



# NEW TREATMENTS IN CHRONIC RHINOSINUSITIS WITH NASAL POLYPS: EXPERT INSIGHTS INTO THE EVIDENCE

Novartis

Grant ID: NGC41154

Final Live and Online Outcomes Summary

Date Range 4/28/21-4/28/22



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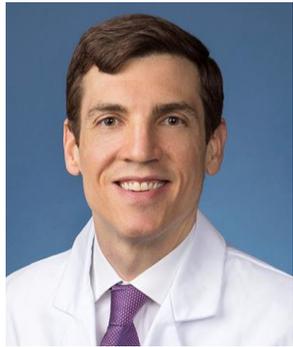
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# Executive Summary

Final Outcomes Summary – Live Broadcasts and Online Enduring



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## Program Overview

This program consisted of three activities: two live webinars and one chapterized online enduring activity on the freeCME platform. The multimedia program featured insights from expert faculty in allergy and otolaryngology, animation clips on CRSwNP pathophysiology and treatment targets, and an algorithmic clinical reference aid on CRSwNP diagnosis and management.

Live webinars: April 6 and 13, 2021  
Online Launch Date: April 28, 2021  
Online End Date: April 28, 2022

Activity Link:

<https://learning.freecme.com/a/36788P229BDB>

## Learning Objectives

- Describe clinical features and key concepts in the pathophysiology and immunology of CRSwNP.
- Evaluate strategies for longitudinal management using a multidisciplinary approach.
- Discuss current and emerging therapies and treatment selection based on patient inflammatory phenotype, comorbidities and other individual factors.

## Target Audience & Accreditation

Target Audience: Allergists, Otolaryngologists (ENTs), Rhinologists, Primary Care/Family Medicine/Internal Medicine Physicians and Advance Practice Providers (APPs) who diagnose and treat allergic and pulmonary diseases.

National Jewish Health designates the live activities and online enduring activity for a maximum of: *1.25 AMA PRA Category 1 Credits™*.

# Overall Learner Outcomes Summary

New Treatments in Chronic Rhinosinusitis with Nasal Polyps: Expert Insights into the Evidence (Grant ID: NGC41154)

## Educational Overview

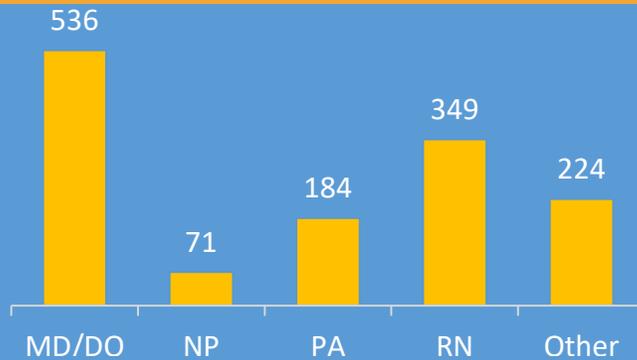
Provider/Accreditor: National Jewish Health

Activity format/dates: Live webinars on April 6 and 13, 2021; Online Enduring from April 28, 2021 – April 28, 2022

Target audience: Allergists, ENTs, Rhinologists, PCPs and APPs

Program description: Chronic rhinosinusitis (CRS) is a complex inflammatory disorder, with multiple clinical phenotypes. Those with nasal polyps (CRSwNP) have a more severe form of the disease, which has a substantial negative impact on health-related quality of life. The goal of this activity is to improve clinicians' knowledge and competence of diagnosis, management, and treatment of CRSwNP.

**1,364 Total Learners (Live and Online)**



## Satisfaction with Content



% reporting the content was relevant to practice  
N=929



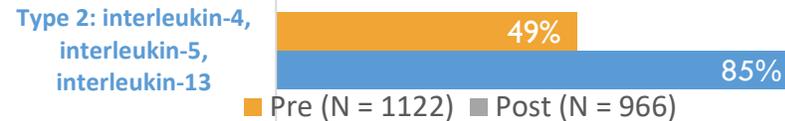
% reporting the learning objectives were achieved

## Knowledge and Competence Gains

**40%** Overall knowledge increase

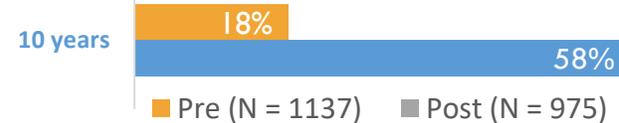
LO: Describe clinical features and key concepts in the pathophysiology and immunology of CRSwNP

Which of the following represents the endotype of CRSwNP Ms. P likely has with the correct associated major cytokines?



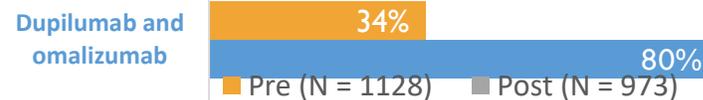
LO: Evaluate strategies for longitudinal management using a multidisciplinary approach

Clinically meaningful improvements in quality of life after sinus surgery for chronic rhinosinusitis with nasal polyps have been shown to persist for what duration?



LO: Discuss current and emerging therapies and treatment selection based on patient inflammatory phenotype, comorbidities and other individual factors

Which biologics are currently approved by the United States Food and Drug Administration for chronic rhinosinusitis with nasal polyps?



## Patient Impact



**19,353** monthly patient visits with CRSwNP may be impacted

## Practice Changes

**85%**

of learners reported that they are likely to make a change in practice (N=929)

## Specific changes include:

- Apply guidelines for management of CRSwNP
- Improve patient education and communication
- Improve treatment selection and monitoring
- Consider biologic agents when indicated

## Barriers to Implementing Learnings

- Access to care
- Access to medications and treatment with biologics
- Cost of surgery vs medications
- Patient compliance

## Continuing Educational Needs

- More about surgical options
- Long-term outcomes with biologics and surgery
- Guidelines for management of CRSwNP
- Differential diagnosis of CRSwNP

# Overall Physician Only Outcomes Summary

New Treatments in Chronic Rhinosinusitis with Nasal Polyps: Expert Insights into the Evidence (Grant ID: NGC41154)

## Educational Overview

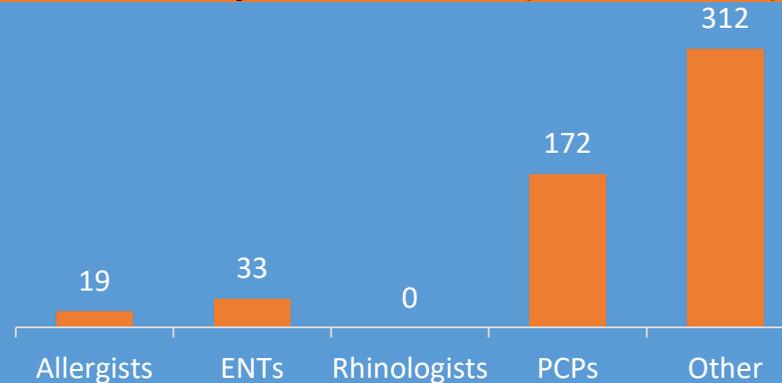
Provider/Accreditor: National Jewish Health

Activity format/dates: Live webinars on April 6 and 13, 2021; Online Enduring from April 28, 2021 – April 28, 2022

Target audience: Allergists, ENTs, Rhinologists, PCPs and APPs

Program description: Chronic rhinosinusitis (CRS) is a complex inflammatory disorder, with multiple clinical phenotypes. Those with nasal polyps (CRSwNP) have a more severe form of the disease, which has a substantial negative impact on health-related quality of life. The goal of this activity is to improve clinicians' knowledge and competence of diagnosis, management, and treatment of CRSwNP.

## 536 Total Physician Learners (Live & Online)



## Satisfaction with Content

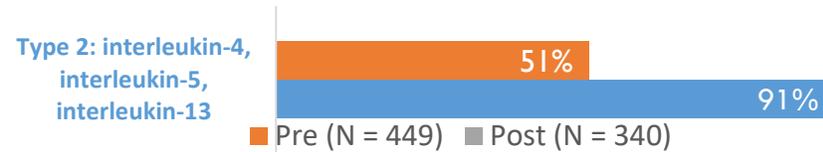


## Knowledge and Competence Gains

44% Overall knowledge increase

LO: Describe clinical features and key concepts in the pathophysiology and immunology of CRSwNP

Which of the following represents the endotype of CRSwNP Ms. P likely has with the correct associated major cytokines?



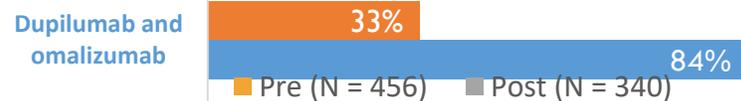
LO: Evaluate strategies for longitudinal management using a multidisciplinary approach

Clinically meaningful improvements in quality of life after sinus surgery for chronic rhinosinusitis with nasal polyps have been shown to persist for what duration?



LO: Discuss current and emerging therapies and treatment selection based on patient inflammatory phenotype, comorbidities and other individual factors

Which biologics are currently approved by the United States Food and Drug Administration for chronic rhinosinusitis with nasal polyps?



## Patient Impact



6,896 monthly patient visits with CRSwNP may be impacted

## Practice Changes

83% of learners reported that they are likely to make a change in practice (N=350)

## Specific changes include:

- Apply guidelines for management of CRSwNP
- Improve differential diagnosis of CRSwNP
- Consider biologic agents when indicated
- Improve treatment selection and monitoring
- Order new labs and testing for patient screening

