

# Conversations in Dermatology: 2020

## Atopic Advances in Moderate to Severe Atopic Dermatitis: Impacting the Inflammation



### Final Outcomes Report

Sanofi Regeneron Grant ID: IME-2019-14845

November 30, 2020

# Conversations in Dermatology: 2020

This curriculum focused on selecting therapy for patients with atopic dermatitis, especially those with comorbidities

## Participation



1,218  
Total Attendees



2 Virtual  
Sessions



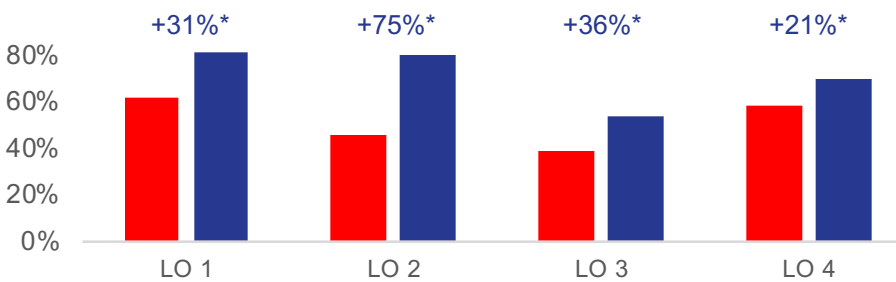
297 certificates  
issued to date

This education has the potential to impact  
**815,768**  
Patients with AD on an annual basis.

14,470 – 16,906  
Patients Weekly

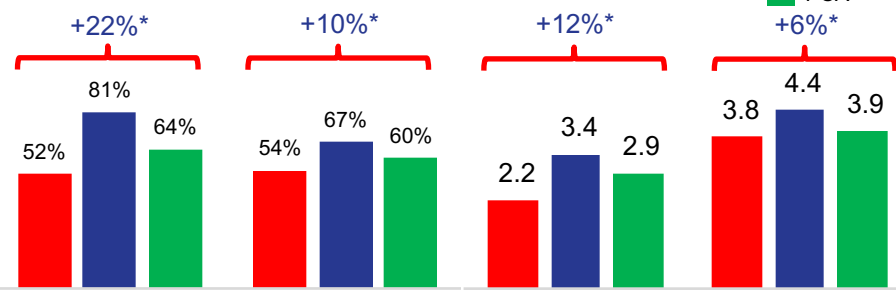
2020 Session	Date	Attendees
Conversations in Dermatology	6/6/20	568
Rebroadcast	6/13/20	650
<b>Total</b>		<b>1,218</b>

## Learning Gains Across Objectives



- **LO 1, 31%\* Improvement:** Recognize the role of Th2 inflammation in the pathogenesis of atopic dermatitis (AD)
- **LO 2, 75%\* Improvement:** Identify comorbidities associated with AD and the impact on the quality of life
- **LO 3, 36%\* Improvement:** Implement recommendations for the comprehensive care of AD in children and adults
- **LO 4, 21%\* Improvement:** Incorporate evolving management strategies for patients with moderate to severe AD to optimize outcomes and minimize adverse effects

## Learning Domain Analysis



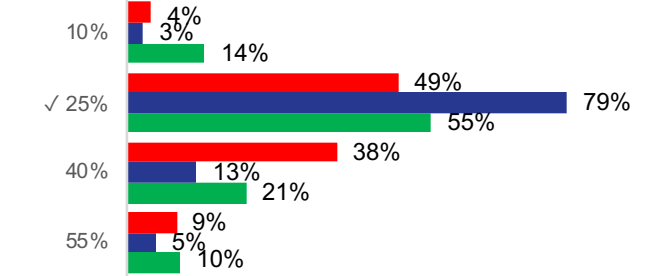
- In each of the four curriculum learning domains, substantial and significant gains were achieved from Pre- to Post-Test
- The strongest improvements were measured in Knowledge, where gains were driven by an item discussing the prevalence of comorbid asthma with AD
- Despite these improvements, low Post-Test averages were seen in Competence and Confidence; low Confidence may reflect possible learner awareness of outstanding gaps in proficiency
- In practice strategy, where learners reported how often they consider a patient's comorbidities when selecting AD treatments, average ratings increased to a high Post-Test value

## Persistent Learning Gaps/Needs

Despite strong Pre- to Post-Test gains across the curriculum, low baseline scores in combination with slippage from Post-Test to follow-up assessment identify two outstanding opportunities for further education:

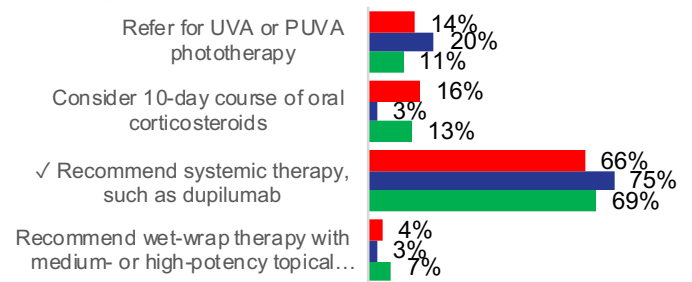
### Recognizing the prevalence of comorbidities in patients with AD

Approximately what proportion of patients with AD also have comorbid asthma?



### Intensifying to systemic therapy for patients with moderate to severe AD

29 y/o man with 20-year history of moderate AD, asthma, and allergic rhinitis presents complaining of trouble sleeping due to itching and daytime fatigue. Workup identifies rash on 17% of body surface area (face, flexural surfaces, back, hands). Current meds: fluticasone propionate nasal spray, cetirizine prn, crisaborole 2%, moisturizers; refuses topical corticosteroids due to development of skin atrophy with previous treatment; previously used topical calcineurin inhibitors. What might be an appropriate action at this time?



# Curriculum Patient Impact

In the Post-Test, learners (N = 449) were asked to report how many patients with AD they see per week in any clinical setting by selecting a range. The resulting distribution of learner responses was then extrapolated to reflect the total number of learners who have attended the sessions.

The findings reveal that this education has the potential to impact

**815,768**

patients on an annual basis.

