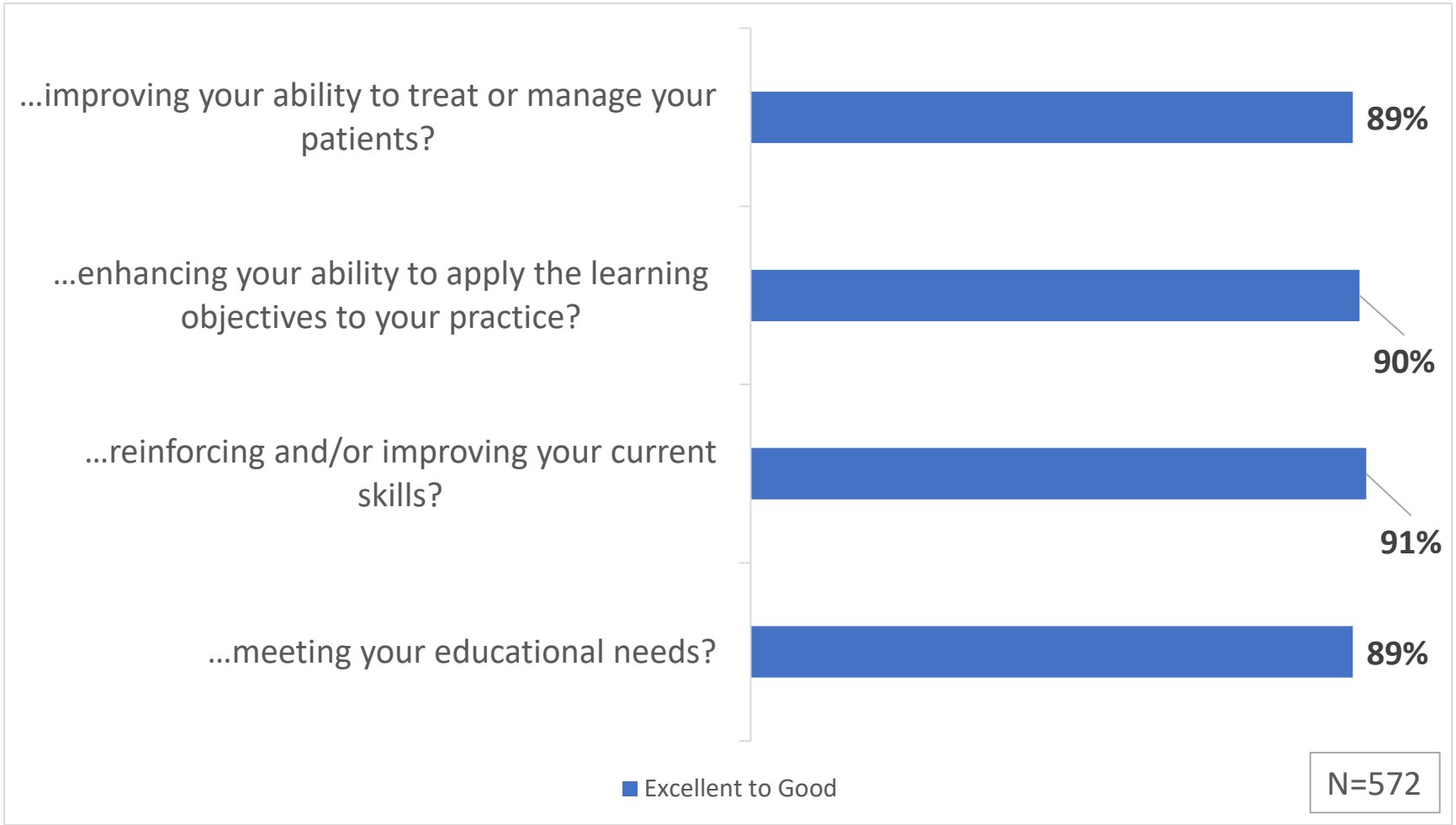
Profession	Learner Participation
Physician	6,185
Nurse	1,153
NP	1,086
PA	647
PharmD	4
Other	1,356
Total	**10,431**

Specialty	Learner Participation
Primary Care	3,444
Oncology	780
Cardiology	506
Psychiatric/Mental Health	491
Rheumatology	486
Pain Management	399
Ophthalmology	392
Surgery	342
Pulmonary	332
Neurology	298
Hospital Medicine	212
Family/Internal/Adult	98
Other	2,651
Total	**10,431**

Level 2 Online Outcomes: Satisfaction

National Jewish Health®

Evaluation respondents report the activity was “Excellent” to “Good” at:



Evaluation

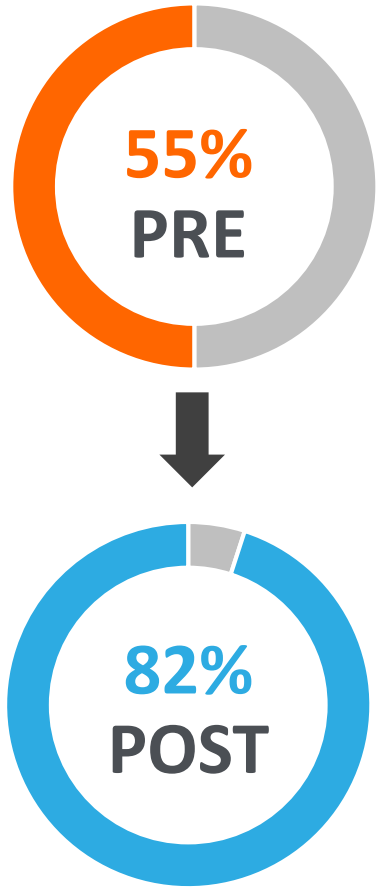
- ✓ **97%** reported the material was presented without commercial bias
- ✓ **98%** reported the content presented was evidence-based and clinically relevant

Level 4 Online Outcomes: Pre/Post Assessment

National Jewish Health®

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

Q1: A 60 year old patient with SSc presents with progressive shortness of breath and evidence of interstitial lung disease on a chest radiograph. You order a HRCT scan of the chest and expect the following:	Pre-test N = 916	Post-test N = 714
NSIP or UIP pattern	**55%**	**82%**
Interstitial reticulation and pleural involvement	24%	7%
Apical fibrosis	12%	6%
Significant air trapping on expiratory images	6%	3%
Diffuse cysts	2%	2%



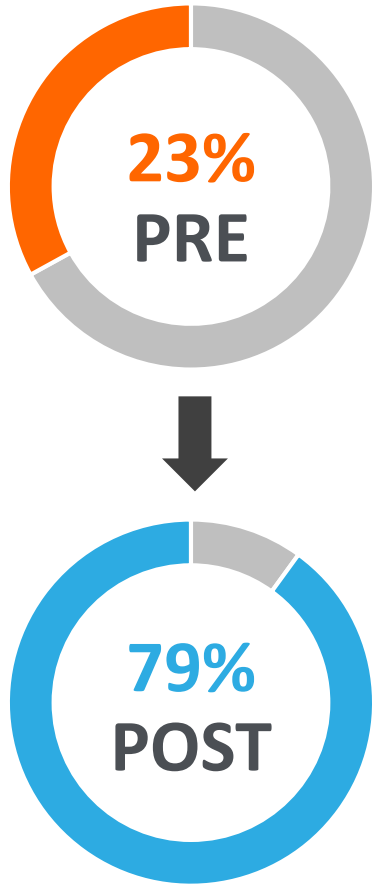
49% relative knowledge gain

Level 3 Online Outcomes: Pre/Post Assessment

National Jewish Health®

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

Q2: Your patient is diagnosed with SSc-ILD and the HRCT pattern shows fibrotic NSIP. Which of the following is the most important to determine prognosis?	Pre-test N = 917	Post-test N = 714
The % of neutrophils in Bronchoalveolar Lavage (BAL)	38%	8%
Extent of skin involvement	22%	7%
Autoantibody status	**23%**	**79%**
Serum TGF-beta levels	16%	7%



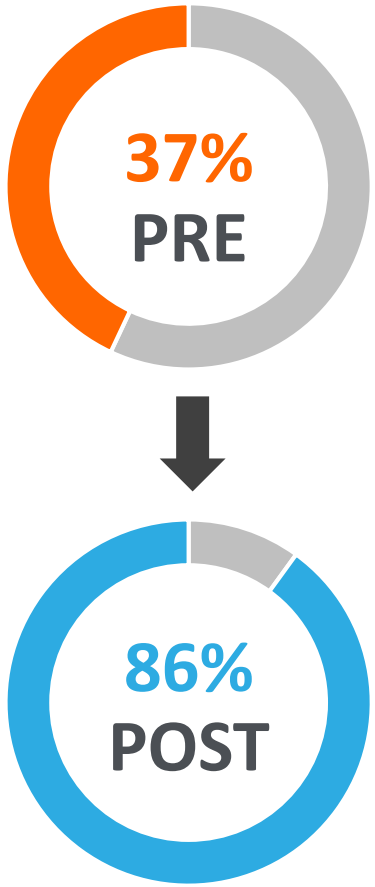
243% relative knowledge gain

Level 4 Online Outcomes: Pre/Post Assessment

National Jewish Health®

Learning Objective: *Apply practice guidelines and clinical evidence related to current and emerging therapies*

Q3: Your patient is a 50 y/o female with diffuse cutaneous SSc & SSc-ILD that is progressive & very severe (FVC 38% DLCO 38%) despite attempts with IV & oral cyclophosphamide, MMF, azathioprine, rituximab salvage therapy. Stem cell transplant is not an option. What is the next step?	Pre-test N = 913	Post-test N = 714
Consider starting pirfenidone and refer to a center with experience transplanting SSc patients	33%	8%
Consider starting nintedanib and refer to a center with experience transplanting SSc patients	**37%**	**86%**
IV solumedrol 1000mg QD x 3 days then prednisone start at 1 mg/kg QD	19%	3%
Hospitalize and start intravenous therapy for pulmonary hypertension	11%	3%



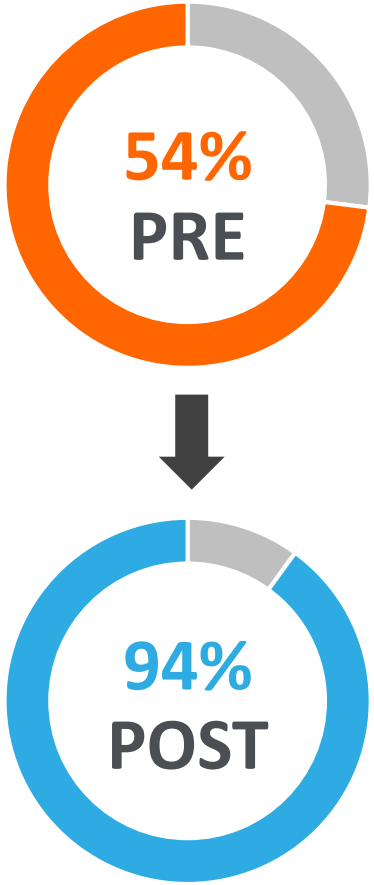
132% relative knowledge gain

Level 3 Online Outcomes: Pre/Post Assessment

National Jewish Health®

Learning Objective: *Apply practice guidelines and clinical evidence related to current and emerging therapies*

Q4: You have a patient with SSc-ILD whose vaccinations are up to date and is stable on current therapy. Which of the following is the most important intervention?	Pre-test N = 914	Post-test N = 714
Encourage adding B vitamin complex	22%	2%
Refer to Pulmonary Rehabilitation	**54%**	**94%**
Limit activity (data suggests it will worsen skin and cause exercise induced pulmonary hypertension)	13%	3%
Avoid shingles vaccination because of risk for adverse events	12%	2%