## Barriers to Implementing Learnings

- Cost of biologics
- Insurance issues
- Patient monitoring
- Patient compliance

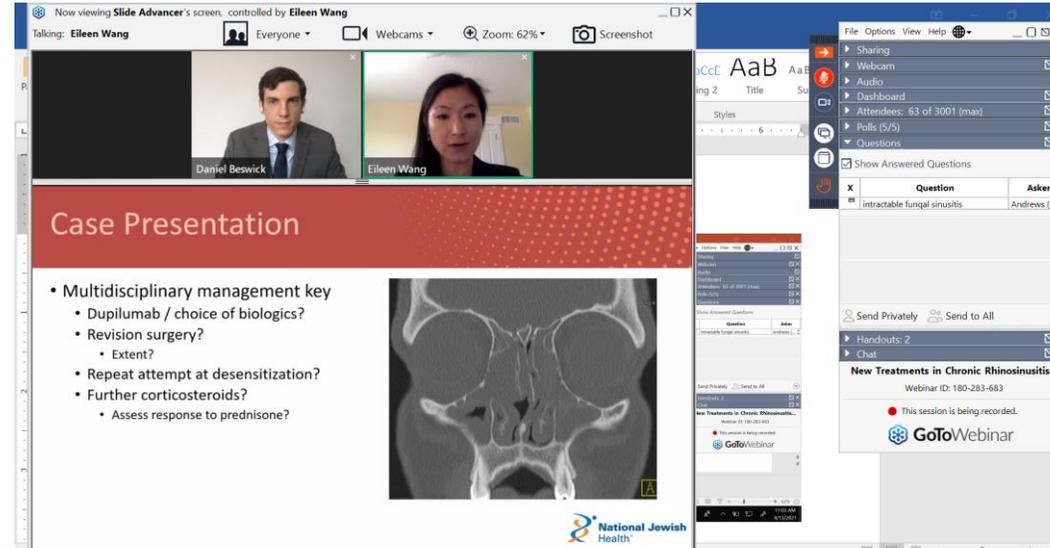
## Continuing Educational Needs

- Complications of CRSwNP
- Differential diagnosis of CRSwNP
- Surgical options

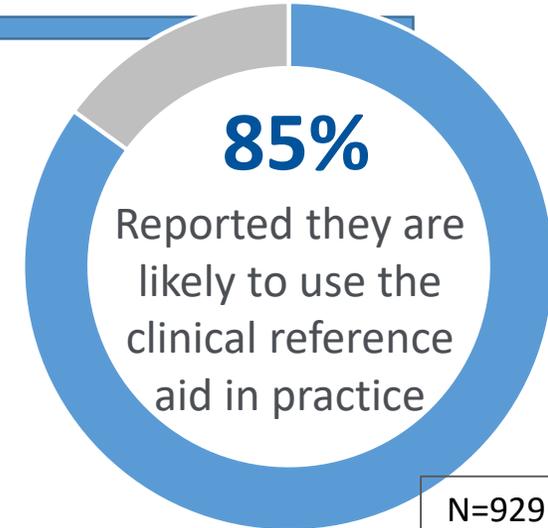
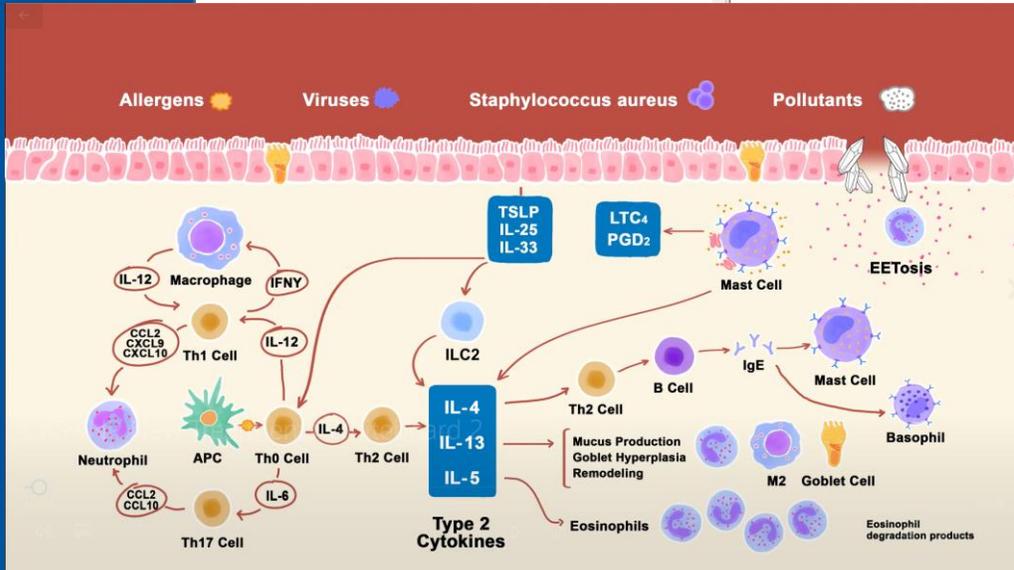
# Program Features

Final Outcomes Summary – Live Broadcasts and Online Enduring

## Live Webinars

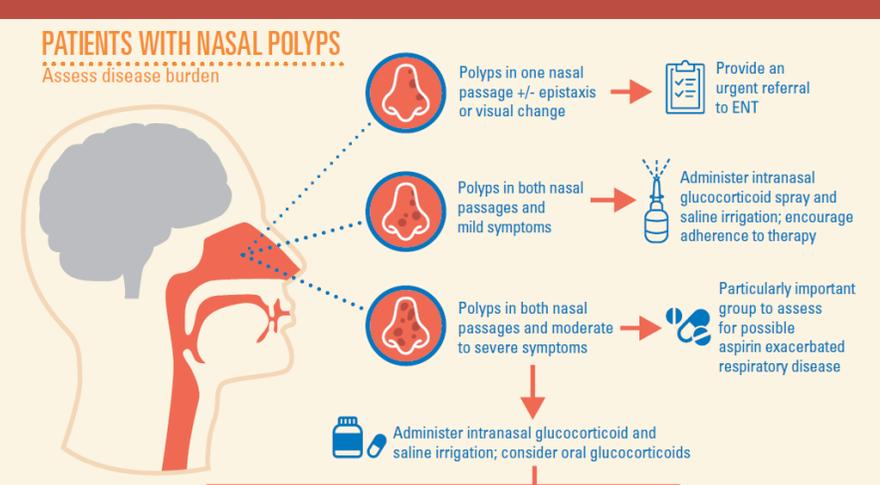


## Whiteboard Animation Clips



## Clinical Reference Aid

### MANAGEMENT OF CHRONIC RHINOSINUSITIS WITH NASAL POLYPS



# Audience Generation

Final Outcomes Summary – Live Broadcasts and Online Enduring

**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).

Personalized emails and e-newsletters to NJH and freeCME databases and allergy and otolaryngology specialty lists



Spotlight in 2021-2022 Pulmonary Highlights publication



Social media ads and posts



Earn Free CME with National Jewish Health



Digital ad in Bulletin Healthcare



Dedicated landing page on NJH and freeCME websites



Search engine optimization on freeCME platform

# Activity Format: Online Enduring

## Final Online Outcomes Summary



Always Current. Always Free.

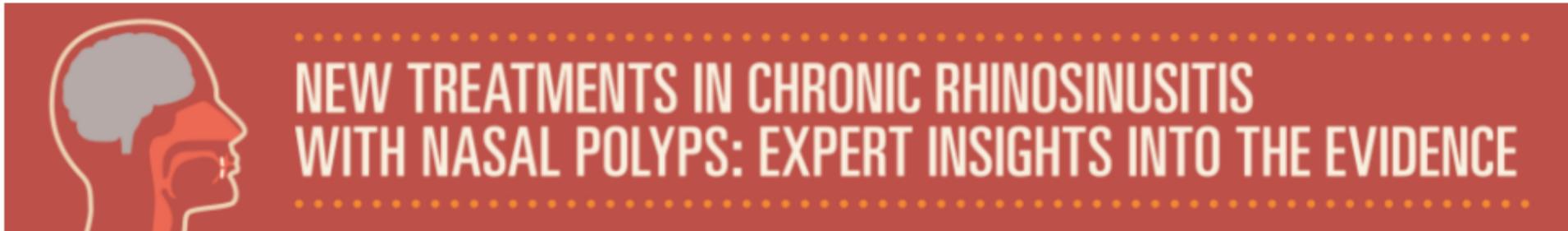
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### New Treatments in Chronic Rhinosinusitis with Nasal Polyps: Expert Insights into the Evidence

**Released On**

April 28, 2021

**Expires On**

April 28, 2022

**Media Type**

Internet

**Completion Time**

75 minutes

**Specialty**

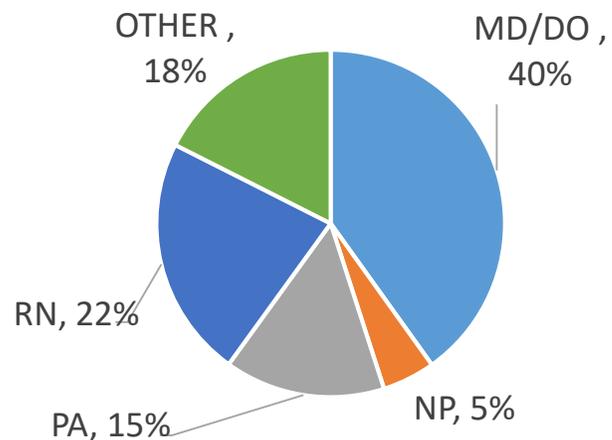
Allergists, Otolaryngologists (ENT's), Rhinologists, Primary Care/Family Medicine/Internal Medicine Physicians

**Topic(s)**

Allergies

# Educational Impact Summary

Final Online Outcomes Summary



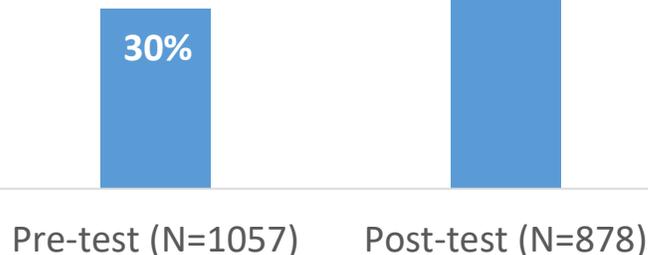
MD/DO=474  
NP=58  
PA=176  
Nurse=266  
Other=207  
**Total Learners=1181**

**60%** of learners were physicians and APPs

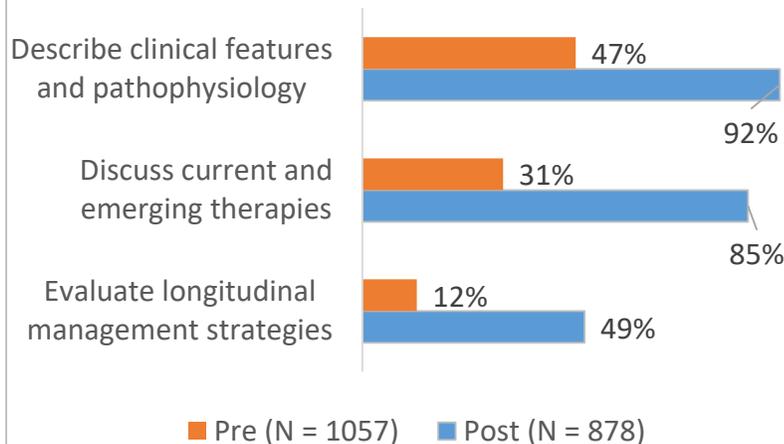
**Potential Impact To 215,488 Patient Visits This Year\***

*\*Estimate based on self-reported data regarding number of patients seen on a weekly basis with CRSwNP. Estimate assumes potential patient visits, not unique patients.*