**14,470 – 16,906 patients on a weekly basis**

14,470 –  
16,906

## **Course Director**

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### **Brad P. Glick, DO, MPH, FAAD**

Program Director

Dermatology Residency Larkin Hospital -  
Palm Springs Campus

Clinical Assistant Professor of Dermatology  
FIU Herbert Wertheim College of Medicine  
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DermResearch, PLLC, Louisville, KY  
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Associate Professor of Dermatology

Director of Clinical Research and Contact Dermatitis  
George Washington University School of Medicine  
Washington, DC

# Commercial Support

The Conversation in Dermatology: 2020 CME activity was supported through educational grants or donations from the following companies:

- Sanofi Genzyme and Regeneron Pharmaceuticals

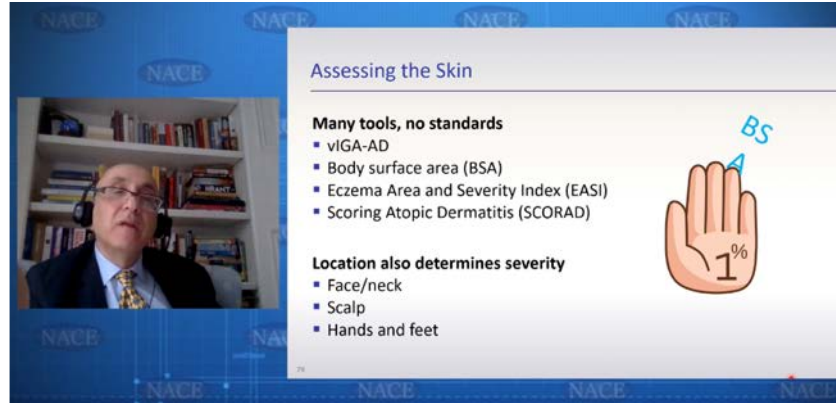
# Overview

# Learning Objectives

- Recognize the role of Th2 inflammation in the pathogenesis of atopic dermatitis (AD)
- Identify comorbidities associated with AD and the impact on the quality of life
- Implement recommendations for the comprehensive care of AD in children and adults
- Incorporate evolving management strategies for patients with moderate to severe AD to optimize outcomes and minimize adverse effects

# Curriculum Overview

1 Accredited Live Regional Symposia with 1 Rebroadcast:  
June 6, 2020 and June 2020



The screenshot shows a webinar interface with a speaker in a video window on the left and a presentation slide on the right. The slide is titled "Assessing the Skin" and contains the following text:

**Many tools, no standards**

- vIGA-AD
- Body surface area (BSA)
- Eczema Area and Severity Index (EASI)
- Scoring Atopic Dermatitis (SCORAD)

**Location also determines severity**

- Face/neck
- Scalp
- Hands and feet

To the right of the text is an illustration of a hand with "BS" above it and "1%" below it.

## Clinical Highlights eMonograph

eMonograph, containing key teaching points from the CME activity, was distributed 1 week after the meeting to all attendees.



The cover features the NACE logo and the text "Live Virtual Conferences". The main title is "CONVERSATIONS in DERMATOLOGY". Below this, it says "2020 Clinical Highlights". The specific topic is "Advances in Moderate to Severe Atopic Dermatitis: Impacting the Inflammation". Under the heading "Faculty", there is a bullet point: "Atopic dermatitis (AD) is common, affecting 13% of US children and 7% of US adults".

## Enduring CME Symposium Webcast

Available at: <https://www.naceonline.com/courses/advances-in-moderate-to-severe-atopic-dermatitis-impacting-the-inflammation>

Atopic Advances in Moderate to Severe Atopic Dermatitis: Impacting the Inflammation



### COURSE SUMMARY

Cost: Free

Start Date: 06/30/2020

Expiration Date: 06/29/2021

Target Audience:

Dermatologists, NPs, PAs and other clinicians engaged in the care of patients with dermatological conditions

Format: Webcast

Estimated Time To Complete CME Activity: 1.0 hour

Credit(s):

1.0 AMA PRA Category 1 Credit™

1.0 AANP Contact hour which includes 1.0 pharmacology hour

Hardware/Software Requirements: Any web browser

Speaker



Clinical Professor of Dermatology  
Icahn School of Medicine at Mount Sinai, New York, NY  
Indiana University Medical Center, Indianapolis, IN  
Medical Director  
Physicians Skin Care, PLLC  
DermResearch, PLLC  
Skin Sciences, PLLC  
Louisville, KY



# Outcomes Methodology

Learning outcomes were measured using matched Pre-Test and Post-Test scores for Knowledge, Performance, Confidence, and practice strategy and across all of the curriculum's Learning Objectives.

Outcomes Metric	Definition	Application
<b>Percentage change</b>	This is how the score changes resulting from the education are measured. The change is analyzed as a relative percentage difference by taking into account the magnitude of the Pre-Test average.	Differences between Pre-Test, Post-Test, and PCA score averages
<b>P value (p)</b>	This is the measure of the statistical significance of a difference in scores. It is calculated using dependent or independent samples t-tests to assess the difference between scores, taking into account sample size and score dispersion. Differences are considered significant for when $p \leq .05$ .	Significance of differences between Pre-Test, Post-Test, and PCA scores and among cohorts
<b>Effect size (d)</b>	This is a measure of the strength/magnitude of the change in scores (irrespective of sample size). It is calculated using Cohen's d formula, with the most common ranges of d from 0-1: $d < .2$ is a small effect, $d = .2-.8$ is a medium effect, and $d > .8$ is a large effect.	Differences between Pre-Test and Post-Test score averages
<b>Power</b>	This is the probability (from 0 to 1) that the "null hypothesis" (no change) will be appropriately rejected. It is the probability of detecting a difference (not seeing a false negative) when there is an effect that is dependent on the significance (p), effect size (d), and sample size (N).	Differences between Pre-Test and Post-Test score averages
<b>Percentage non-overlap</b>	This is the percentage of data points at the end of an intervention that surpass the highest scores prior to the intervention. In this report, it will reflect the percentage of learners at Post-Test who exceed the highest Pre-Test scores.	Differences between Pre-Test and Post-Test score averages