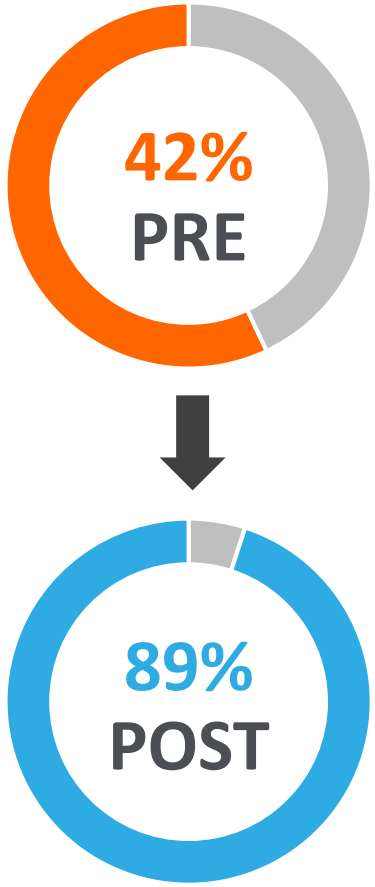
74% relative knowledge gain

Level 3 Online Outcomes: Pre/Post Assessment

National Jewish Health®

Learning Objective: *Evaluate strategies for longitudinal management of SSc-ILD using a multidisciplinary approach*

Q5: The comprehensive management of SSc is continuous and multidisciplinary. Baseline and periodic evaluations include all of the listed EXCEPT:	Pre-test N = 916	Post-test N = 714
Pulmonary Function tests : spirometry, diffusing capacity, TLC, 6MWT	24%	3%
Skin score assessment, GI evaluation, screening for comorbidities and monitoring for treatment toxicity or side effects	12%	3%
Bronchioalveolar lavage	**42%**	**89%**
HRCT	7%	3%
Echocardiogram and Cardiac catheterization, if indicated	14%	3%



112% overall relative knowledge gain

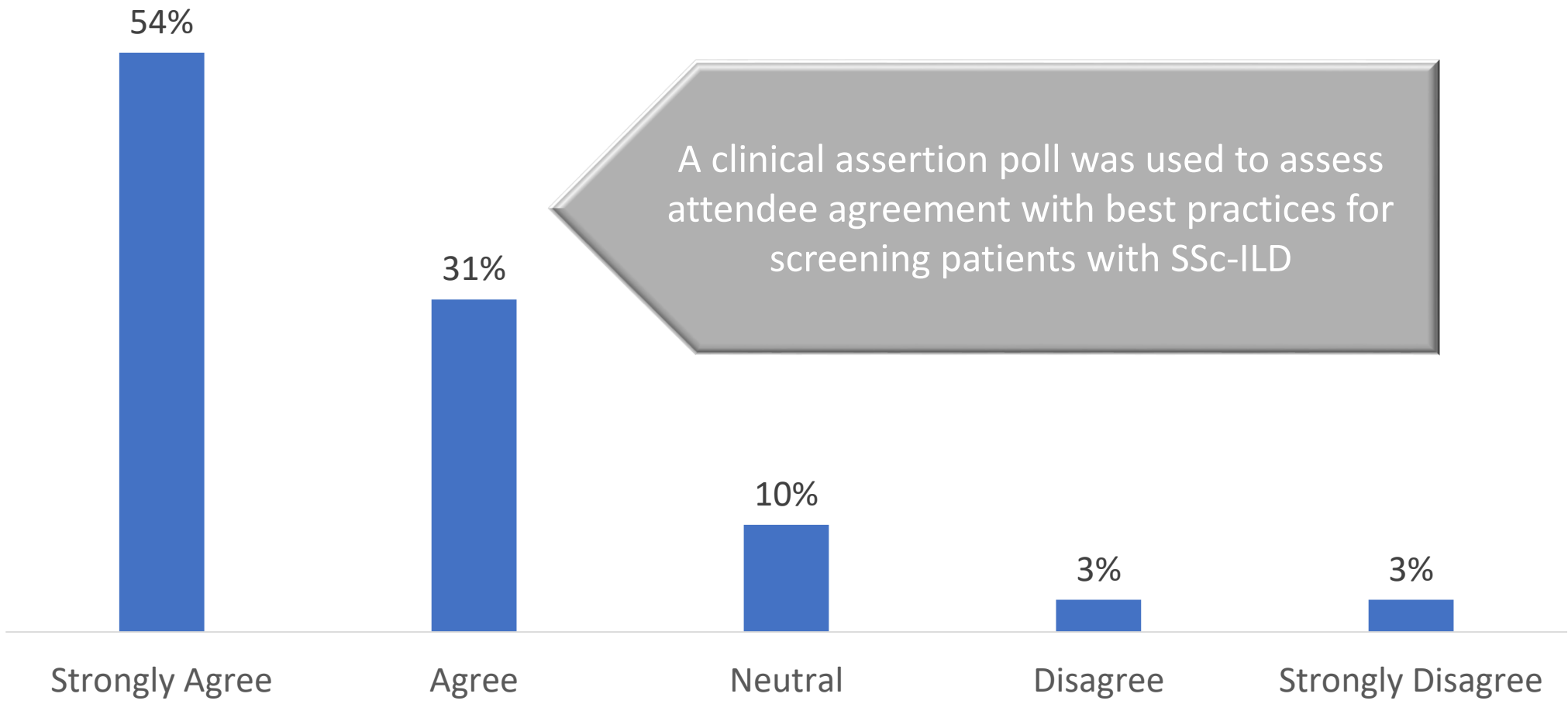
Embedded Polling Question (Online Activity)

National Jewish Health®

Please rate the degree to which you agree with the following statement:

N = 71

All patients with Systemic Sclerosis should get a high resolution CT scan.



A clinical assertion poll was used to assess attendee agreement with best practices for screening patients with SSc-ILD

Embedded Polling Question (Online Activity)

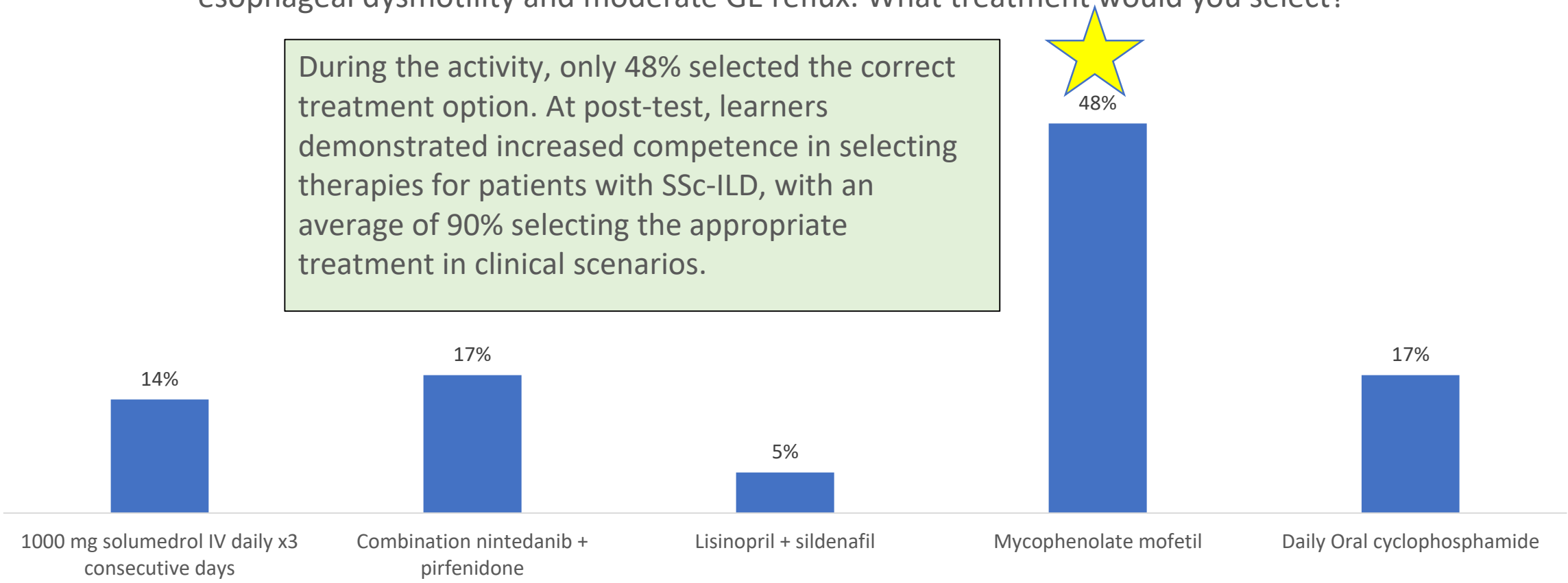
National Jewish Health®

Learning Objective: *Apply practice guidelines and clinical evidence related to current and emerging therapies*

You complete the eval with echocardiogram, assessment of esophageal motility and reflux, and it appears there is no pulmonary hypertension or renal dysfunction, but moderate esophageal dysmotility and moderate GE reflux. What treatment would you select?

N = 66

During the activity, only 48% selected the correct treatment option. At post-test, learners demonstrated increased competence in selecting therapies for patients with SSc-ILD, with an average of 90% selecting the appropriate treatment in clinical scenarios.



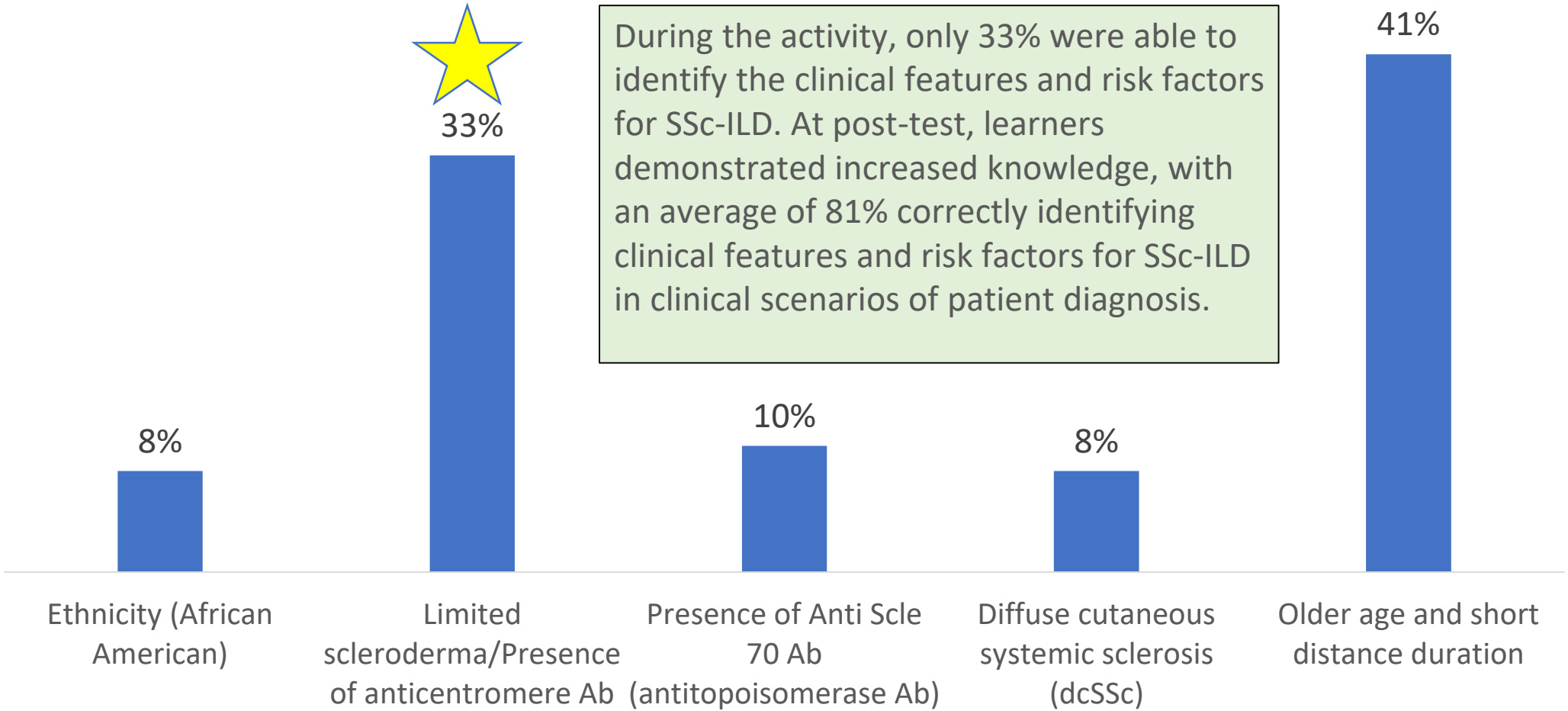
Embedded Polling Question (Online Activity)

National Jewish Health®

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

ILD may develop in any patient with SSc. All of the following are clinical features and factors that increase risk for SSc-ILD, except:

N = 51



During the activity, only 33% were able to identify the clinical features and risk factors for SSc-ILD. At post-test, learners demonstrated increased knowledge, with an average of 81% correctly identifying clinical features and risk factors for SSc-ILD in clinical scenarios of patient diagnosis.