**150%** relative gain in knowledge  
**45%** absolute gain in knowledge



## Knowledge gains by objective



## Evaluation

N=843

Met their educational needs **(95%)**



Reinforced or improved current skills **(94%)**



Improved ability to treat patients **(92%)**

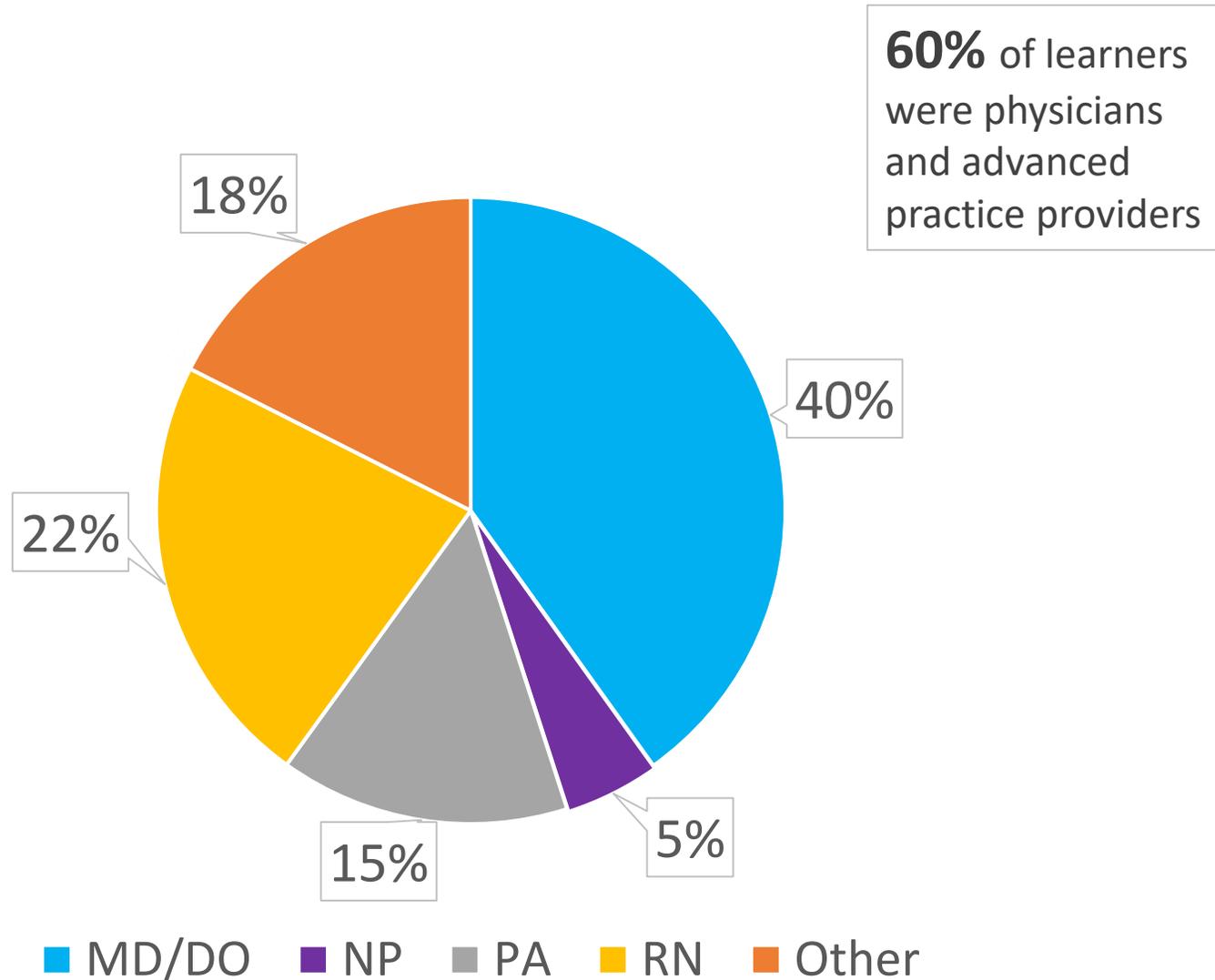
**85%**

N=843

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

# Level (1) Outcomes: Participation (Degree)

Final Online Outcomes Summary

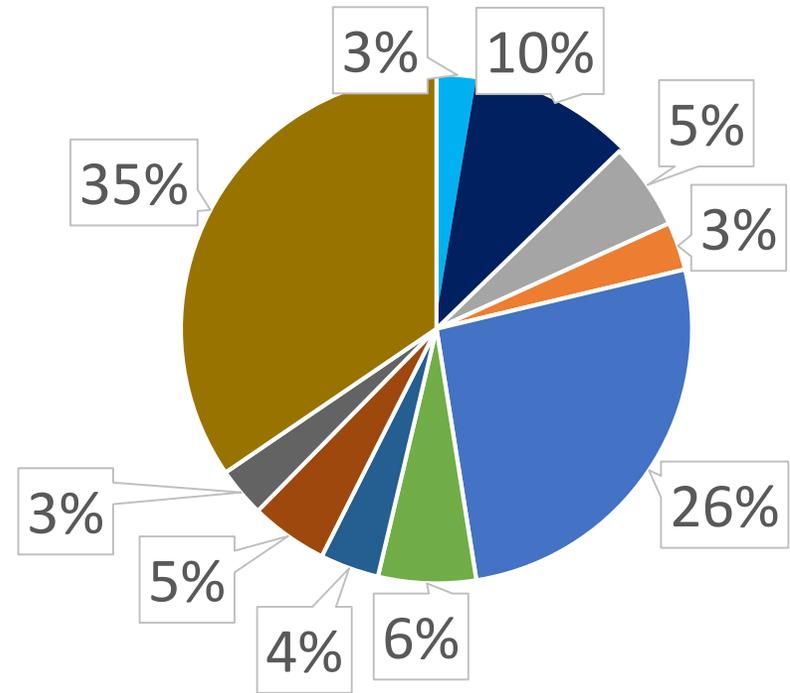


Degree	Total
MD/DO	474
NP	58
PA	176
RN	266
Other	207
<b>TOTAL</b>	<b>1181</b>

Other includes: Healthcare administration, medical technician, technologist, respiratory therapist, and more.

# Level (1) Outcomes: Participation (Specialty)

Final Online Outcomes Summary



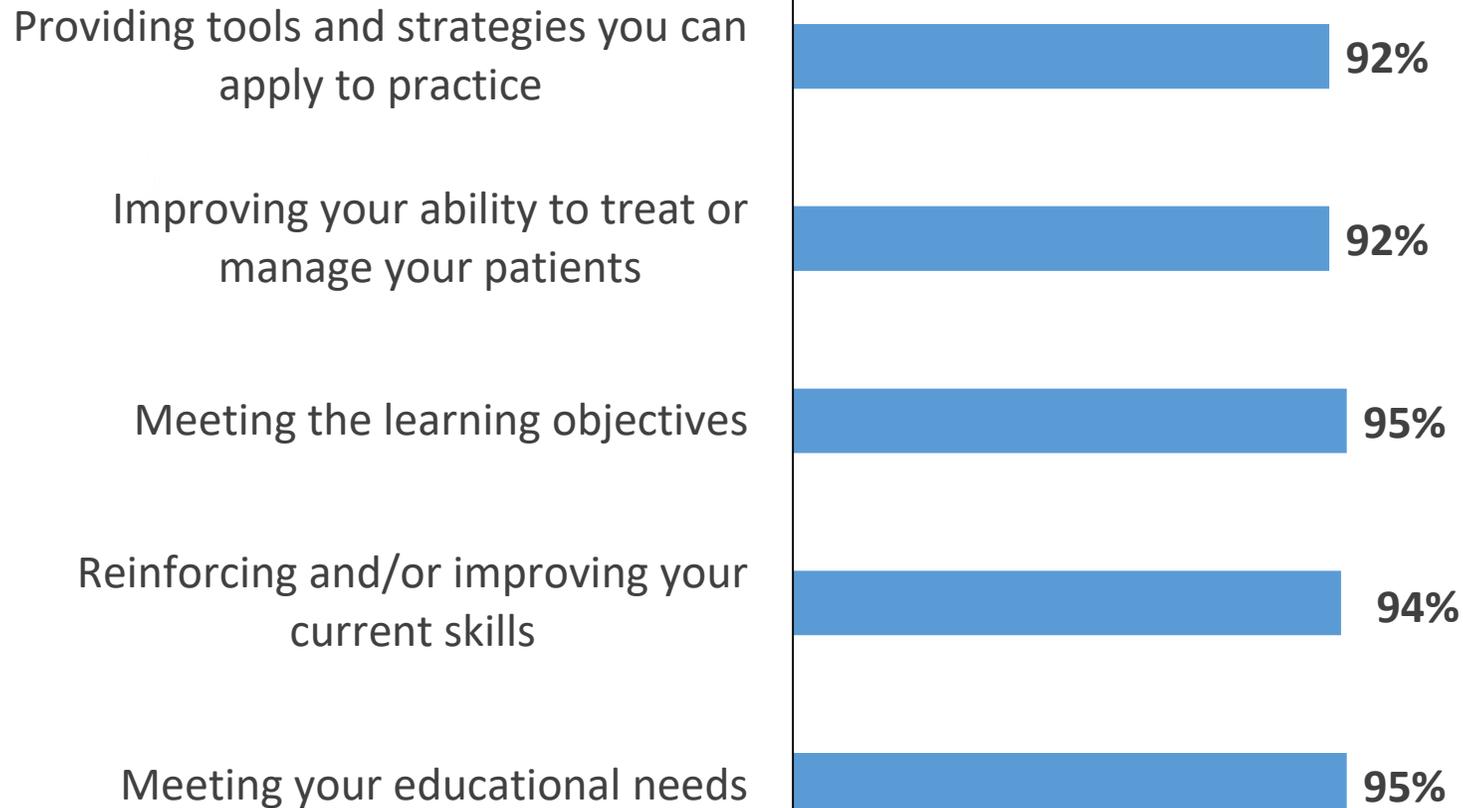
- Pulmonary
- Primary Care
- Pediatrics
- Allergy
- Family/Internal/Adult
- Surgery
- Otolaryngology
- Acute Care
- Oncology
- Other

Degree	Total
Family/Internal/Adult	310
Primary Care	119
Surgery	73
Pediatrics	65
Acute Care	58
Otolaryngology	44
Allergy	36
Oncology	37
Pulmonary	31
Other (Critical Care, Emergency, Pathology)	408
<b>Total</b>	<b>1181</b>