# Participation

2020 Session	Date	Attendees
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# Participation



**1,218\***  
Total Attendees



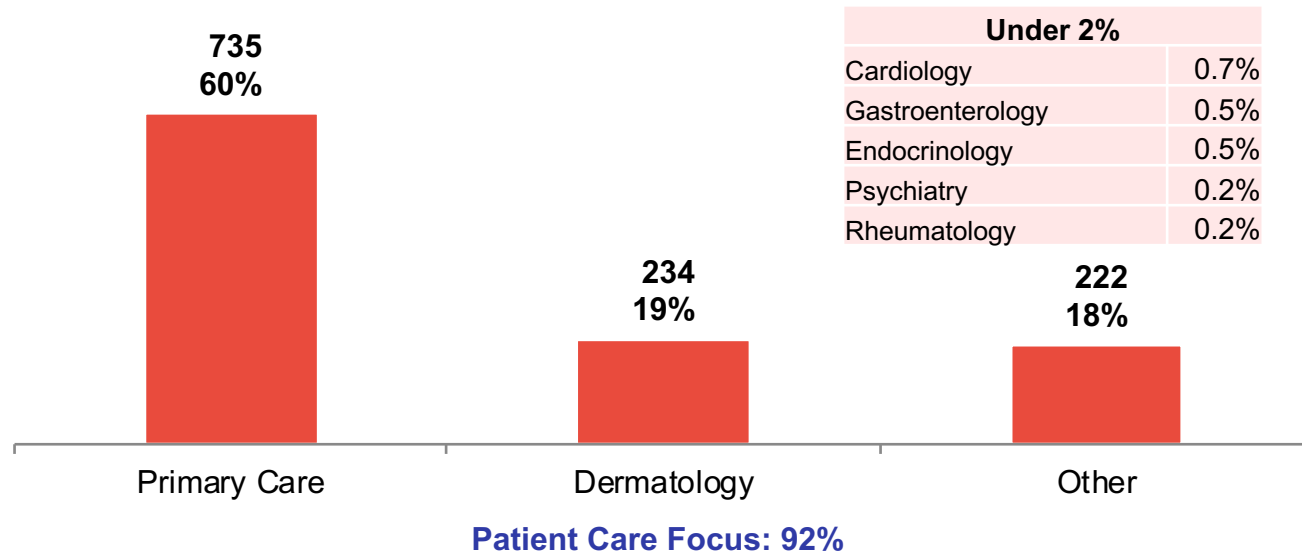
**2 Virtual Sessions**

**285 Follow-up Participants**  
**23% Rate of follow-up engagement**

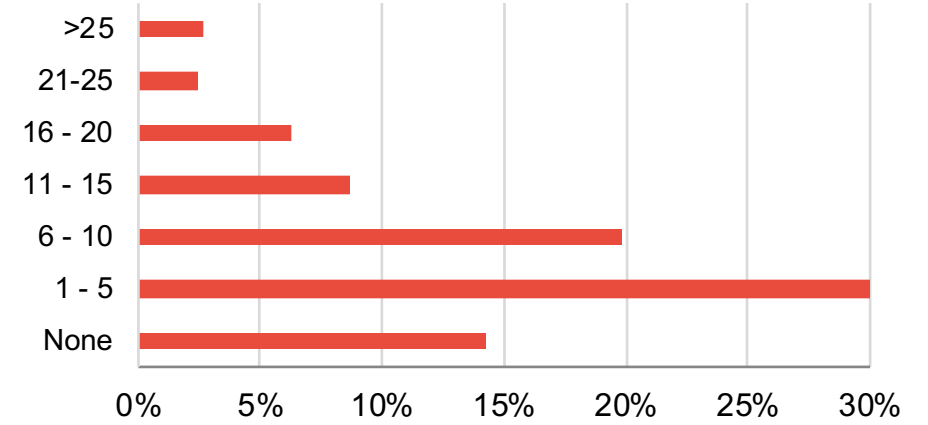
\*These numbers represent the total number of attendees, irrespective of assessment participation