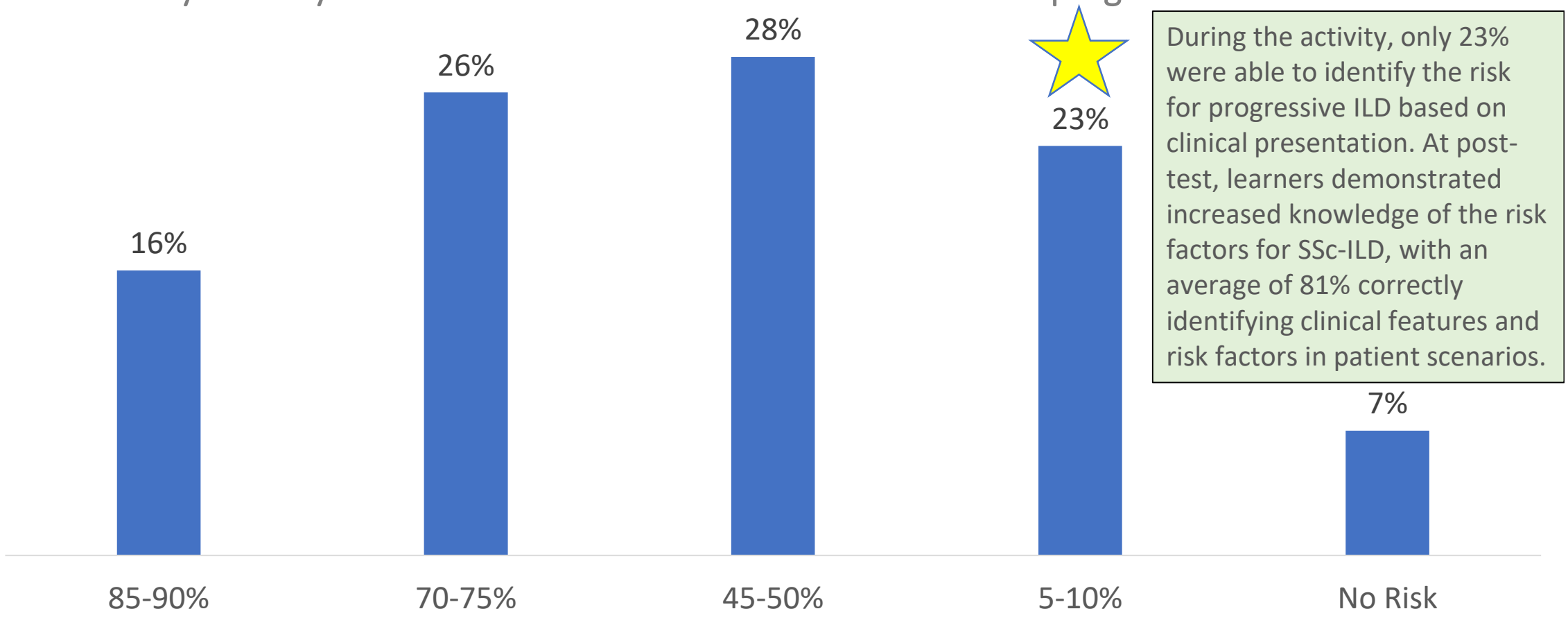
Embedded Polling Question (Online Activity)

National Jewish Health®

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

N = 43

Your patient presents with new onset CREST syndrome manifesting as scleroderma distal to the elbow, sclerodactly, telangiectasias, esophageal dysmotility and anti-centromere antibodies. Their risk for progressive ILD is:

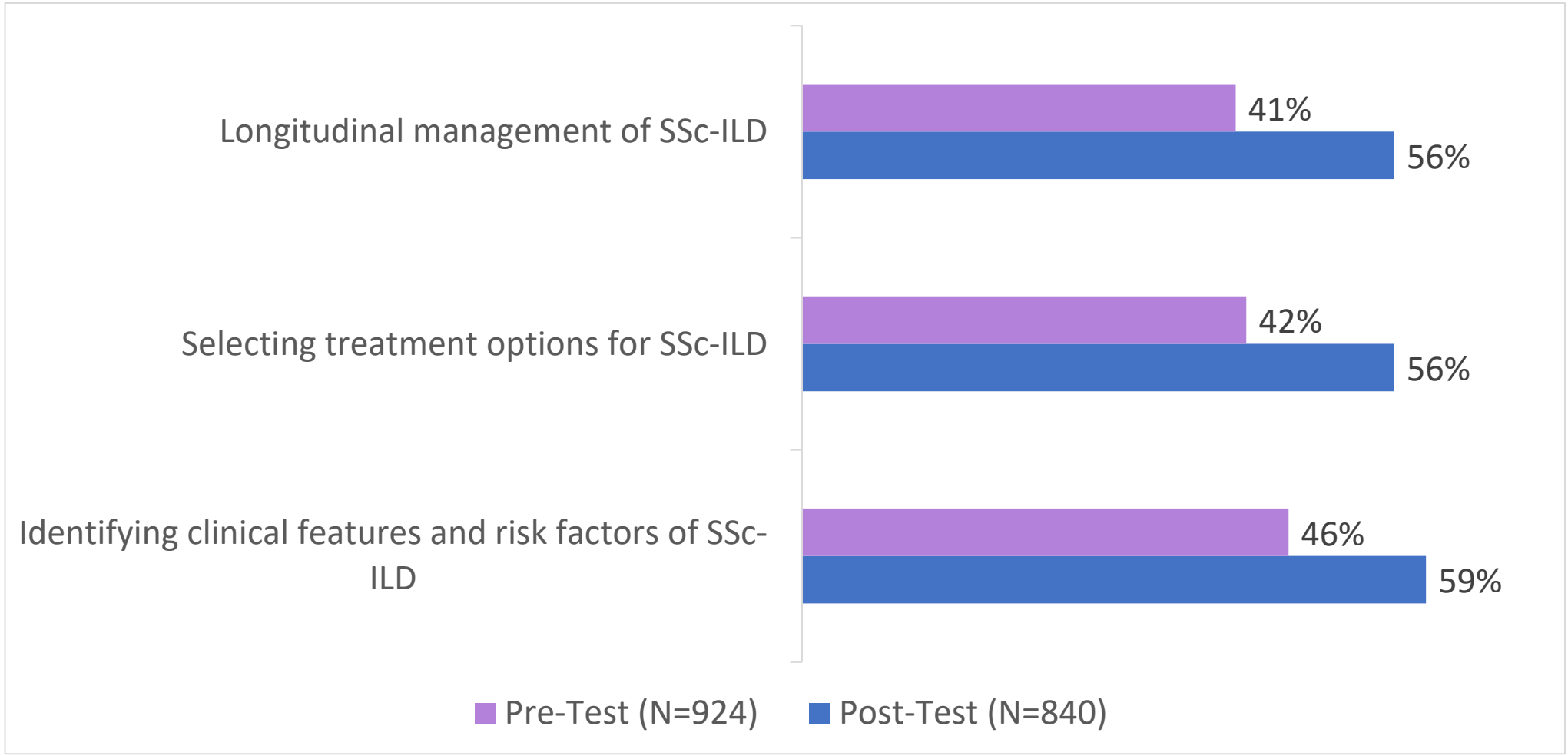


During the activity, only 23% were able to identify the risk for progressive ILD based on clinical presentation. At post-test, learners demonstrated increased knowledge of the risk factors for SSc-ILD, with an average of 81% correctly identifying clinical features and risk factors in patient scenarios.

Online Outcomes: Evaluation Assessment

National Jewish Health®

Respondents indicated they were **very** or **extremely confident** with each of the following:



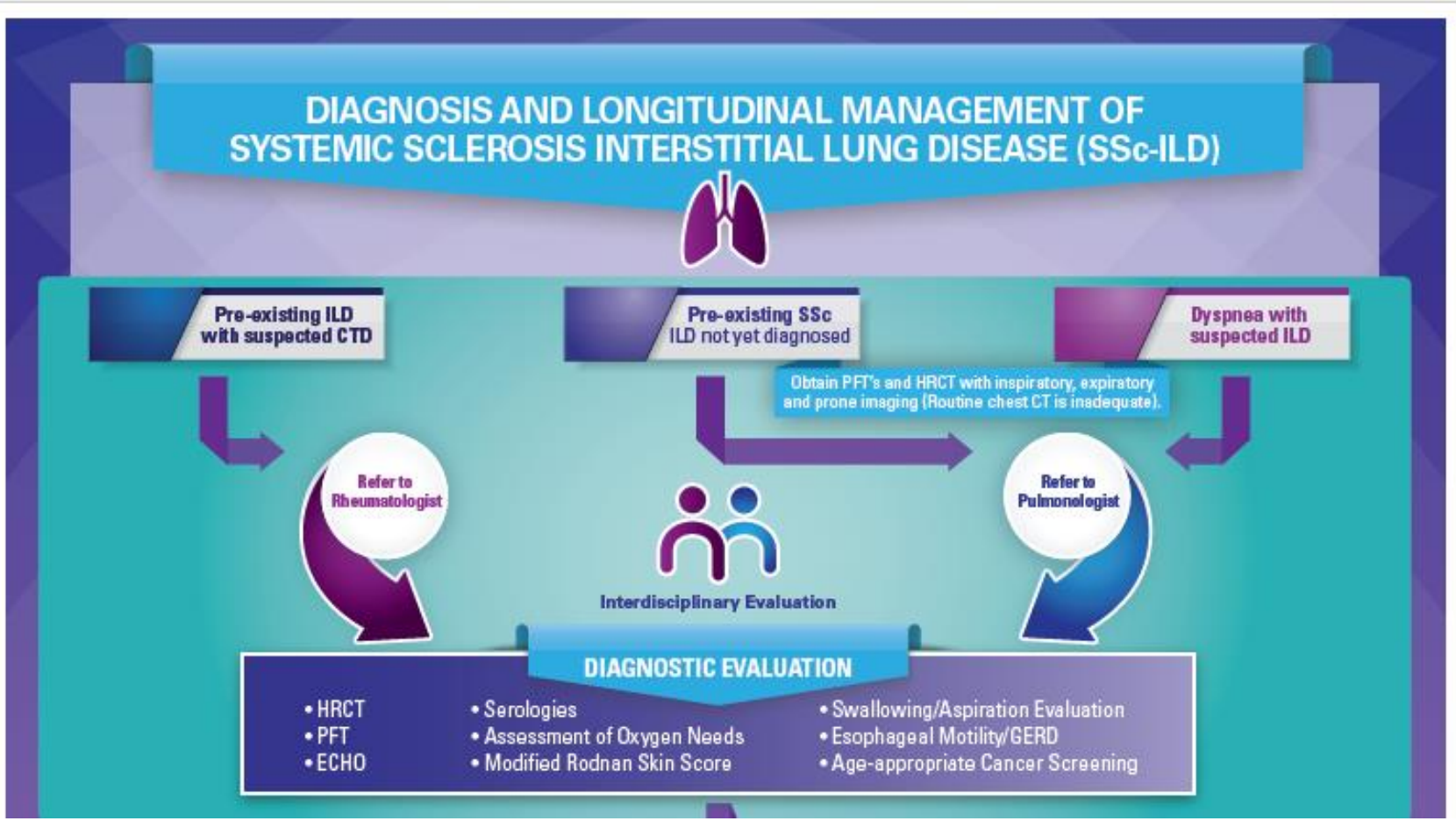
37% relative gain

33% relative gain

28% relative gain

Online Outcomes: Infographic

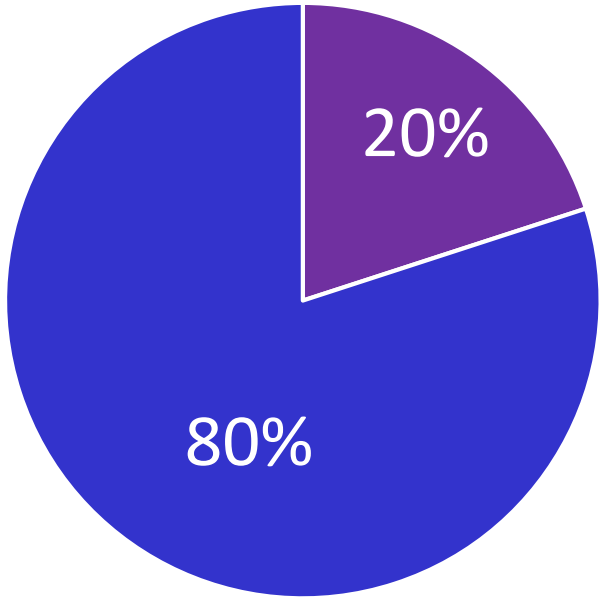
83% indicated that they were likely to use the infographic reference aid in practice



N=572

Online Outcomes: Intent to Change

80% of evaluation respondents indicated that they planned to make changes to their practice.



N = 572

Specific changes that respondents indicated they would make to clinical practice include:

- More comprehensive screening in patients
- Additional antibody testing for new ILD evaluations
- Move earlier to anti-fibrotic therapy
- Initiate new medications
- Utilize a multidisciplinary approach more frequently
- Refer patients more appropriately

N = 68

Online Outcomes: Take-Aways

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Key take-aways:

- Increased clinical knowledge
- Shortness of breath and skin changes need screening
- Early diagnosis is important for the best prognosis
- Appropriate testing for antibodies is essential
- New and evolving therapies
- Hope for better treatment options in the near future
- Pulmonary Function Testing
- Team-based approach for treatment of systemic-sclerosis ILD
- Use of pulmonary rehab for SSc-ILD patients

Live Outcomes: Overview

National Jewish Health®

Location:
CHEST 2019, New Orleans, LA

Date:
October 22, 2019

Faculty:
Mehrnaz Maleki Fischbach, MD
Maria Padilla, MD
Jesse Roman, MD
Jeffrey Swigris, DO, MS

Target Audiences:
Pulmonologists, Rheumatologists

Reach:
92 Attendees

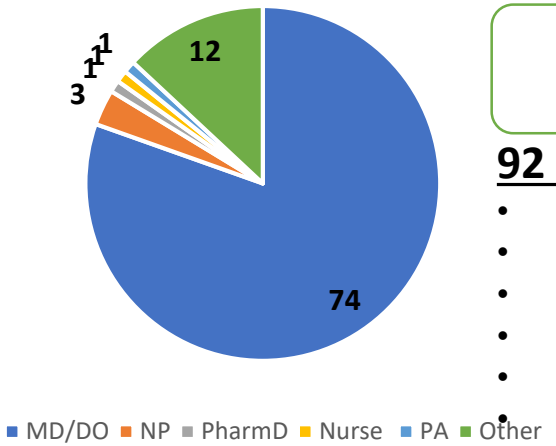
Learning Objectives

1. Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.
2. Apply practice guidelines and clinical evidence related to current and emerging therapies to select treatments for patients with SSc-ILD.
3. Evaluate strategies for longitudinal management of SSc-ILD using a multidisciplinary approach.

Activity Dashboard - Live Symposium

National Jewish Health®

Participation



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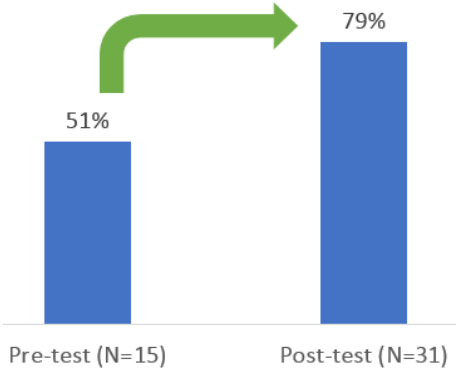
Learner Impact



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Persistent Gaps/Needs

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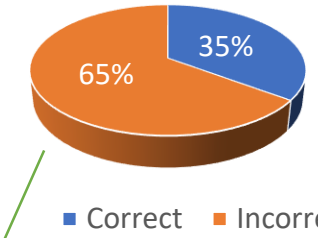
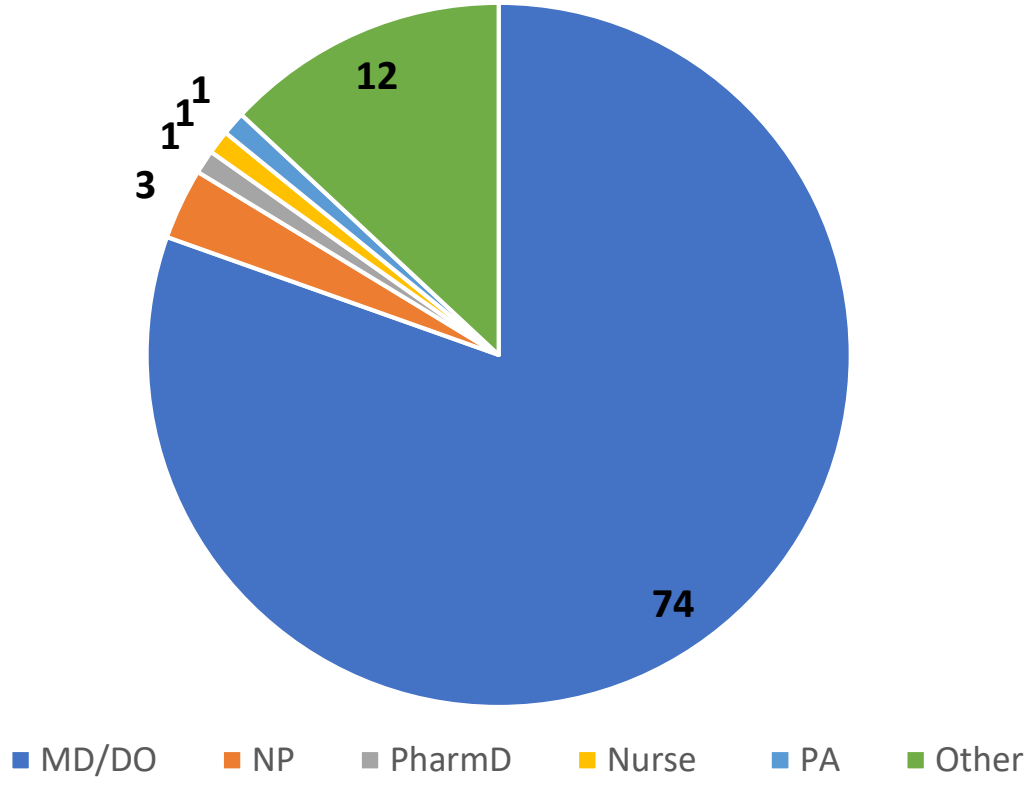


65% were unable to identify the risk for progressive ILD

Level 1 Live Outcomes: Participation



85%
of attendees were MDs/DOs and advanced practice providers

Level 2 Live Outcomes: Satisfaction

Analysis of participants responses related to educational needs

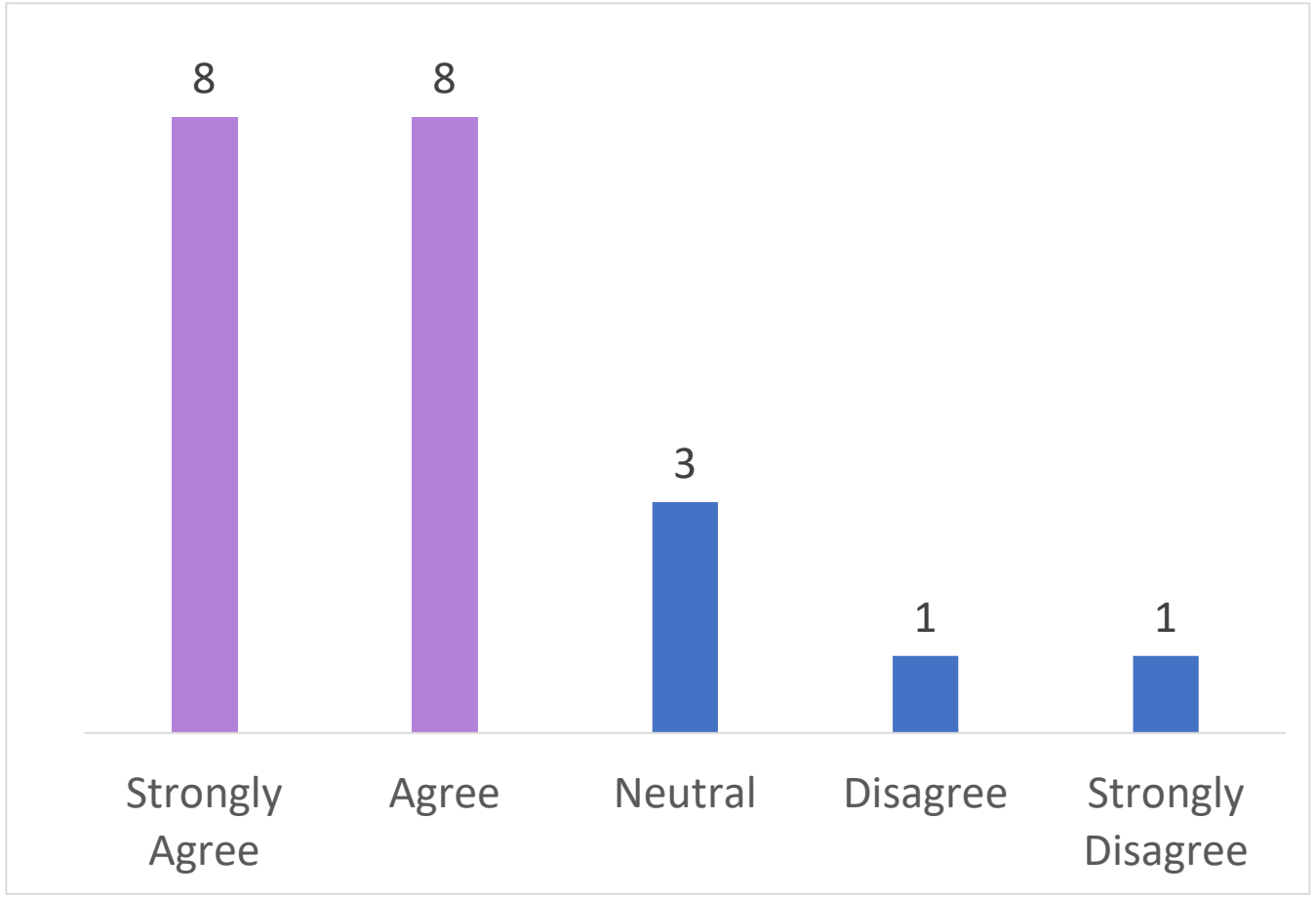
Participants reported the activity was "Excellent" to "Good" at:

National Jewish Health®

Breathing Science is Life.®

Level 2 Live Outcomes: Learning

Please rate the degree to which you agree with the following statement:
All patients with Systemic Sclerosis should get a high-resolution chest CT scan.