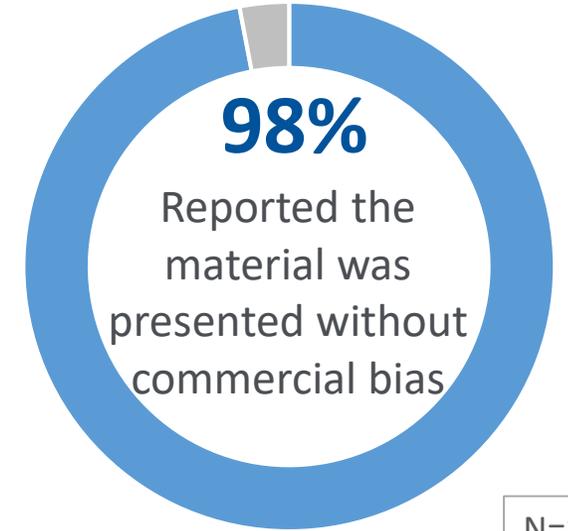
# Level (2) Outcomes: Satisfaction

Final Online Outcomes Summary

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



N=843



N=843

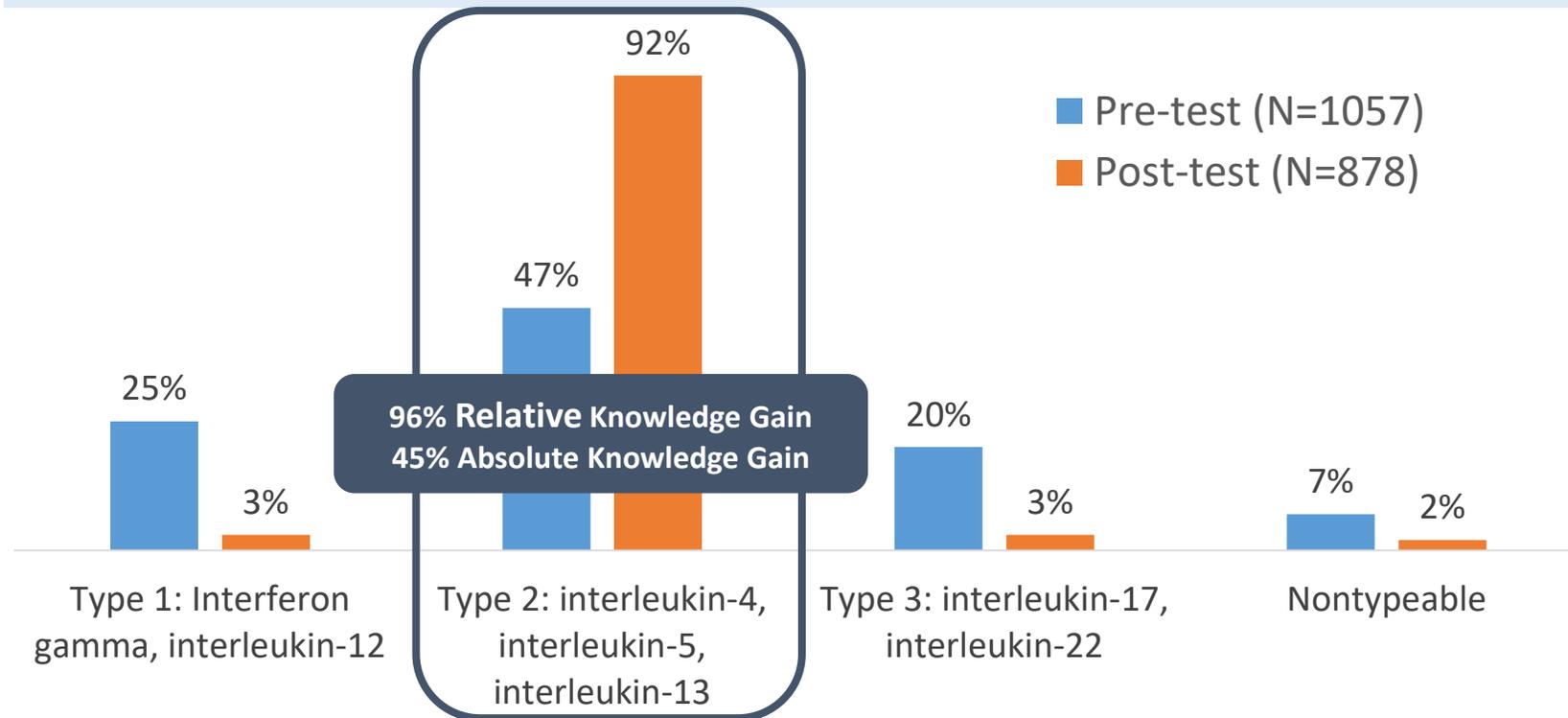


# Level (3 & 4) Outcomes: Knowledge & Competence

## Final Online Outcomes Summary

**Learning Objective:** *Describe clinical features and key concepts in the pathophysiology and immunology of CRSwNP.*

**Question 1:** Ms. S is a 47-year-old woman with a history of adult onset asthma, chronic rhinosinusitis with nasal polyposis, and aspirin/NSAID sensitivity consistent with aspirin exacerbated respiratory disease (AERD). She has evidence of peripheral eosinophilia of 600 cells/mcL, total serum IgE of 420 kU/mL and presents with anosmia and recurrent respiratory exacerbations. Which of the following represents the endotype of CRSwNP she likely has with the correct associated major cytokines?



**Clinical Rationale:** With her peripheral eosinophilia, elevated total serum IgE, and history of AERD, this most likely represents Type 2 inflammation driven by IL-4, IL-5, and IL-13.

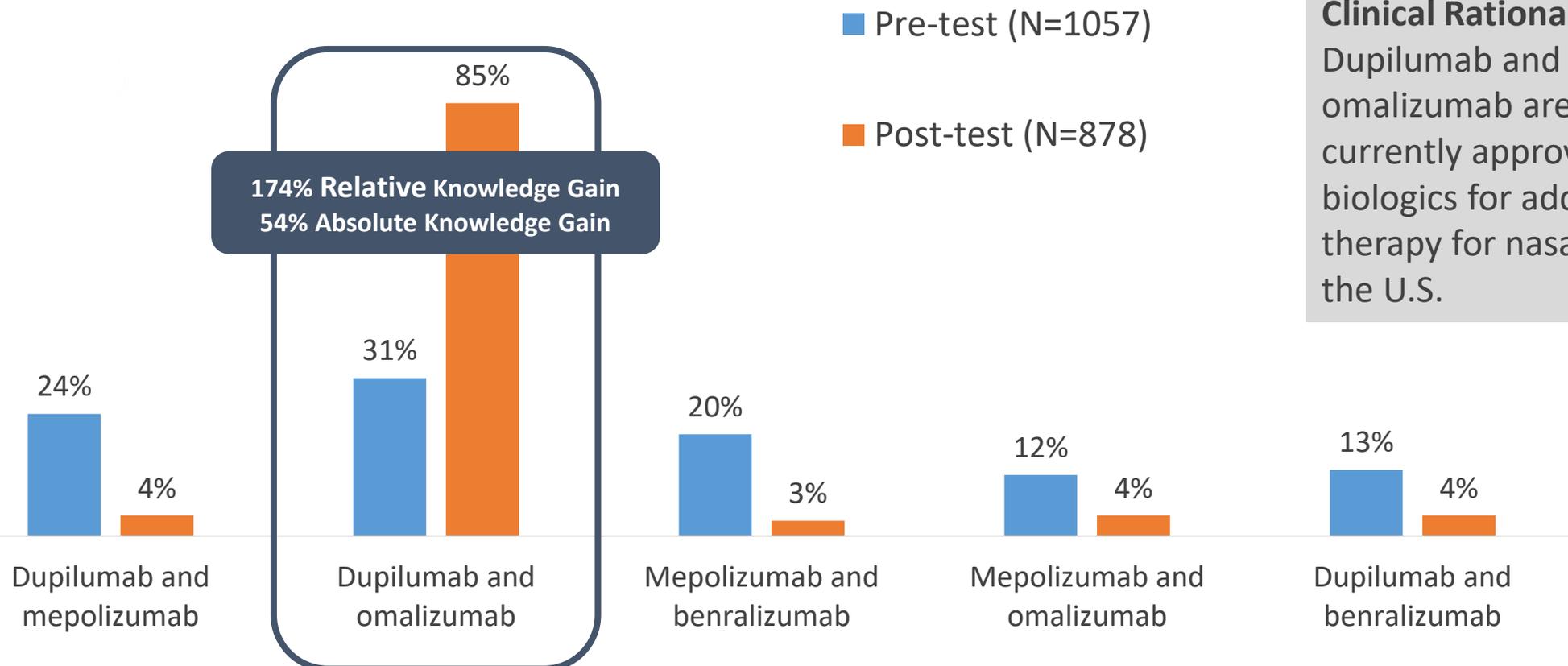
<https://pubmed.ncbi.nlm.nih.gov/32145872/>

# Level (3 & 4) Outcomes: Knowledge & Competence

Final Online Outcomes Summary

**Learning Objective:** *Discuss current and emerging therapies and treatment selection based on patient inflammatory phenotype, comorbidities and other individual factors.*

**Question 2:** Which biologics are currently approved by the United States Food and Drug Administration for chronic rhinosinusitis with nasal polyps?



**Clinical Rationale:**  
Dupilumab and omalizumab are the currently approved biologics for add on therapy for nasal polyps in the U.S.

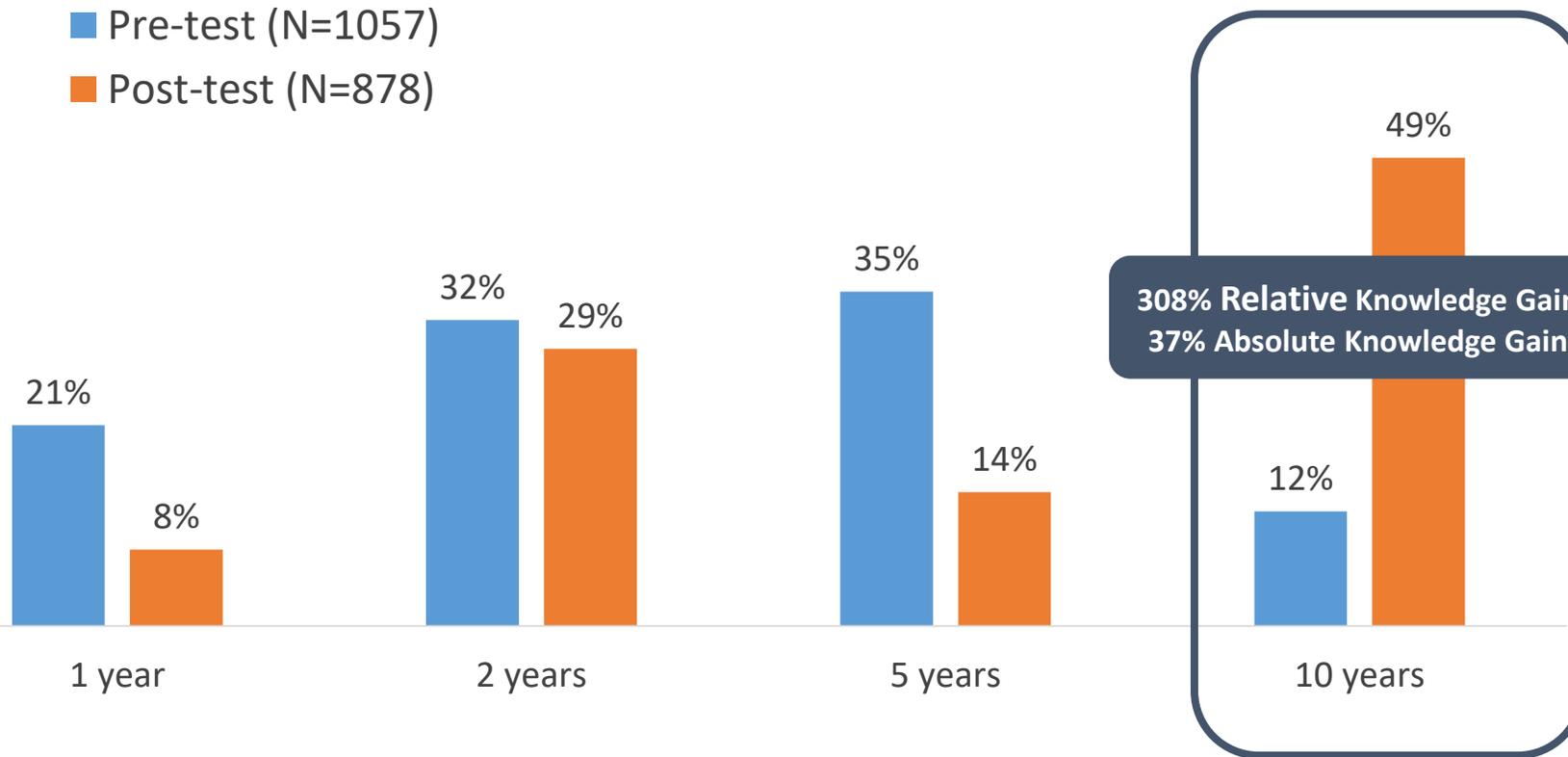
# Level (3 & 4) Outcomes: Knowledge & Competence