# Level 1: Demographics and Patient Reach

## Specialty

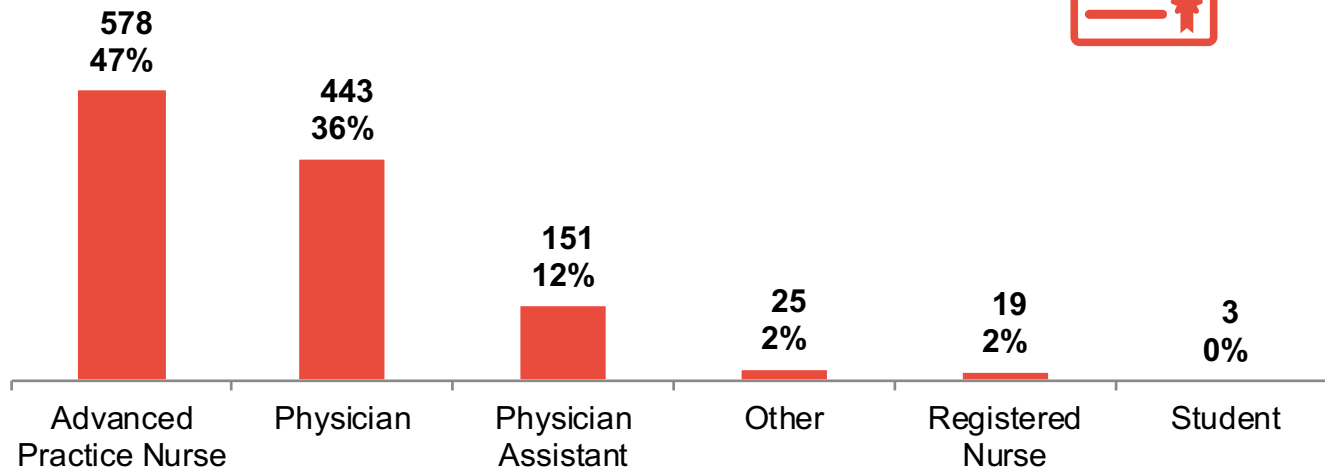


## Patients with atopic dermatitis seen each week, in any clinical setting:

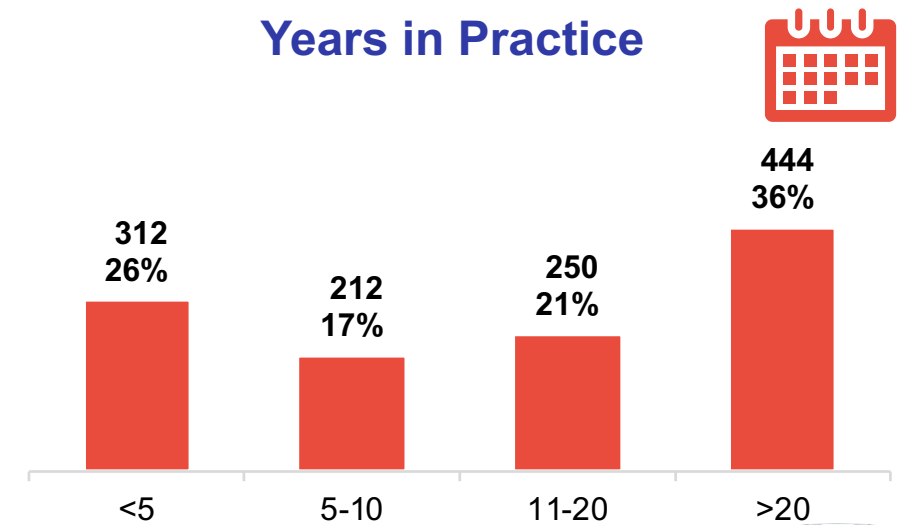


Average number of AD patients seen each week per clinician: 7

## Profession



## Years in Practice

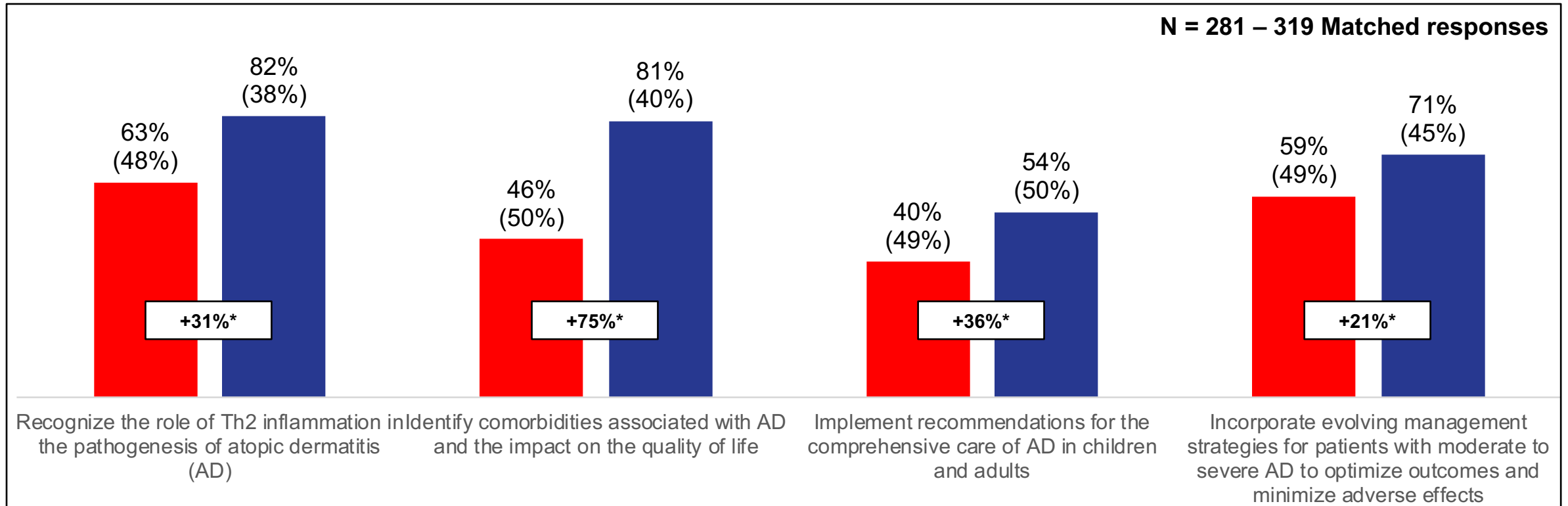




**Level 2-5:  
Outcomes Metrics**

# Learning Objective Analysis

Pre-Test  
Post-Test



- Across all four curriculum Learning Objectives, substantial and significant improvements were measured from low Pre-Test scores (40% to 63%)
- Despite these gains, low scores at Post-Test (54%) were measured on implementing recommendations for the comprehensive care of AD in children and adults
- Highest Post-Test scores (> 81%) were seen on recognizing the role of Th2 inflammation in the pathogenesis of AD, and identification of comorbidities associated with AD and the impact on quality of life

# Learning Objective Analysis

## Cohort comparison by profession

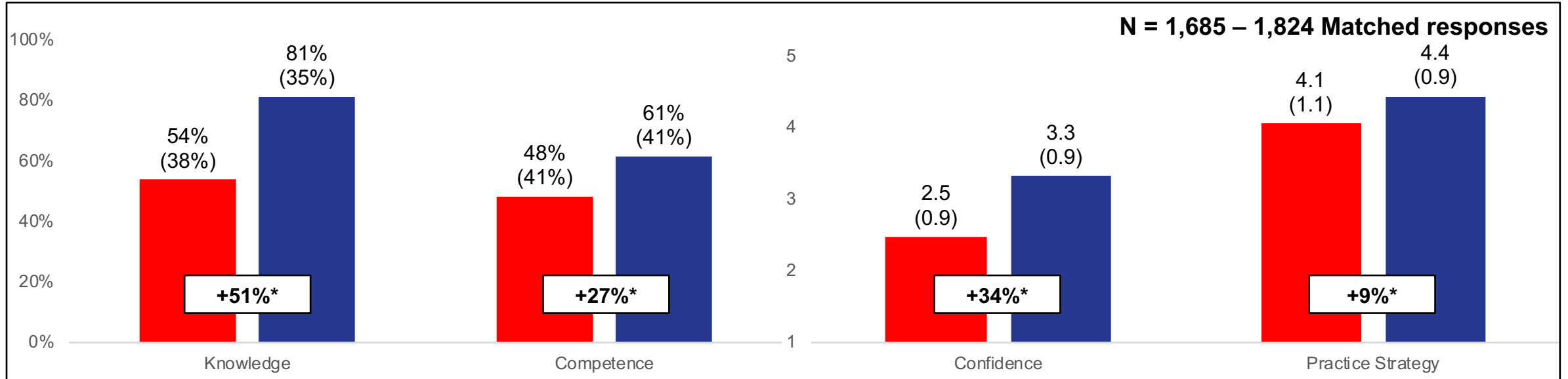
Matched data, \* indicates significance,  $p < 0.05$