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National Jewish Health®
Breathing Science is Life

Level 3&4 Outcomes: Overall Live Course

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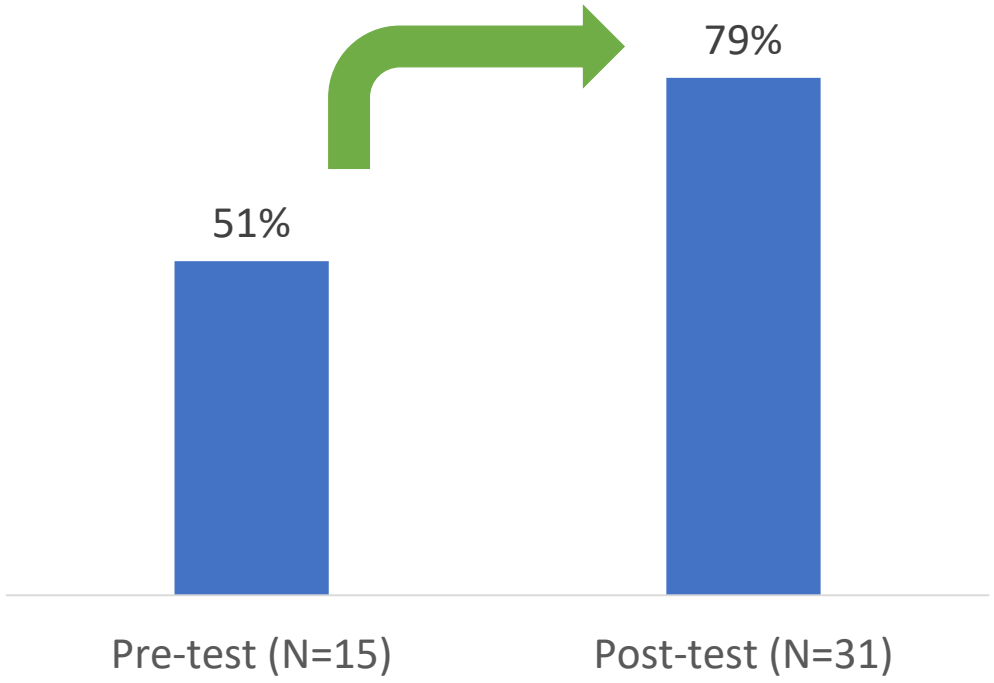


Level 3 and 4 outcomes were measured by comparing participants' pre- and post-test answers. The attendees' responses to these questions demonstrated that **participants gained knowledge as a result of the activity.**

Overall relative knowledge gain from pre- to post-activity

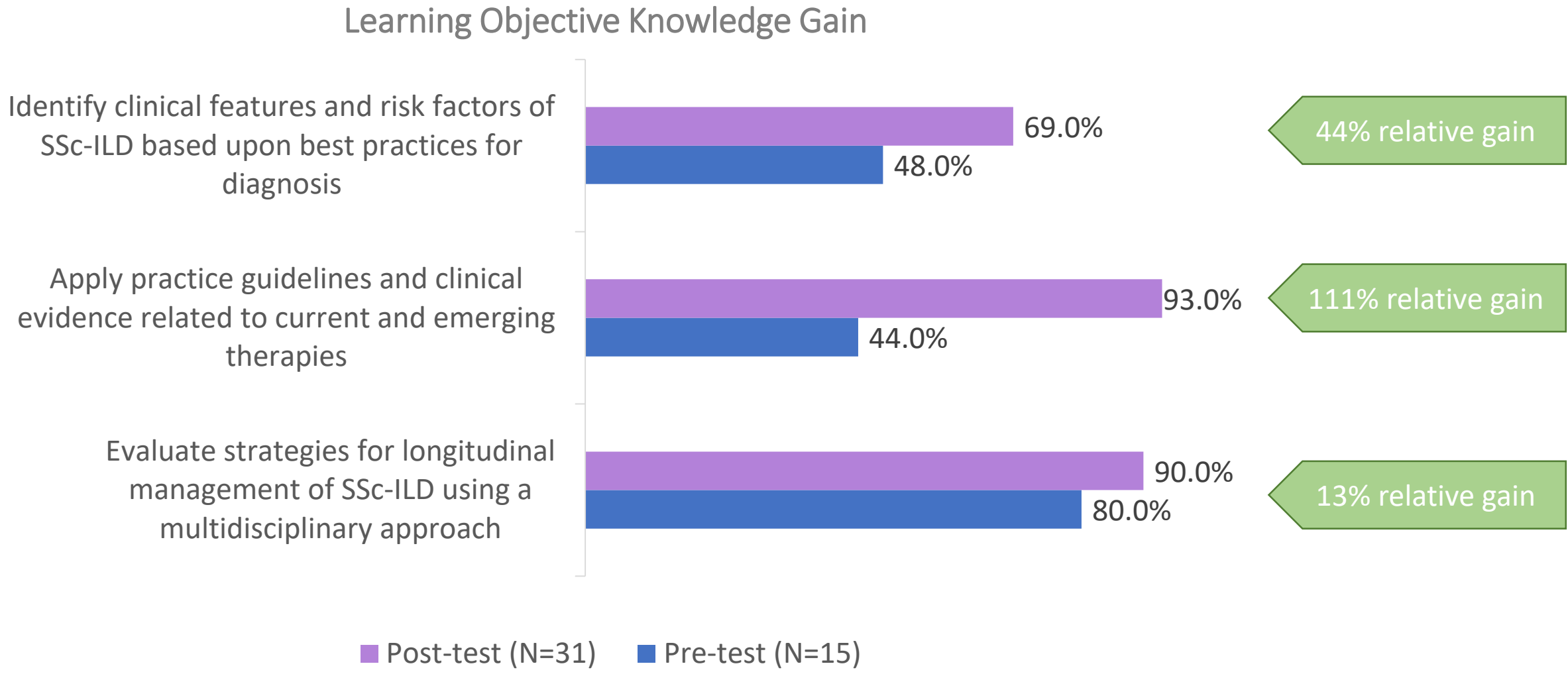
55%

Greater than 70% of the questions posed for this activity represented a medium to large effect size*

*Cohen (1988) .2=small, .5=medium, .8=large
*Wolf (1966) 0.25=educationally significant

Level 3&4 Live Outcomes: Learning by Objective

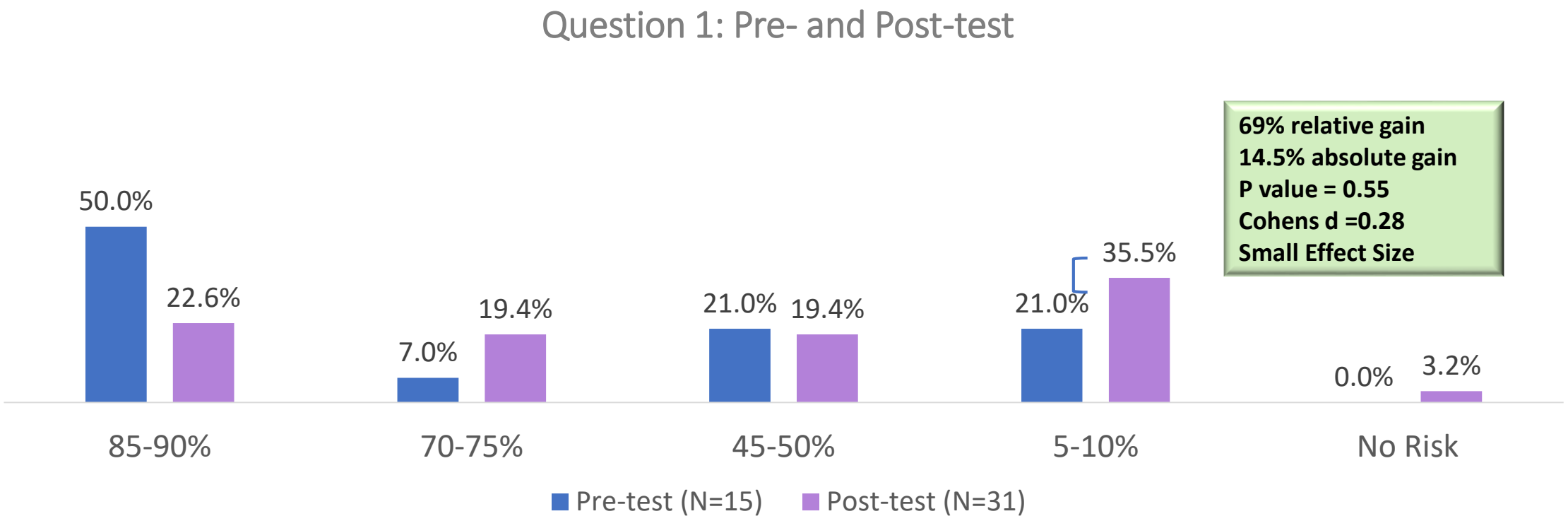
National Jewish Health®



Level 3 Live Outcomes: Learning Assessment
Question 1

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

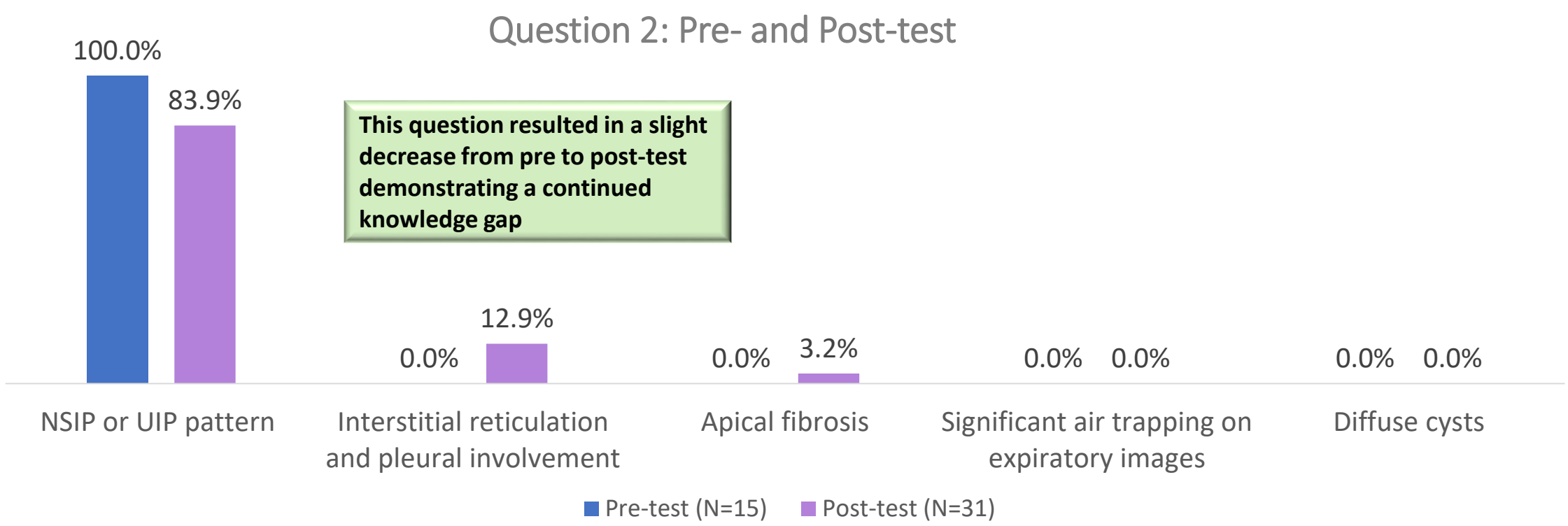
Q1: Your patient presents with new onset CREST syndrome manifesting as scleroderma distal to the elbow, sclerodactly, telangiectasias, esophageal dysmotility and anti-centromere antibodies. Their risk for progressive ILD is:



Level 4 Live Outcomes: Learning Assessment
Question 2

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

Q2: A 60 year old patient with SSc presents with progressive shortness of breath and evidence of interstitial lung disease on a chest radiograph. You order a HRCT scan of the chest and expect the following:



Level 4 Live Outcomes: Learning Assessment
Question 3

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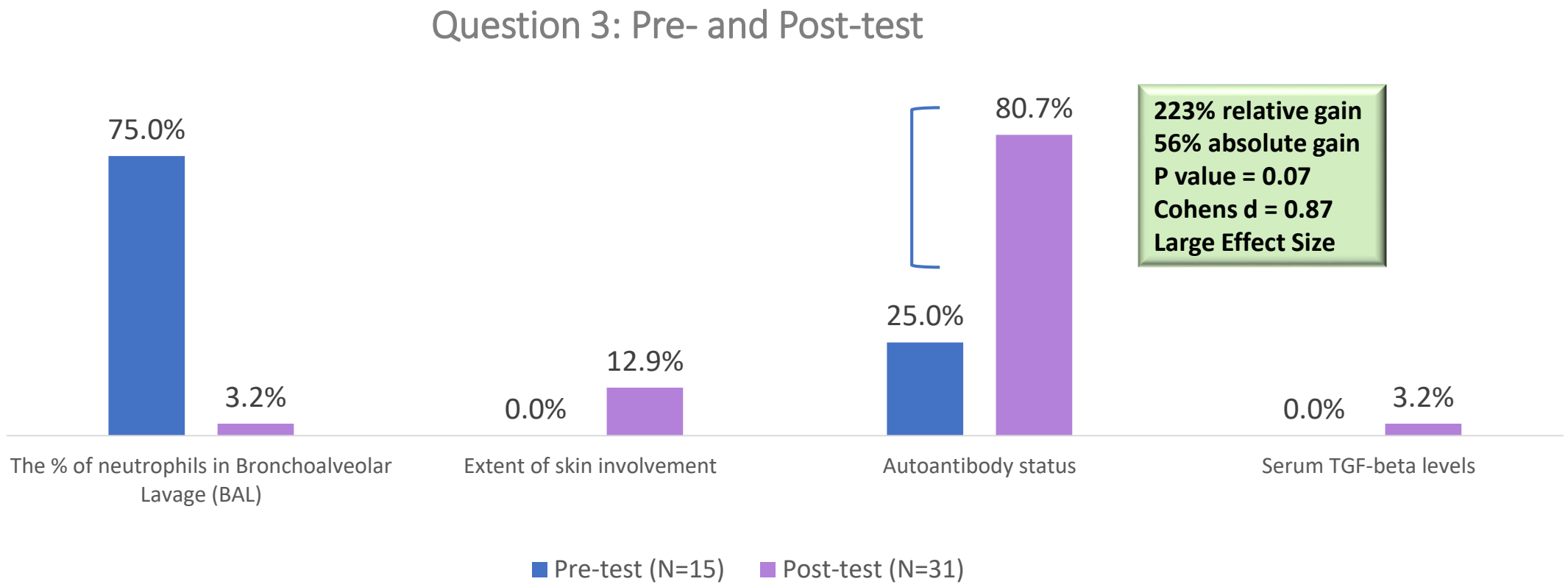
Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

Q3: Your patient is diagnosed with SSc-ILD and the HRCT pattern shows fibrotic NSIP. Which of the following is the most important to determine prognosis?

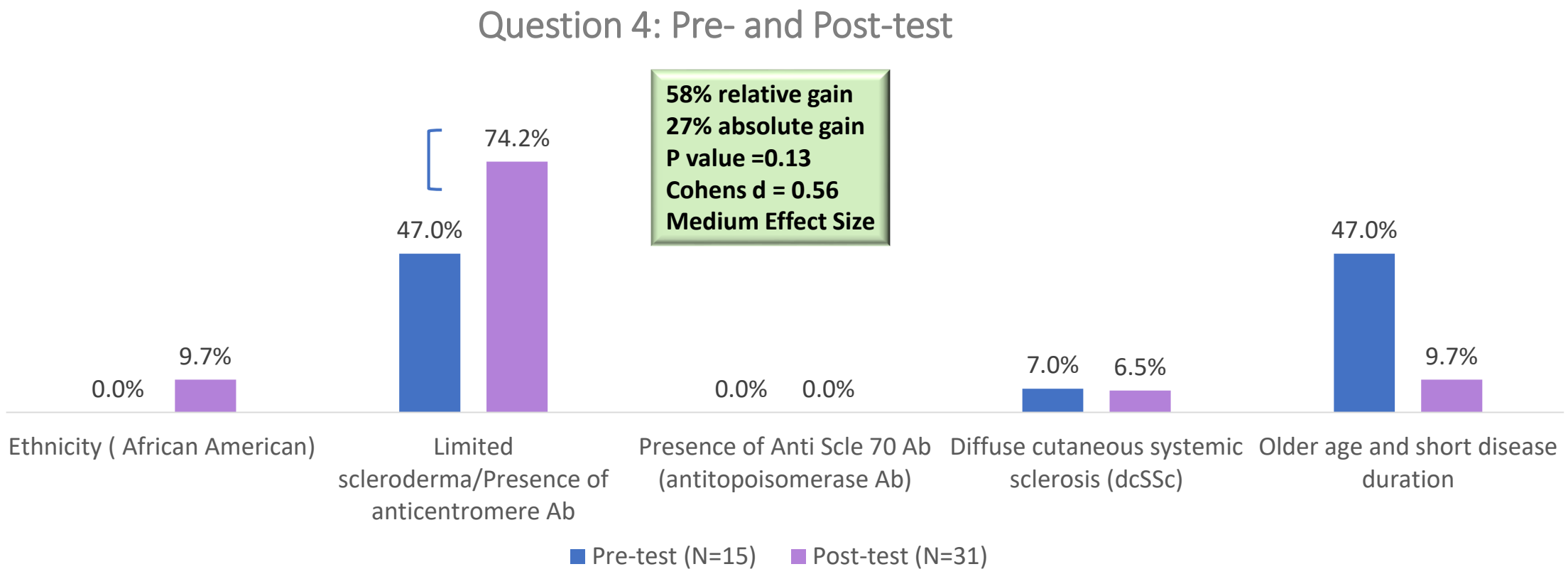


Level 3 Live Outcomes: Learning Assessment
Question 4

National Jewish Health®

Learning Objective: *Identify clinical features and risk factors of SSc-ILD based upon best practices for diagnosis.*

Q4: ILD may develop in any patient with SSc. All of the following are clinical features and factors that increase risk for SSc-ILD EXCEPT:



Level 4 Live Outcomes: Learning Assessment
Question 5

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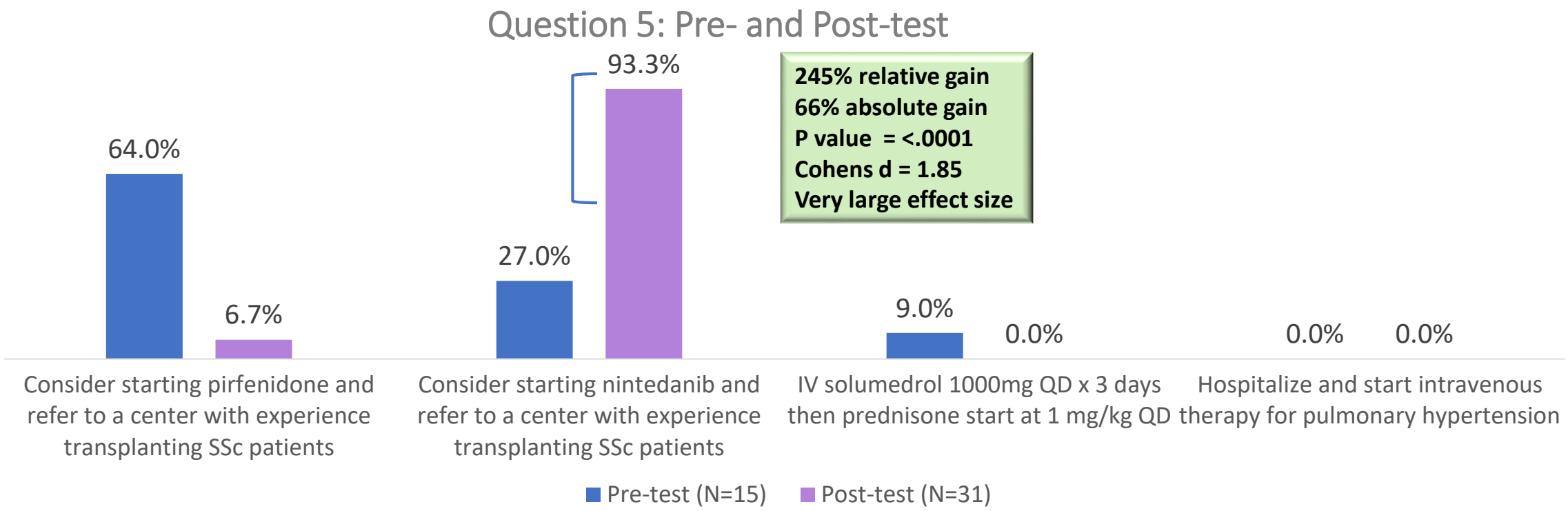
Learning Objective: *Apply practice guidelines and clinical evidence related to current and emerging therapies*

Q5: Your patient is a 50 year old female with diffuse cutaneous scleroderma and SSc-ILD that is progressive and very severe (FVC 38% DLCO 38%) despite attempts at therapy with IV and oral cyclophosphamide, MMF, azithiaprine, rituximab salvage therapy. Stem cell transplant is not an option. What is the next step:



Level 4 Live Outcomes: Learning Assessment
Question 6

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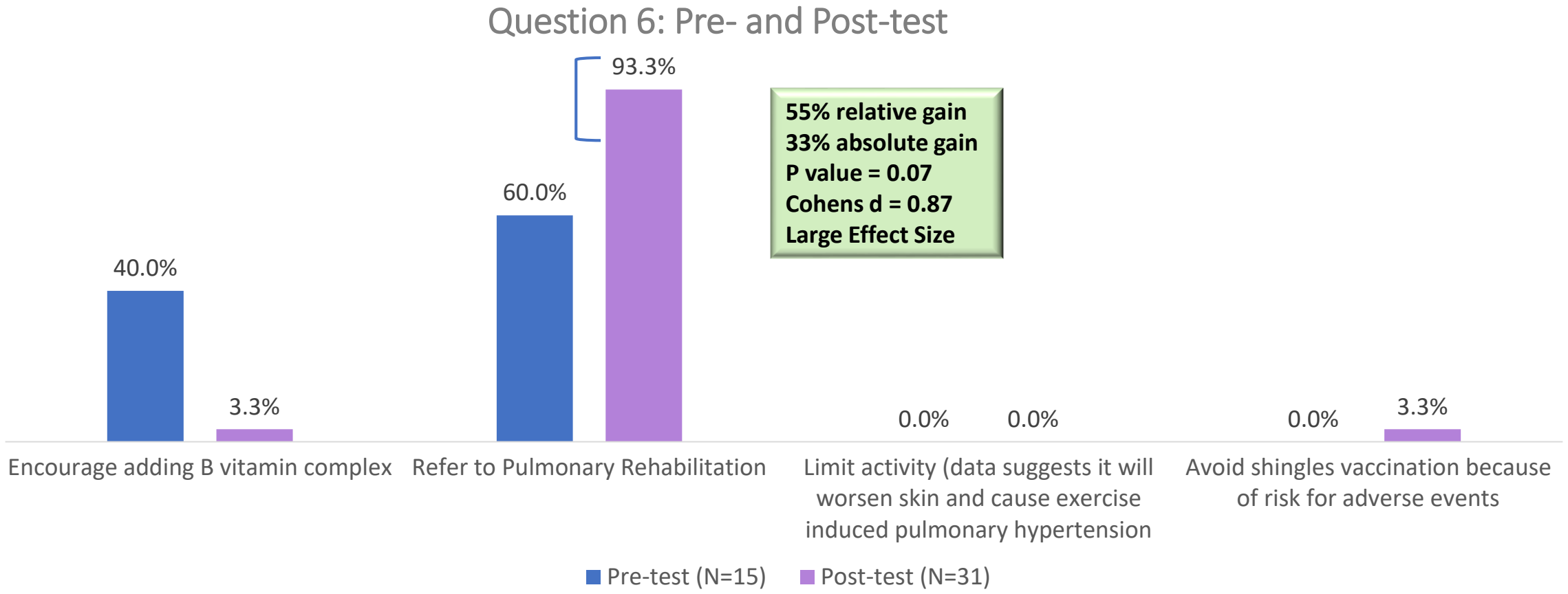
Learning Objective: *Apply practice guidelines and clinical evidence related to current and emerging therapies*

Q6: You have a patient with SSc-ILD whose vaccinations are up to date and stable on current therapy. Which of the following is the most important intervention?