## Final Online Outcomes Summary

**Learning Objective:** *Evaluate strategies for longitudinal management using a multidisciplinary approach.*

**Question 3:** For the average, appropriately selected patient, clinically meaningful improvements in quality of life after sinus surgery for chronic rhinosinusitis with nasal polyps have been shown to persist for what duration?

■ Pre-test (N=1057)  
■ Post-test (N=878)

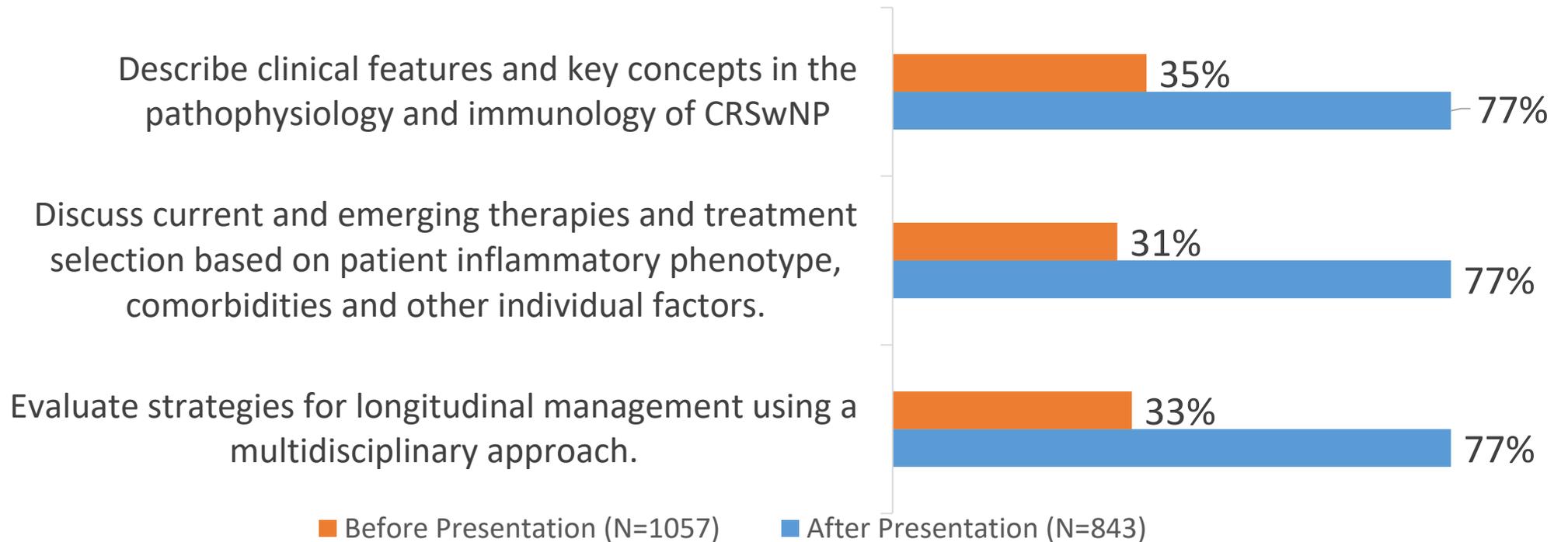


### Clinical Rationale:

Research has shown that improvements in quality of life persist for up to 10 years following endoscopic sinus surgery for chronic rhinosinusitis with nasal polyps. There is variability for individual patients that should be considered when considering treatments.

<https://pubmed.ncbi.nlm.nih.gov/31207172/>

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



# Level (4) Outcomes: Competence

Final Online Outcomes Summary



N=167

85%

N=843

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

## What barriers will the education provided help to address?

- Access to care
- Access to medications and treatment with biologics
- Cost factors
- Cost of surgery vs medications
- Importance of discussing side effects
- Knowledge base
- Understanding indications for biologics
- Medication options
- Patient compliance
- Referral for specialist care
- Shared decision-making

81%

N=843

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

# Evaluation Survey Results

Final Online Outcomes Summary

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

Future of biologics	Medical procedures and treatments
Current updates with new therapeutic agents	Medications
Pathophysiology of CRSwNP	More on prevention
Differential diagnosis	Early detection
Imaging modalities vs lab values	Success of repeat surgery
Complications in immunocompromised patients	Management of polyps in Churg-Strauss syndrome
Asthma	Allergic Rhinitis

# Activity Format: Live Broadcasts

## Final Outcomes Summary – Live Broadcasts



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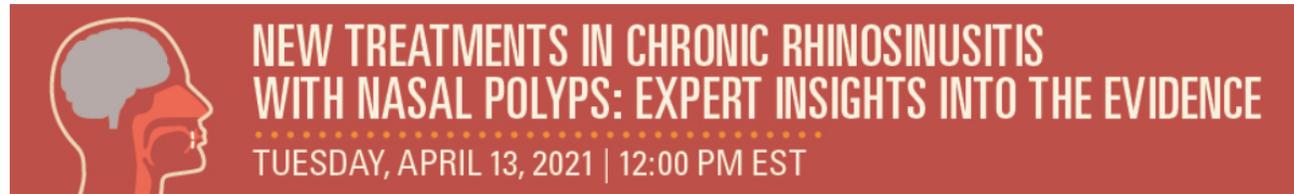
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### New Treatments in Chronic Rhinosinusitis with Nasal Polyps: Expert Insights into the Evidence

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**NEW TREATMENTS IN CHRONIC RHINOSINUSITIS WITH NASAL POLYPS: EXPERT INSIGHTS INTO THE EVIDENCE**  
TUESDAY, APRIL 13, 2021 | 12:00 PM EST

This webinar is jointly provided by **National Jewish Health**.

Tuesday – April 6, 2021 (7:00 pm EST)  
Tuesday – April 13, 2021 (12:00 pm EST)

Now viewing Slide Advancer's screen, controlled by Eileen Wang  
Talking: Eileen Wang  Everyone  Webcams  Zoom: 62%  Screenshot



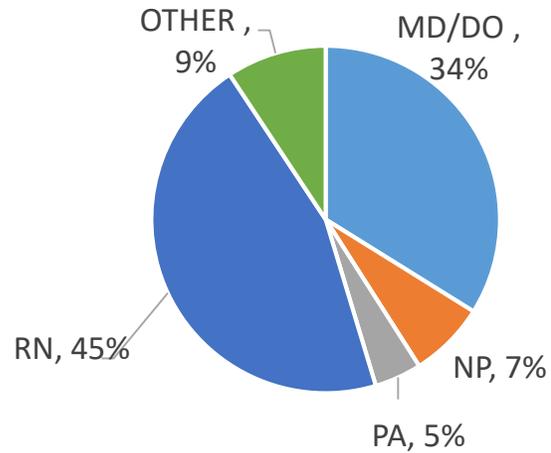
### Case Presentation

- Multidisciplinary management key
  - Dupilumab / choice of biologics?
  - Revision surgery?
    - Extent?
  - Repeat attempt at desensitization?
  - Further corticosteroids?
    - Assess response to prednisone?



# Educational Impact Summary

Final Outcomes Summary – Live Broadcasts

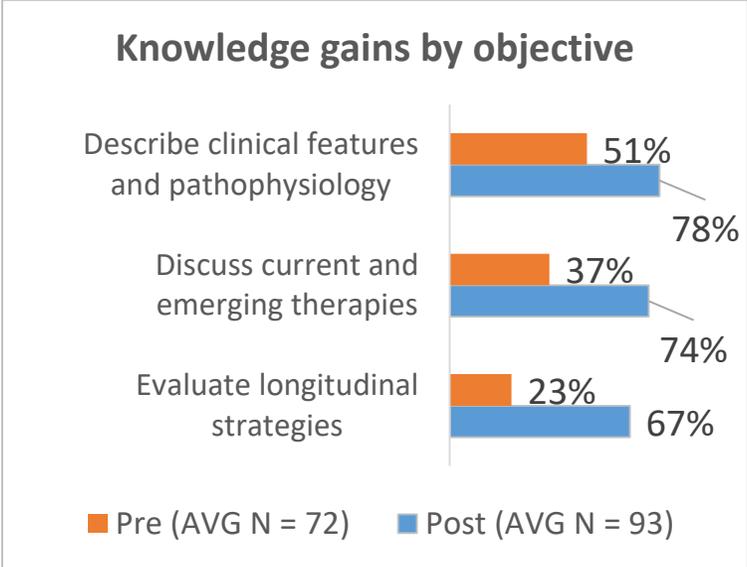
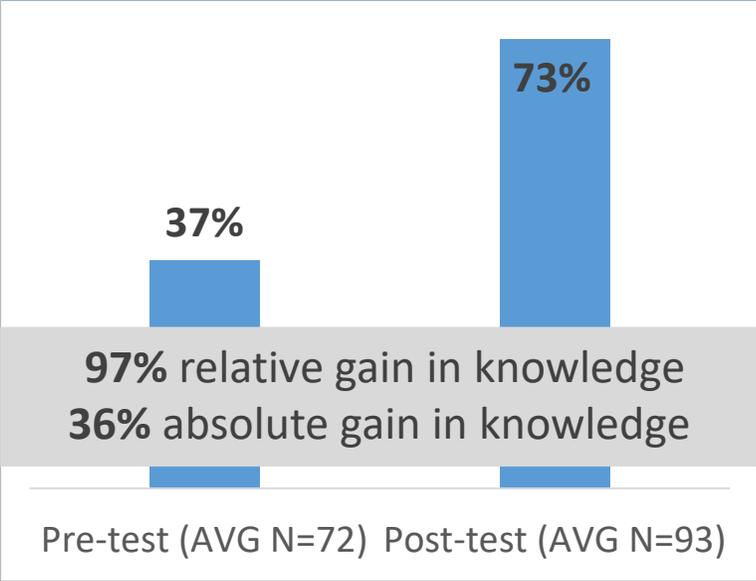