Learning Objective	Advanced Practice Nurses				Physicians			
	N	Pre-Test	Post-Test	Change	N	Pre-Test	Post-Test	Change
Recognize the role of Th2 inflammation in the pathogenesis of atopic dermatitis (AD)	145	54% (50%)	74% (44%)	+35%*	123	71% (45%)	92% (27%)	+30%*
Identify comorbidities associated with AD and the impact on the quality of life	149	41% (49%)	81% (39%)	+98%*	123	52% (50%)	84% (37%)	+61%*
Implement recommendations for the comprehensive care of AD in children and adults	139	40% (49%)	58% (49%)	+43%*	115	38% (49%)	48% (50%)	+25%*
Incorporate evolving management strategies for patients with moderate to severe AD to optimize outcomes and minimize adverse effects	131	56% (50%)	69% (46%)	+23%*	110	57% (49%)	70% (46%)	+22%*

- For both advanced practice nurses and physicians, significant gains were measured from Pre- to Post-Test on each of the four curriculum Learning Objectives
- Across all Objectives, advanced practice nurses achieved stronger improvements compared to physicians, from similar or lower Pre-Test scores
- For both advanced practice nurses and physicians, lowest scores were seen on implementing recommendations for the comprehensive care of AD in children and adults

# Learning Domain Analysis

Pre-Test  
Post-Test



- In each of the four curriculum learning domains, substantial and significant gains were achieved from Pre- to Post-Test
- The strongest improvements (+51%) were measured in Knowledge, where gains were driven by an item discussing the prevalence of comorbid asthma with AD
- Despite these improvements, low Post-Test averages were seen in Competence and Confidence; low Confidence may reflect possible learner awareness of outstanding gaps in proficiency
- In practice strategy, where learners reported how often they consider a patient's comorbidities when selecting AD treatments, average ratings increased to a high Post-Test value (4.4)



# Learning Domain Analysis

## Cohort comparison by profession

Matched data, \* indicates significance,  $p < 0.05$

Learning Domain	Advanced practice nurses				Physicians			
	N	Pre-Test	Post-Test	% Change	N	Pre-Test	Post-Test	% Change
Knowledge	157	48% (38%)	79% (30%)	+65%*	133	60% (40%)	87% (26%)	+45%*
Competence	157	48% (40%)	63% (40%)	+30%*	130	46% (40%)	58% (41%)	+25%*
Confidence	157	2.4 (0.9)	3.3 (0.8)	+36%*	125	2.4 (1.0)	3.2 (0.9)	+33%*
Practice	177	4.1 (1.0)	4.4 (0.8)	+10%*	143	4.1 (1.0)	4.5 (0.8)	+9%*

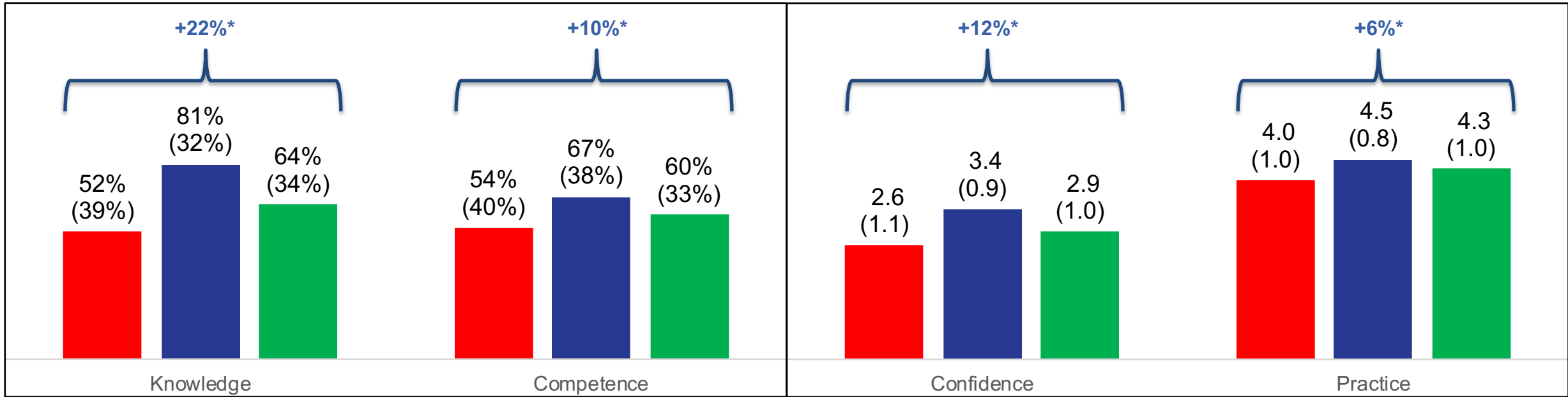
- When comparing the scores of advanced practice nurses and physicians by learning domain, both groups achieved significant gains from Pre- to Post-Test, across all four domains
- In all four learning domains, advanced practice nurses achieved stronger gains compared to physicians from Pre- to Post-Test
- Physicians achieved higher Pre- and Post-Test scores compared to advanced practice nurses in Knowledge; advanced practice nurses had higher Pre- and Post-Test scores in Competence
- Similar ratings at Pre- and Post-Test were given in Confidence and practice strategy by advanced practice nurses and physicians