Level 3 Live Outcomes: Learning Assessment Question 7

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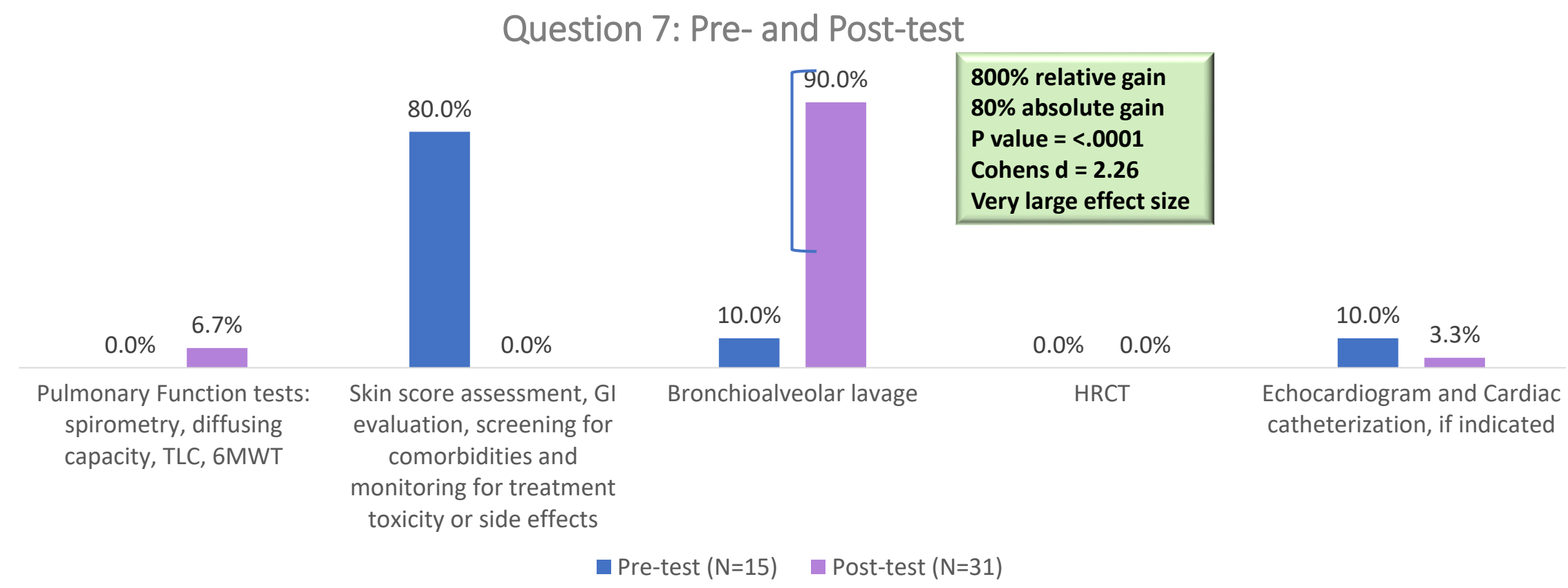
Learning Objective: *Evaluate strategies for longitudinal management of SSc-ILD using a multidisciplinary approach*

Q7: The comprehensive management of SSc is continuous and multidisciplinary. Baseline and periodic evaluations include all of the listed except:



Intent to Change/Evaluation Results (Live Symposium)

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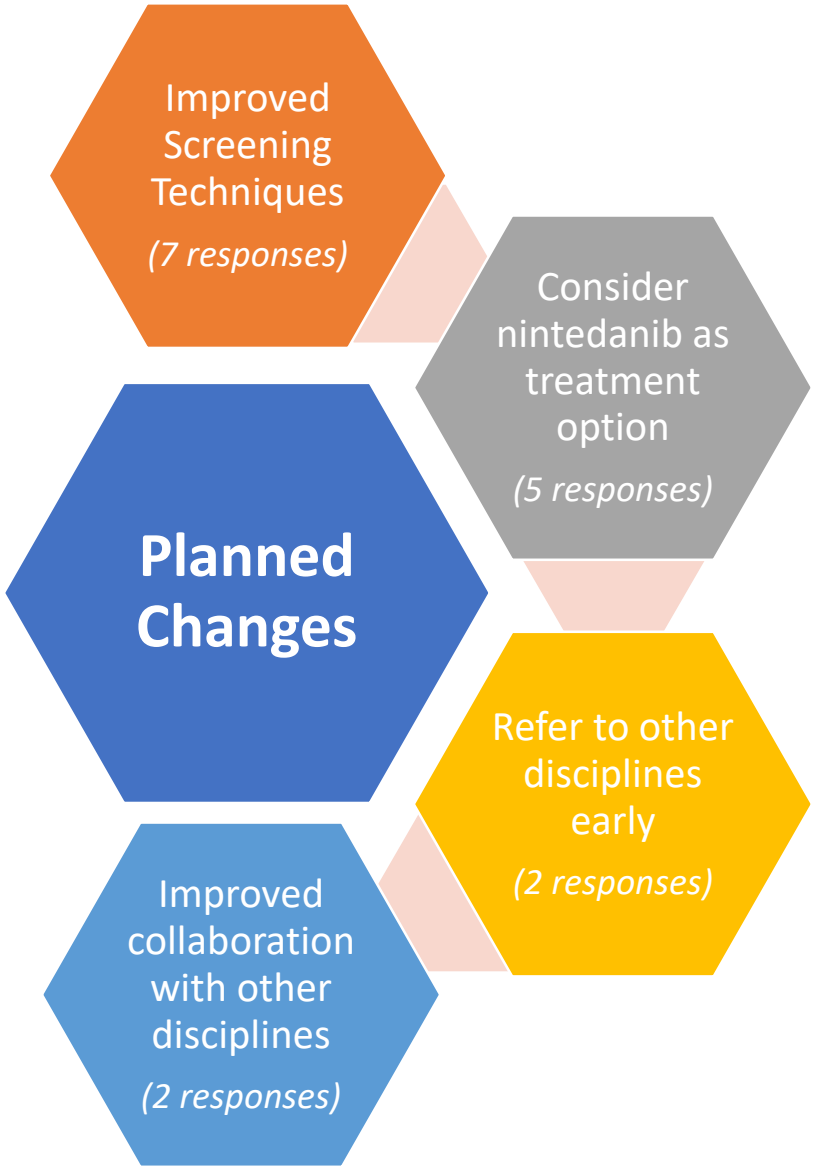
97% of learners indicated that they planned to make practice changes following the activity.

An analysis of open-ended responses related to intended changes revealed the following four categories.



100% Learners indicated material was presented in an objective manner & free of commercial bias

100% Learners indicated the content presented was evidence-based and clinically relevant

87% Learners indicated that the activity addressed strategies for overcoming barriers to optimal patient care.

Attendee Take-Aways (Live Symposium)

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- Risk factors for progressive ILD in this group
- SSc-ILD involves multidisciplinary approach
- The benefit of regular pulmonary assessment for SS -ILD patients
- Importance of early diagnosis and collaboration
- Standardize approach and work up
- Early diagnosis and starting treatment as soon as possible. How to manage the diagnosis
- Early screening and treatment decisions
- Work up patients for SSC with ILD
- Changes in treatment based on organs involved
- Review of something I don't see often
- Treatment options
- Scleroderma management
- SSc-ILD needs to be screened and intervened with early

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Recommendations for Future Topics (Live Symposium)

- Immunosuppression in ILD - management
- PAH CTD
- Interstitial Lung Disease
- Pulmonary fibrosis
- Evaluation and management
- More multidisciplinary topics
- Future therapy directed care of SSc-ILD
- Management of difficult to control asthma
- Asthma
- Progression of the research
- Results of future studies
- Role of anti fibrotic therapy
- Chronic Obstructive Pulmonary Disease
- Summaries of important but not usual diseases
- Treatment of Pulmonary Arterial Hypertension
- Scleroderma Rehabilitations
- Particular expert panel personal input /experience sharing in different unequivocal cases, especially, therapy choices

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Social Media Presence: Facebook *Live*

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Immediately after the live course, faculty provided insights related to the management of SSc-ILD via Facebook *Live*.

Impact **24 hours** following live course

- **Reach 2344** — Appeared in newsfeed
- **Views 1001** — Watched at least a portion of video
- **Engaged 197** — Commented, liked or shared