MD/DO=62  
 NP=13  
 PA=8  
 Nurse=83  
 Other=17  
**Total Learners=183**

**Exceeded guaranteed reach by 83%!**

**Potential Impact To 16,744 Patient Visits This Year\***

*\*Estimate based on self-reported data regarding number of patients seen on a weekly basis with CRSwNP. Estimate assumes potential patient visits, not unique patients.*



**Evaluation** (N=86)

Met their educational needs **(95%)**



Reinforced or improved current skills **(91%)**

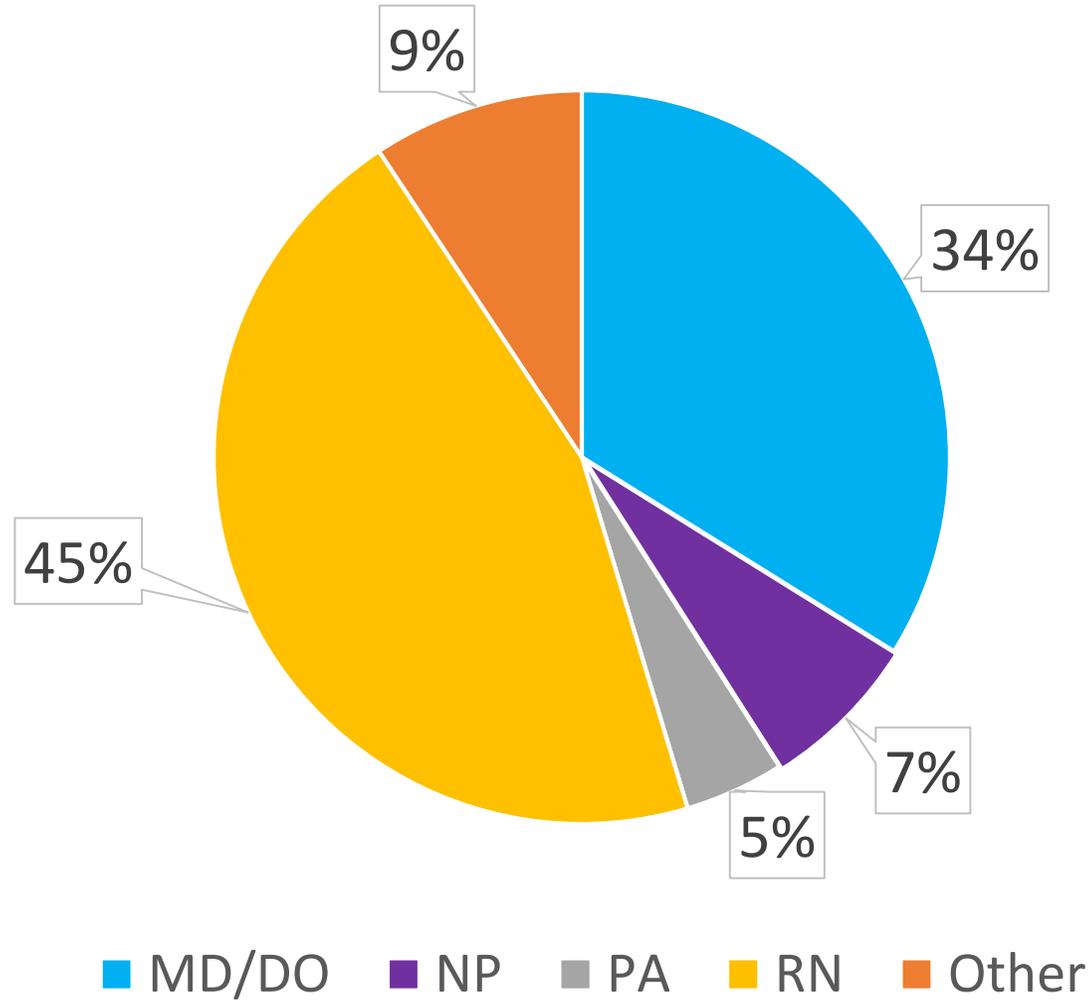


Gave tools and strategies to apply in practice **(91%)**

**83%** (N=86) Evaluation respondents intend to make changes to practice as a result of the activity

# Level (1) Outcomes: Participation (Degree)

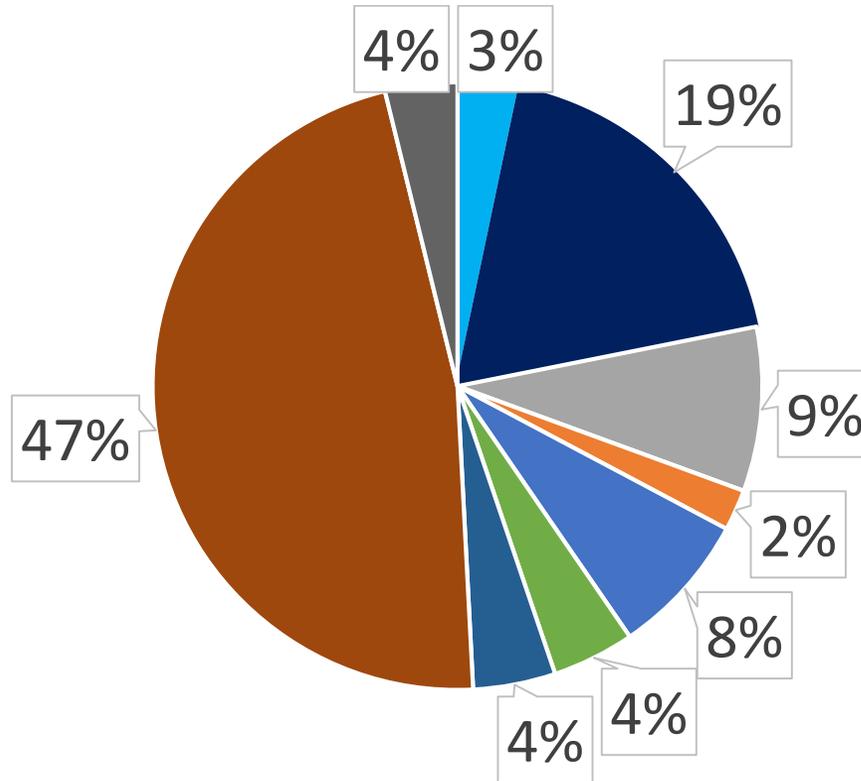
Final Outcomes Summary – Live Broadcasts



Degree	Total
MD/DO	62
NP	13
PA	8
RN	83
Other	17
<b>TOTAL</b>	<b>183</b>

# Level (1) Outcomes: Participation (Specialty)

Final Outcomes Summary – Live Broadcasts



- Pulmonary
- Primary Care
- Pediatrics
- Allergy
- Family/Internal/Adult
- Surgery
- Otolaryngology
- Other
- Critical Care

Degree	Total
Primary Care	34
Pediatrics	16
Family/Internal/Adult	14
Surgery	8
Otolaryngology	8
Critical Care	7
Pulmonary	6
Allergy	4
Other	86
<b>Total</b>	<b>183</b>

Other includes: Rhinology, Geriatrics, Public Health, Radiology, and more.