# 4-Week Retention Analysis

## By Learning Domain

Pre-Test Post-Test PCA

N = 127 – 150 Matched responses



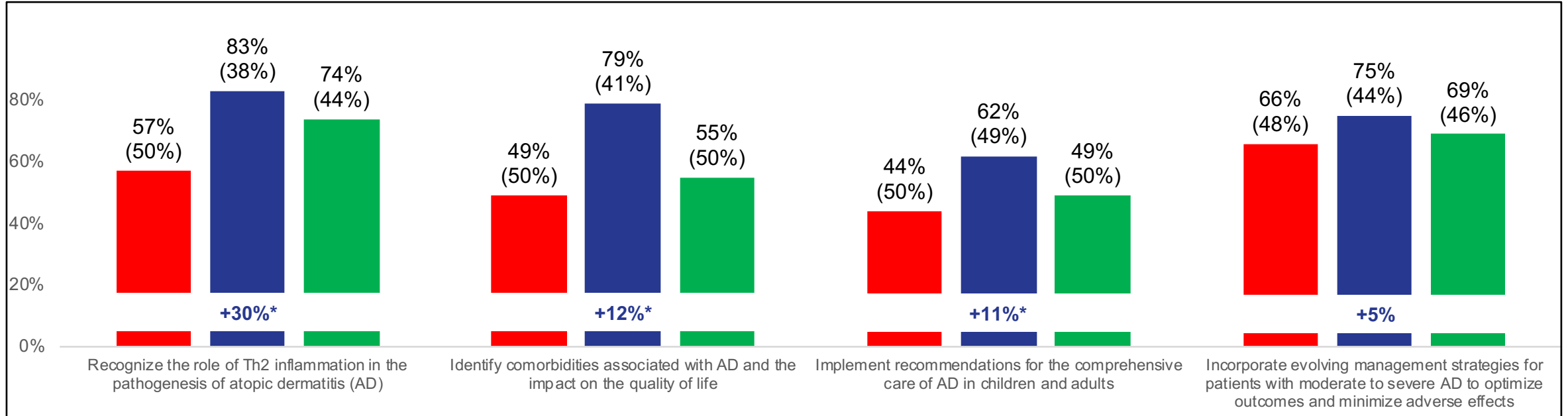
- Four to six weeks following their engagement in one of the curriculum sessions, learners were prompted to complete a brief Post Curriculum Assessment (PCA), which repeated items from each of the four curriculum learning domains
- In each domain, significant net gains were achieved from Pre-Test to PCA measurements
  - Despite these gains, some score slippage was seen from Post-Test to PCA in all domains

# 4-Week Retention Analysis

## By Learning Objective

Pre-Test Post-Test PCA

N = 114 – 135 Matched responses

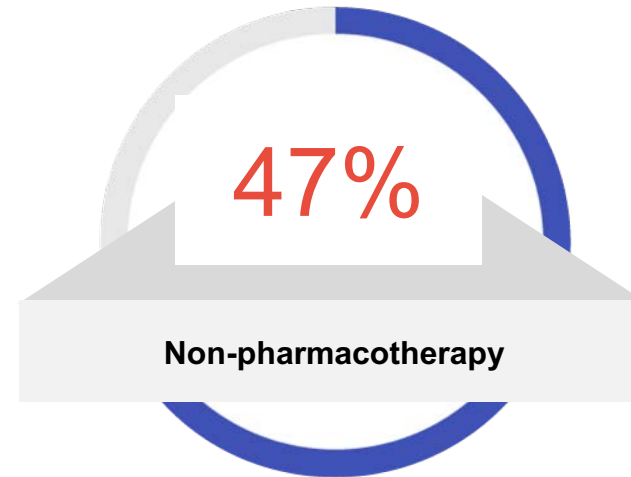
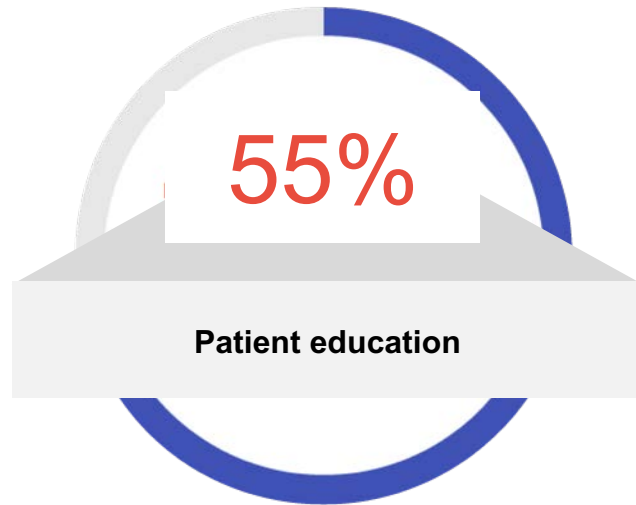
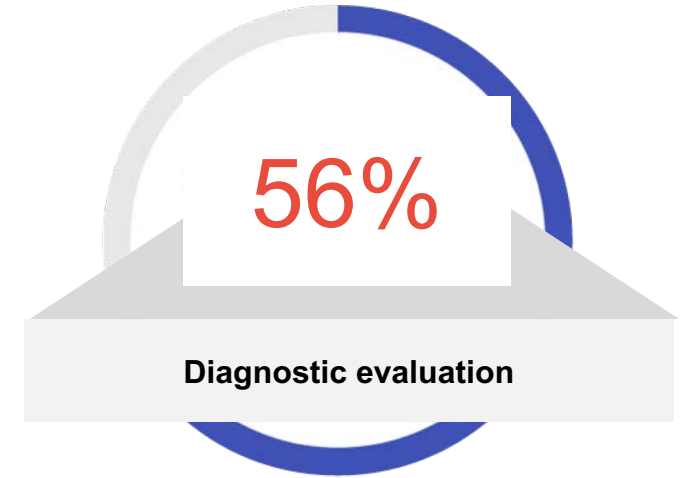
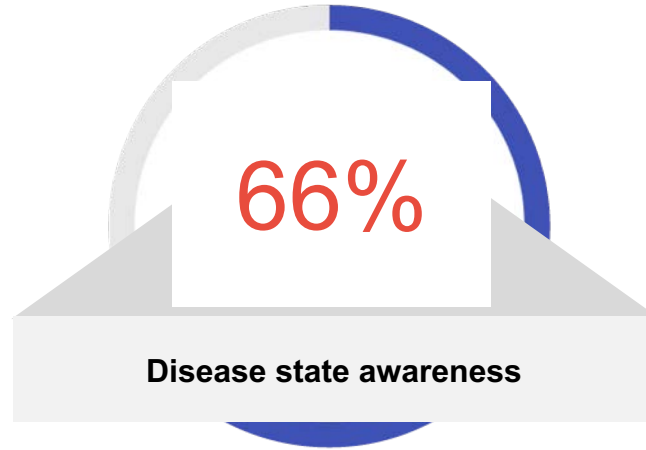
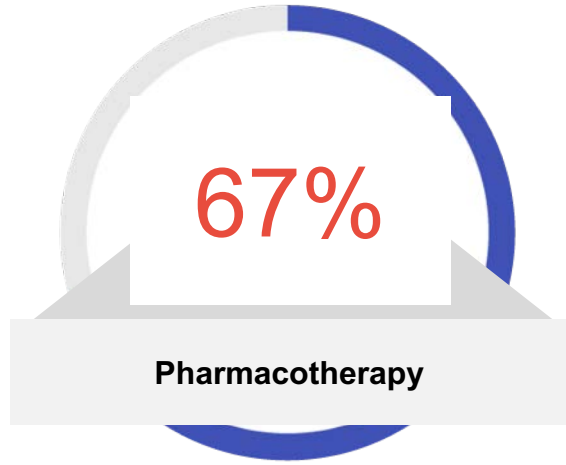