Live Outcomes: Self-Reported Performance

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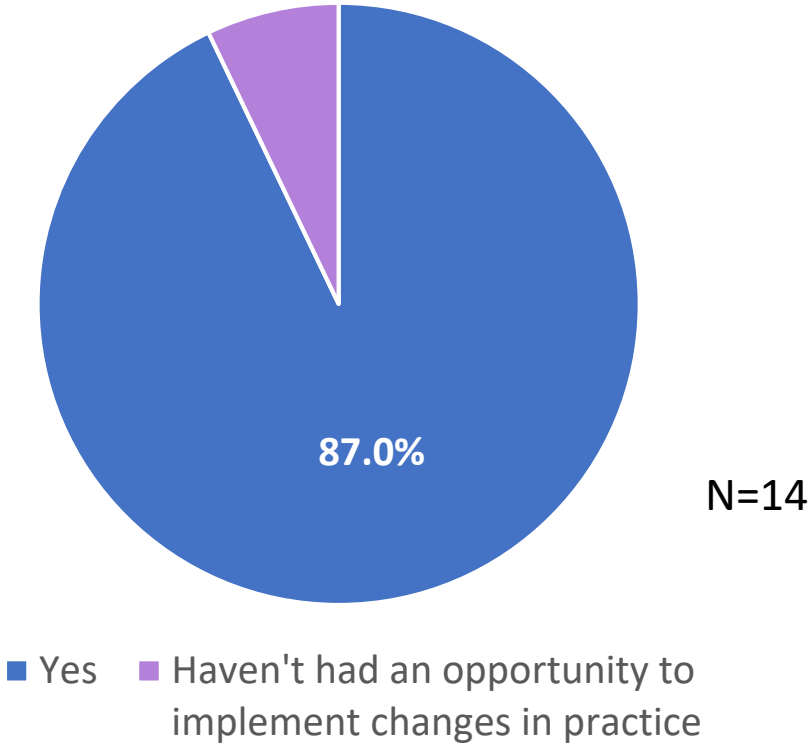
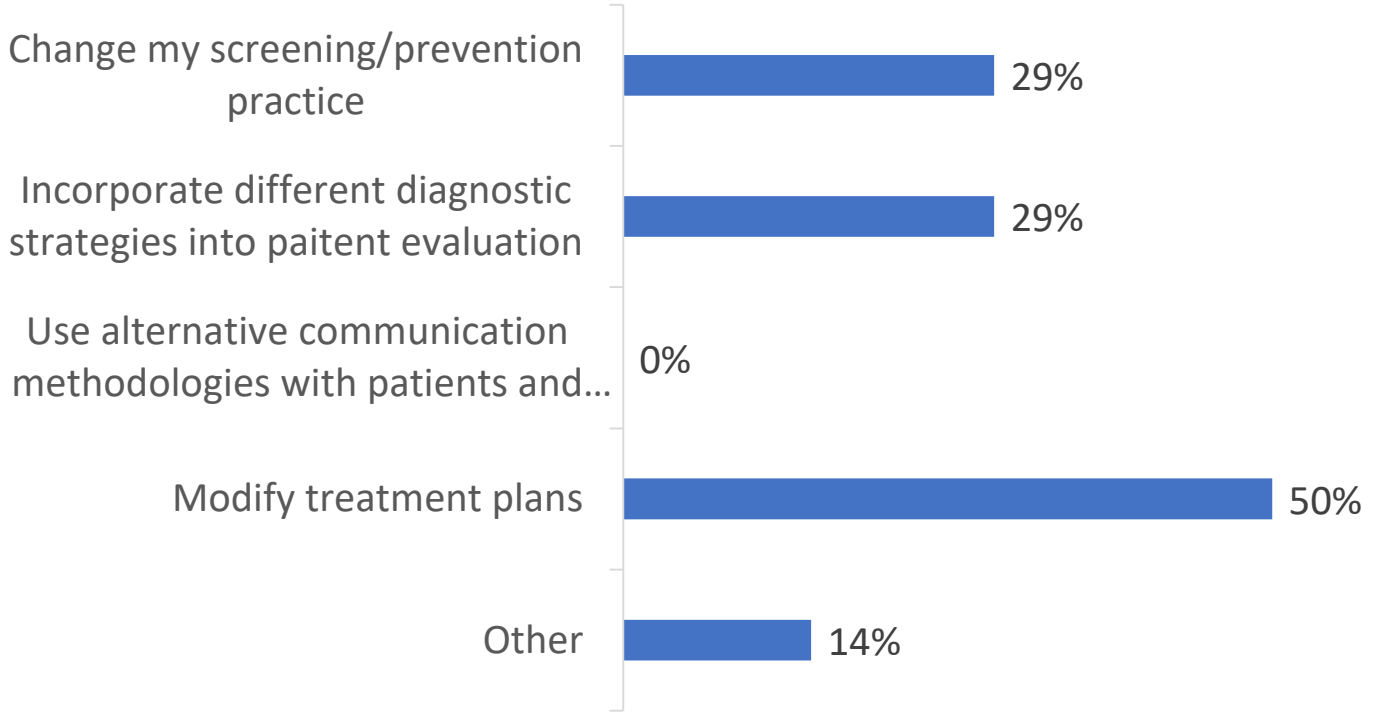
Did this activity provide new ideas or information you have used in practice?



N=14

What change will you incorporate into your practice as result of the knowledge acquired during the activity?



87% of respondents have put new ideas/information in practice as a result of this activity. Those who haven't made changes yet are 100% "somewhat" to "very committed" to make changes

Live Outcomes: Self-Reported Performance

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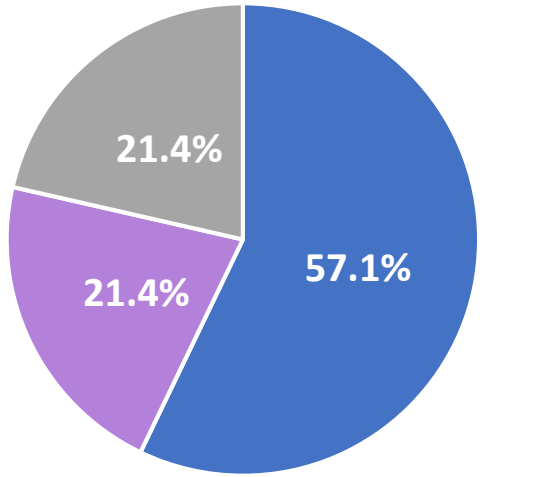
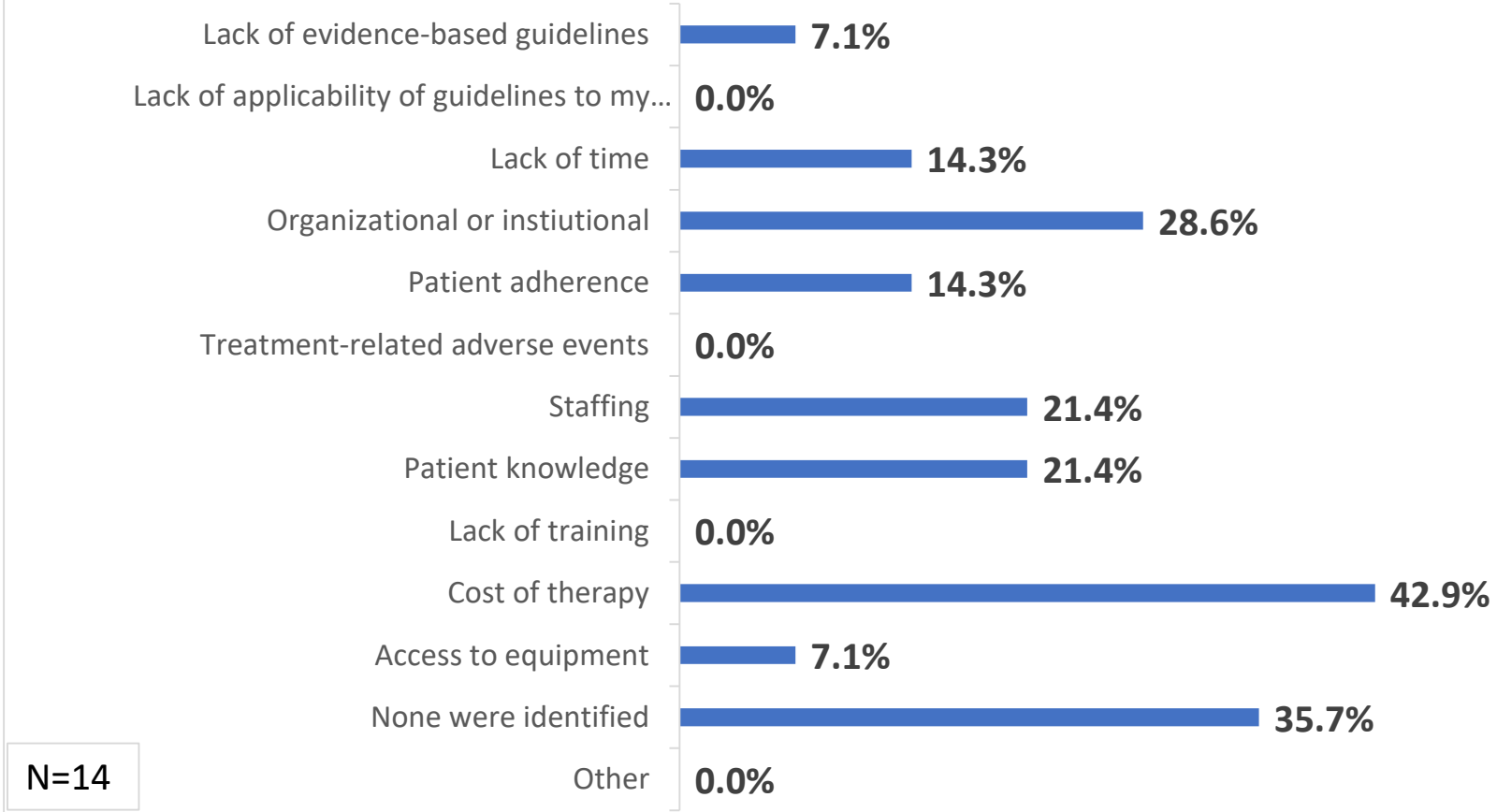
Did the activity provide information, education, tools or resources to be able to address any of those barriers?



What barriers have you experienced since this activity that may impact patient outcomes or optimal patient care?



Live Outcomes: Self-Reported Performance

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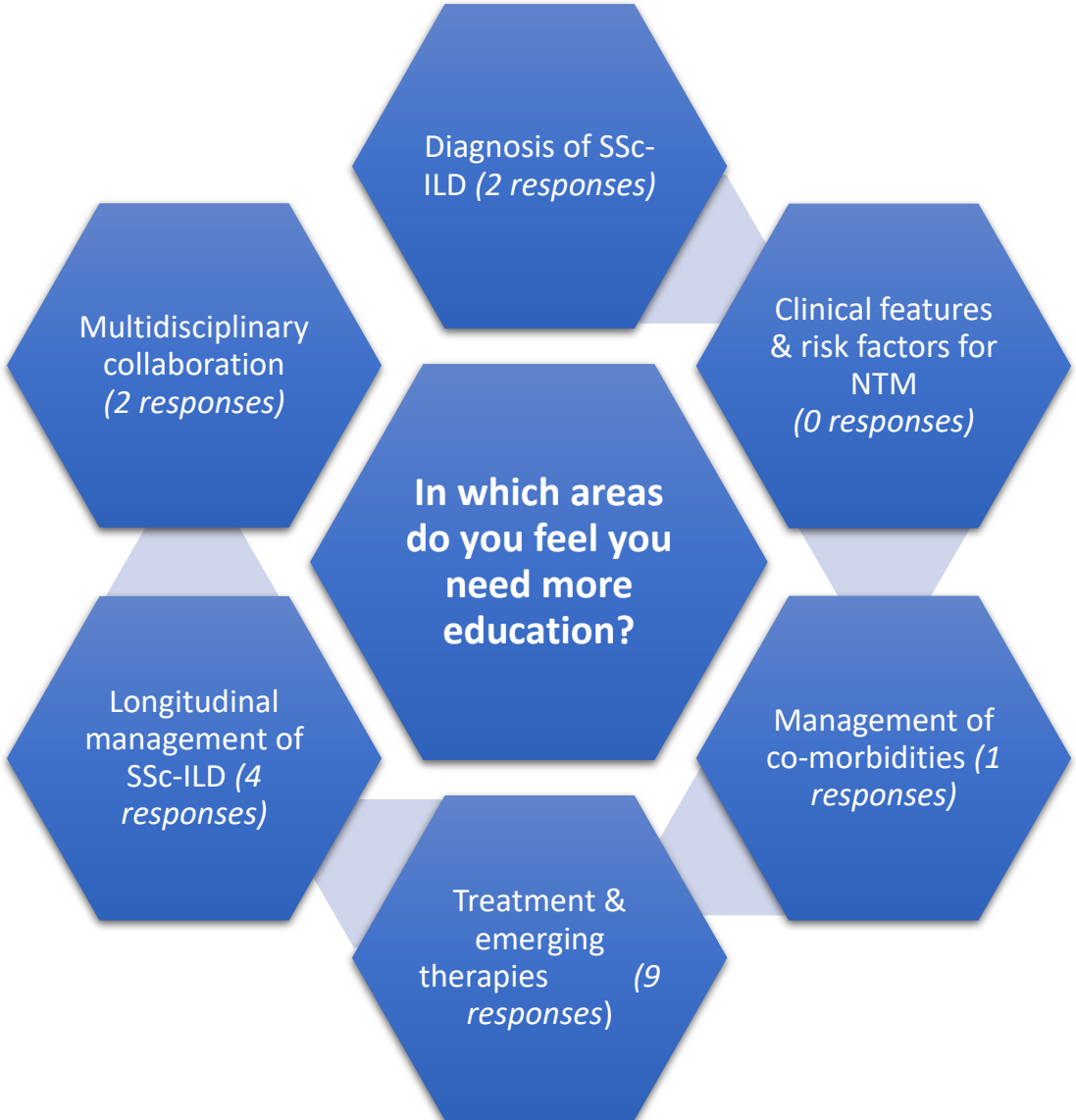
43

Patients have already benefited from this education within 6 weeks of the activity



Accreditation

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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.

NJH designates the live and enduring program for a maximum of 1.0 *AMA PRA Category 1 Credit*™.

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of this educational program!

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