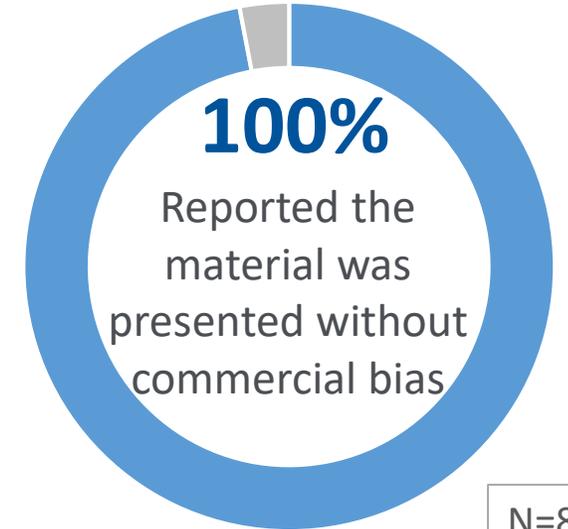
# Level (2) Outcomes: Satisfaction

Final Outcomes Summary – Live Broadcasts

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



N=86



N=86

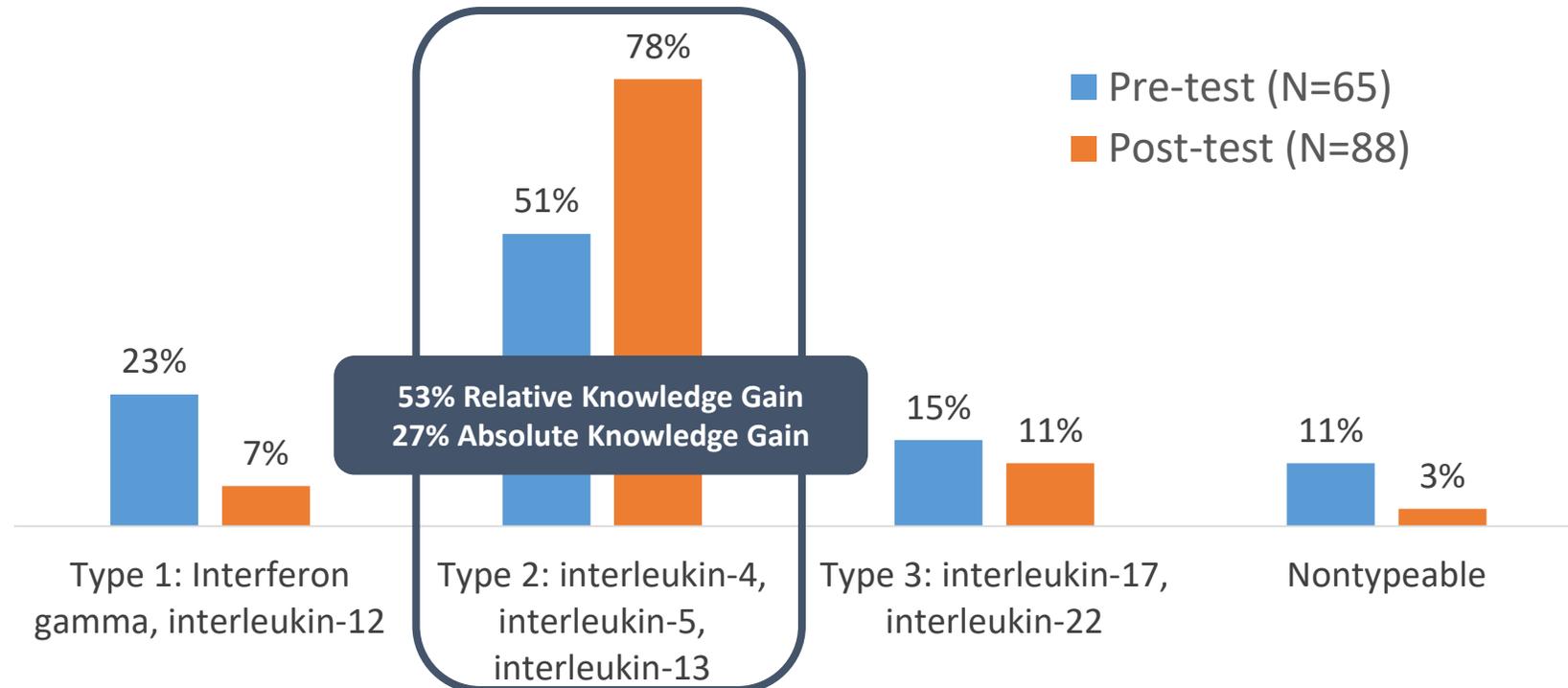


# Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary – Live Broadcasts

**Learning Objective:** *Describe clinical features and key concepts in the pathophysiology and immunology of CRSwNP.*

**Question 1:** Ms. S is a 47-year-old woman with a history of adult onset asthma, chronic rhinosinusitis with nasal polyposis, and aspirin/NSAID sensitivity consistent with aspirin exacerbated respiratory disease (AERD). She has evidence of peripheral eosinophilia of 600 cells/mcL, total serum IgE of 420 kU/mL and presents with anosmia and recurrent respiratory exacerbations. Which of the following represents the endotype of CRSwNP she likely has with the correct associated major cytokines?



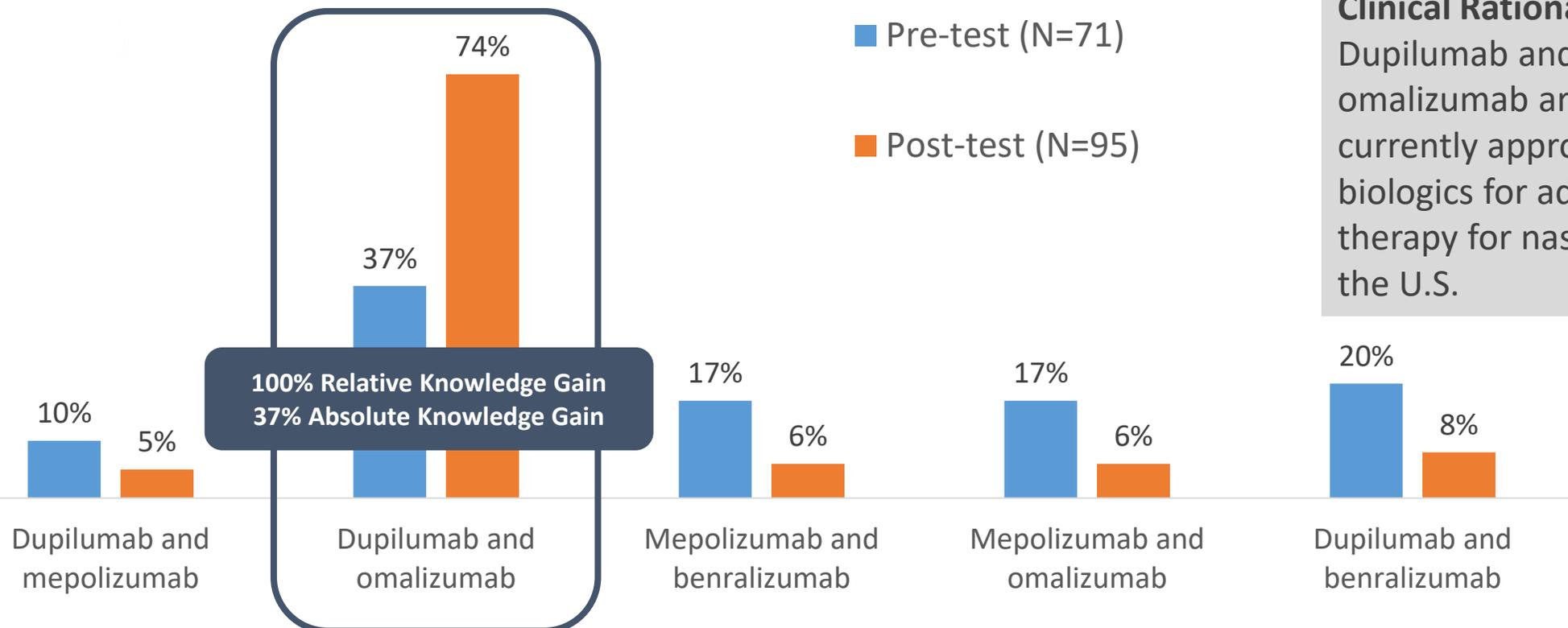
**Clinical Rationale:** With her peripheral eosinophilia, elevated total serum IgE, and history of AERD, this most likely represents Type 2 inflammation driven by IL-4, IL-5, and IL-13.  
<https://pubmed.ncbi.nlm.nih.gov/32145872/>

# Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary – Live Broadcasts

**Learning Objective:** *Discuss current and emerging therapies and treatment selection based on patient inflammatory phenotype, comorbidities and other individual factors.*

**Question 2:** Which biologics are currently approved by the United States Food and Drug Administration for chronic rhinosinusitis with nasal polyps?



**Clinical Rationale:**  
Dupilumab and omalizumab are the currently approved biologics for add on therapy for nasal polyps in the U.S.

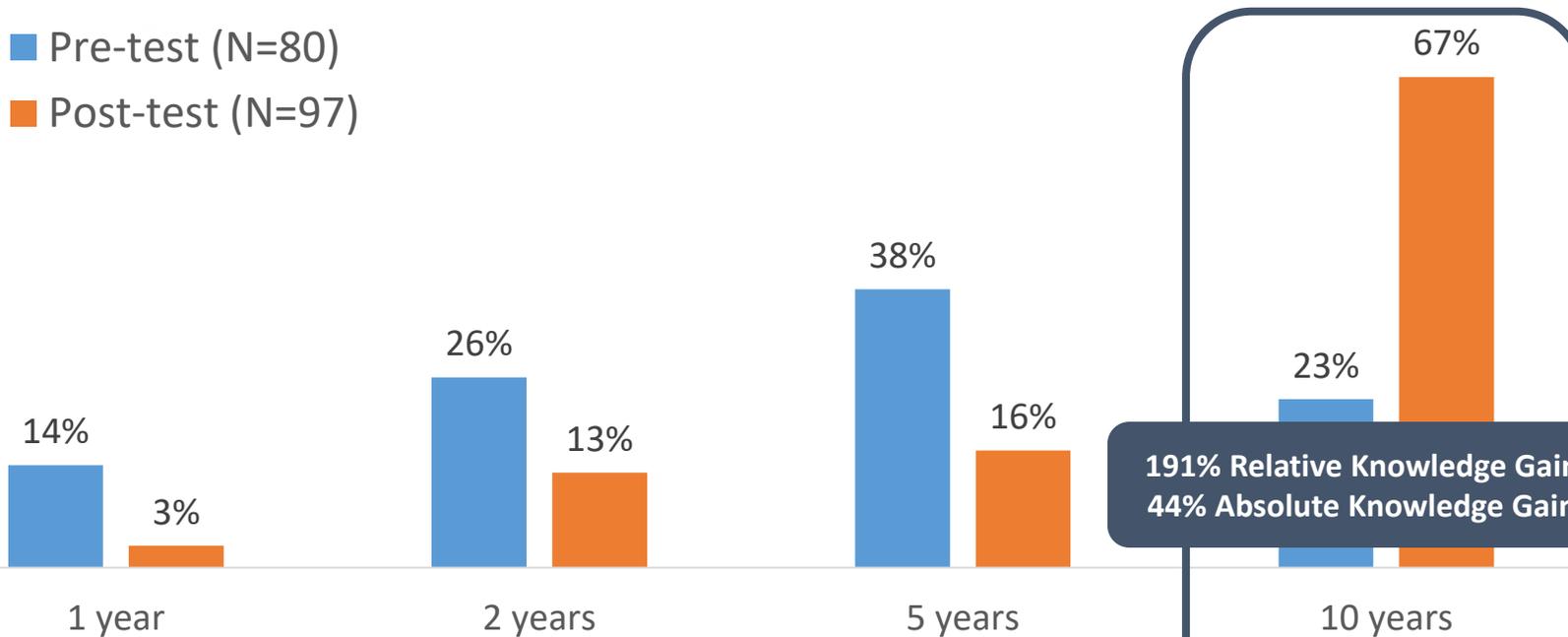
# Level (3 & 4) Outcomes: Knowledge & Competence

Final Outcomes Summary – Live Broadcasts

**Learning Objective:** *Evaluate strategies for longitudinal management using a multidisciplinary approach.*

**Question 3:** For the average, appropriately selected patient, clinically meaningful improvements in quality of life after sinus surgery for chronic rhinosinusitis with nasal polyps have been shown to persist for what duration?

■ Pre-test (N=80)  
■ Post-test (N=97)

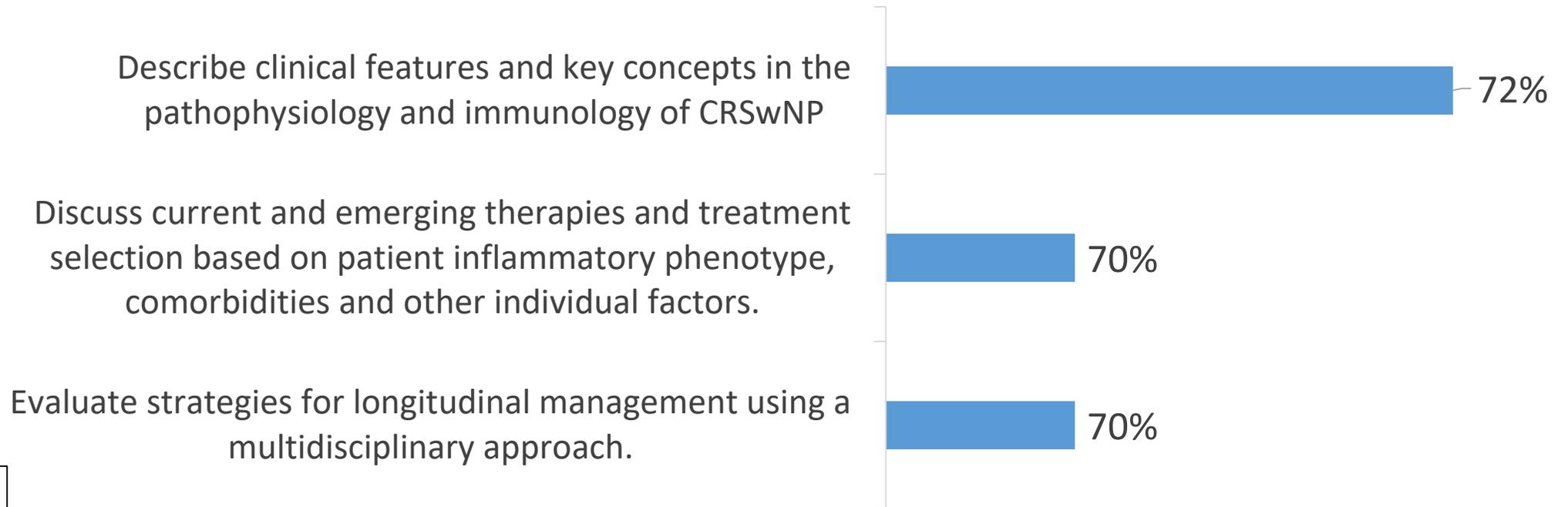


### Clinical Rationale:

Research has shown that improvements in quality of life persist for up to 10 years following endoscopic sinus surgery for chronic rhinosinusitis with nasal polyps. There is variability for individual patients that should be considered when considering treatments.