- When examining results by Learning Objective, net gains were achieved from Pre-Test to PCA measurements on each of the four Objectives, with some score slippage from Post-Test to follow-up
- Lowest scores at Pre-Test and PCA were seen in identification of comorbidities associated with AD and the impact on quality of life, and implementation of recommendations for the comprehensive care of children and adults with AD

(4-week Post Assessment)

**Please select the specific areas of *skills, or practice behaviors*, you have improved regarding the treatment of patients with atopic dermatitis since this CME activity. (Select all that apply.)**

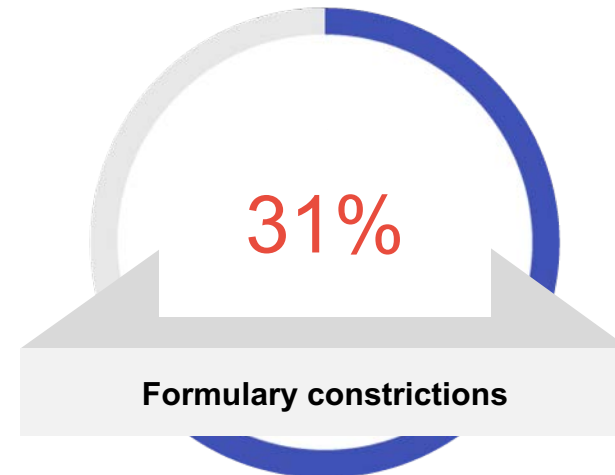
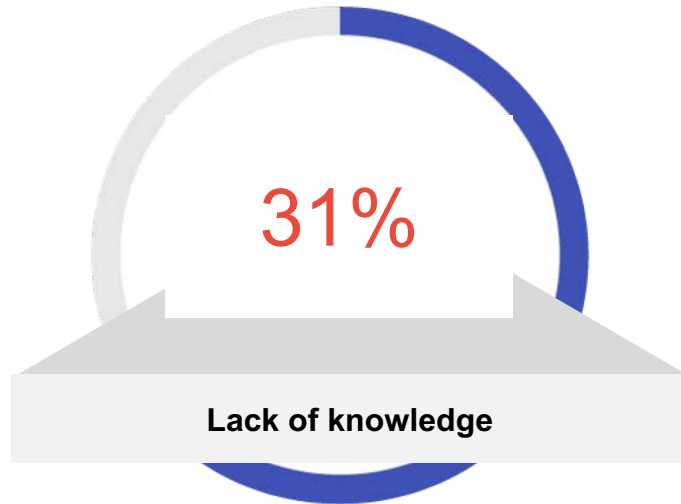
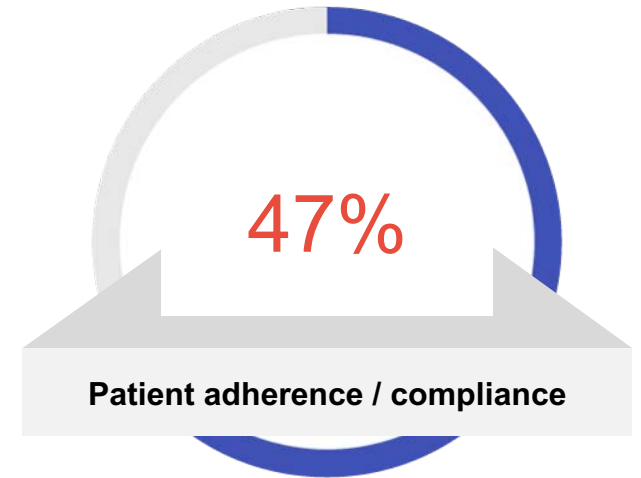
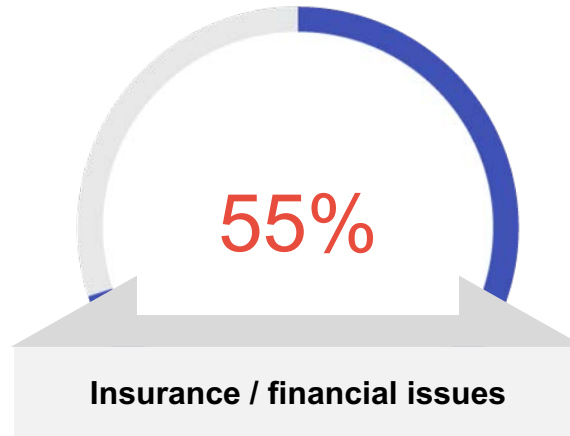
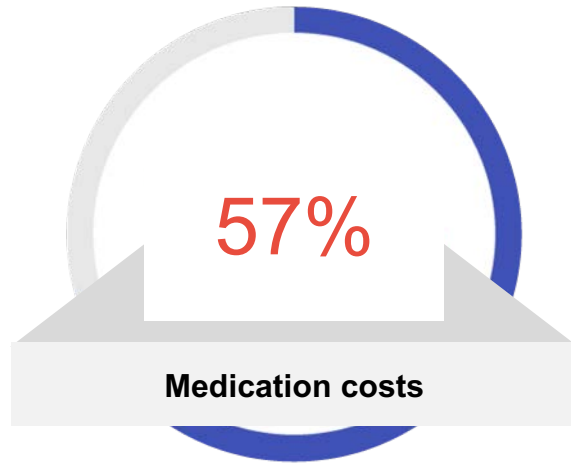
N = 285



(4-week Post Assessment)

# What specific *barriers* have you encountered that may have prevented you from successfully implementing strategies for patients with atopic dermatitis since this CME activity? (Select all that apply.)