<https://pubmed.ncbi.nlm.nih.gov/31207172/>

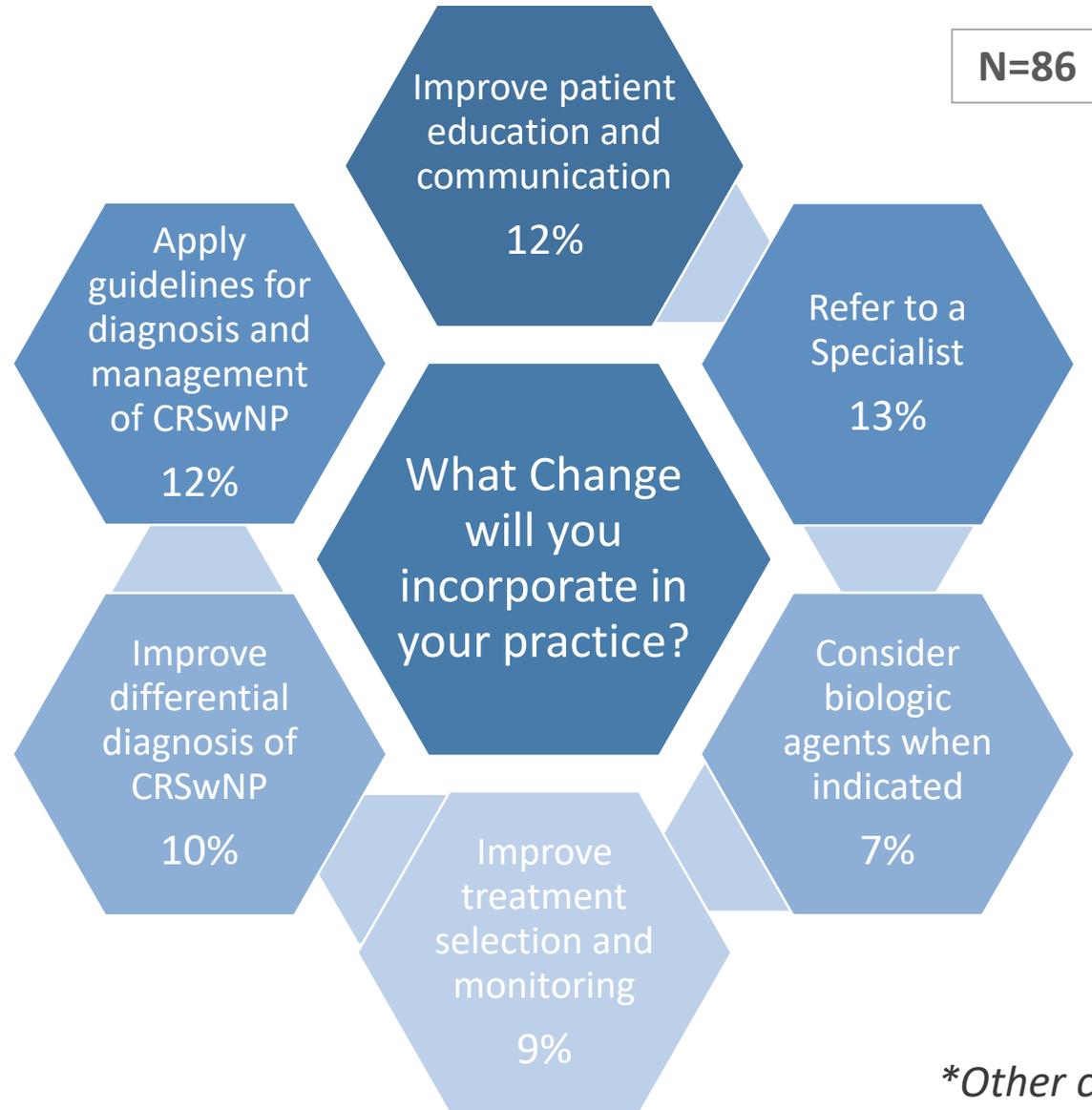
## Evaluation respondents reported their confidence as it relates to the learning objectives after the activity (Very confident – confident)



N=86

# Level (4) Outcomes: Competence

Final Outcomes Summary – Live Broadcasts



83%

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

*\*Other changes (37%)*

## What barriers will the education provided help to address?

- It addressed the multidisciplinary approach, which provides patients with different options or reinforces the choices.
- Patients need to meet certain diagnosis and treatment regimen qualifications before surgery can be an option.
- The barrier of lack of information regarding assessment and treatment options.
- Timely referral to specialist
- Medication cost considerations
- Encouragement to seek attention when indicated
- Time and insurance barriers
- Access to care

81%

N=86

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

# Evaluation Survey Results

Final Outcomes Summary – Live Broadcasts

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

Long term outcomes with biologics and surgery

Treatments for CRSwNP

More about surgical options

Guidelines for management and current therapy

New advances

The relationship between nasal polyps and inverting papillomas and nasal cancers

Patient education on nasal irrigation and intranasal corticosteroids

Nasal/septal deviation and current treatments

# Self Reported Performance – 45 Day Survey

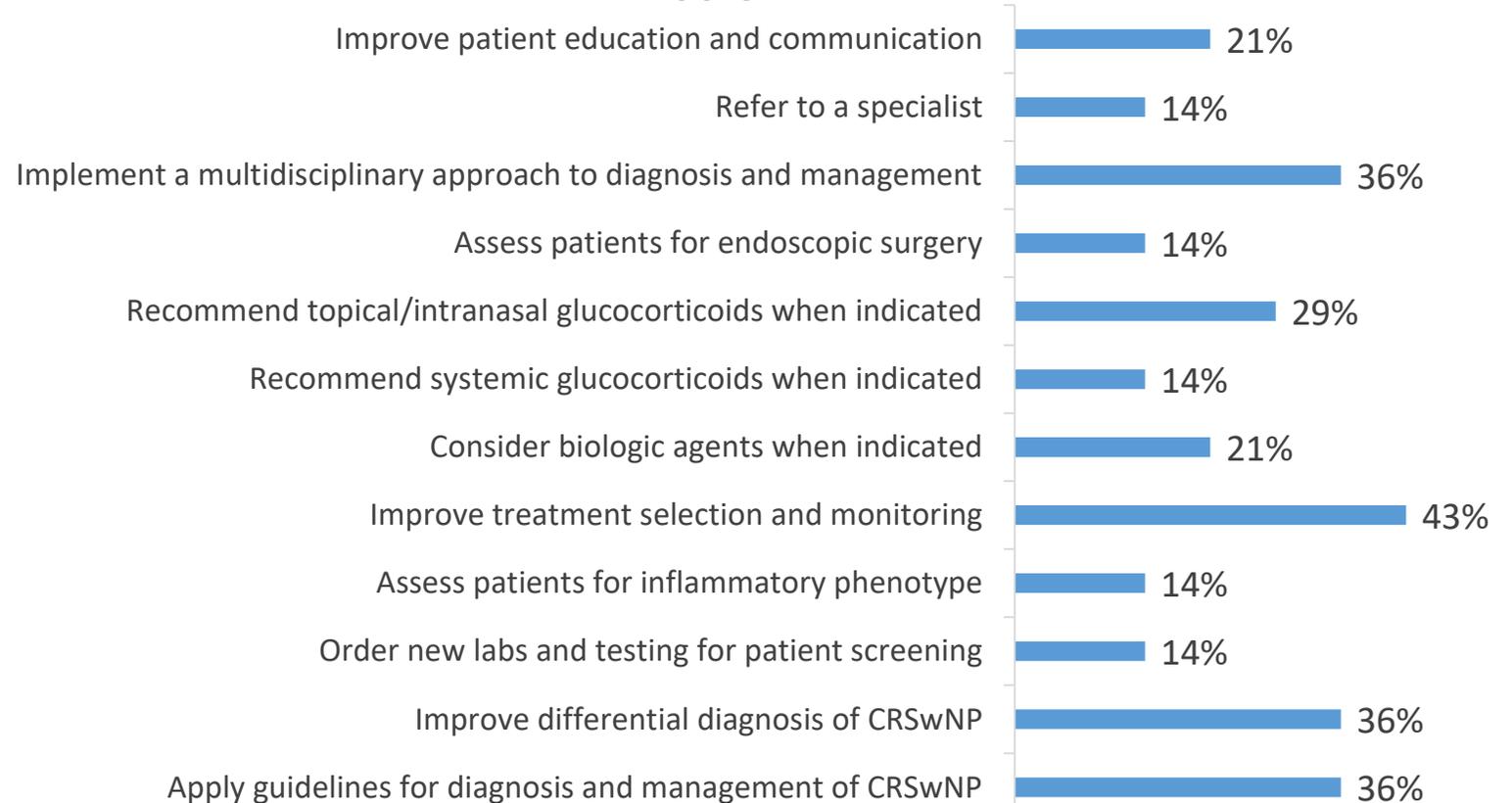
Final Outcomes Summary – Live Broadcasts



**74%** of respondents indicated that they have incorporated changes into their practice as a result of this activity. [N=19]

## What changes have you incorporated into practice as a result of this activity?

Select all that apply.



N=14

# Self Reported Performance – 45 Day Survey

Final Outcomes Summary – Live Broadcasts

83%

N=12

The activity provided information, education, tools or resources to be able to address barriers identified in practice

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



N=17

# Accreditation Details

Final Outcomes Summary – Live Broadcasts and Online Enduring

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.

NJH designates each live activity for a maximum of 1.25 *AMA PRA Category 1 Credits™*.

NJH designates the enduring material for a maximum of 1.25 *AMA PRA Category 1 Credits™*.