N = 285



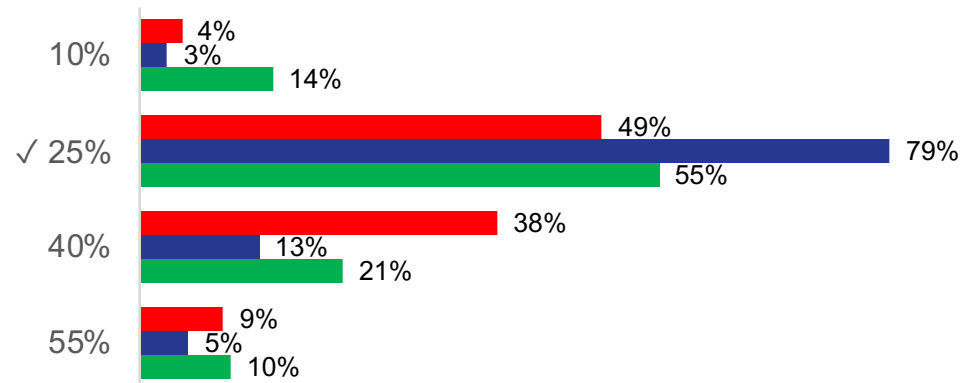
# Identified Learning Gap: Recognizing the prevalence of comorbidities in patients with AD

Despite strong improvements in score on a Knowledge item asking about the prevalence of comorbid asthma with AD, low scores on the follow-up assessment for this item reflect an opportunity for further reinforcement.

Approximately what proportion of patients with AD also have comorbid asthma?

## Results:

- On the PCA, 55% of learners correctly answered: “25%”



# Identified Learning Gap:

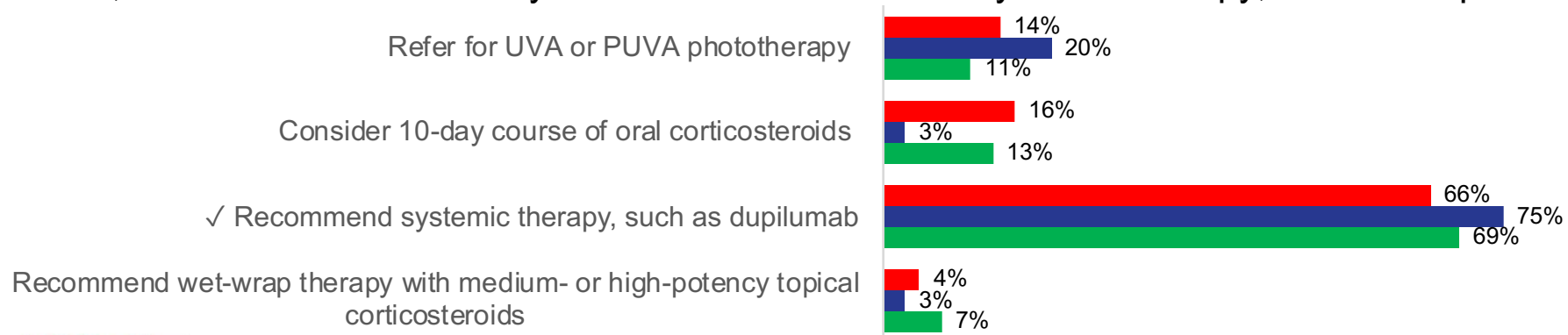
## *Intensifying to systemic therapy for patients with moderate to severe AD*

Despite improvements from Pre- to Post-Test on a Competence item presenting the case of a patient complaining of trouble sleeping due to itching and daytime fatigue, and with previous unsuccessful therapy with topical corticosteroids, learners struggled to achieve high scores on the follow-up assessment.

**29 y/o man with 20-year history of moderate AD, asthma, and allergic rhinitis presents complaining of trouble sleeping due to itching and daytime fatigue. Workup identifies rash on 17% of body surface area (face, flexural surfaces, back, hands). Current meds: fluticasone propionate nasal spray, cetirizine prn, crisaborole 2%, moisturizers; refuses topical corticosteroids due to development of skin atrophy with previous treatment; previously used topical calcineurin inhibitors. What might be an appropriate action at this time?**

### Results:

- On the PCA, 69% of learners correctly answered: “Recommend systemic therapy, such as dupilumab”



# Overall Educational Impact

- Substantial, significant improvements were seen across all four curriculum learning domains, from Pre- to Post-Test (Knowledge, Competence, Confidence, and practice strategy)
  - These gains were stronger for advanced practice nurses compared to physicians across all domains
- Significant improvements ranging from 21% to 75% were measured across all Learning Objectives, with Post-Test scores ranging from 54% to 82%
  - Lowest Post-Test scores (54%) were measured in implementation of recommendations for the comprehensive care of children and adults with AD
- Though practice strategy ratings (to consider a patient's comorbidities when selecting AD treatments) were high at Post-Test (4.4), Confidence in ability to manage moderate-to-severe AD was low (3.3)
- The analysis of Knowledge and Competence items identified two **opportunities for further education in recognizing the prevalence of comorbidities in patients with AD and escalating to systemic therapy for patients with moderate to severe AD**
  - Though strong improvements were made from Pre- to Post-Test on a Knowledge item addressing the prevalence of comorbid asthma with AD and a Competence item on selecting treatment for an AD patient with worsening symptoms, poor retention measured at follow-up led to small improvements over low Pre-Test scores
  - In combination with a similar drop in Confidence in managing moderate-to-severe AD patients at follow-up, this motivates a need for further reinforcement in these areas



# Appendix

**Slides 25 – 27: Pre-Test to Post-Test  
matched item responses**

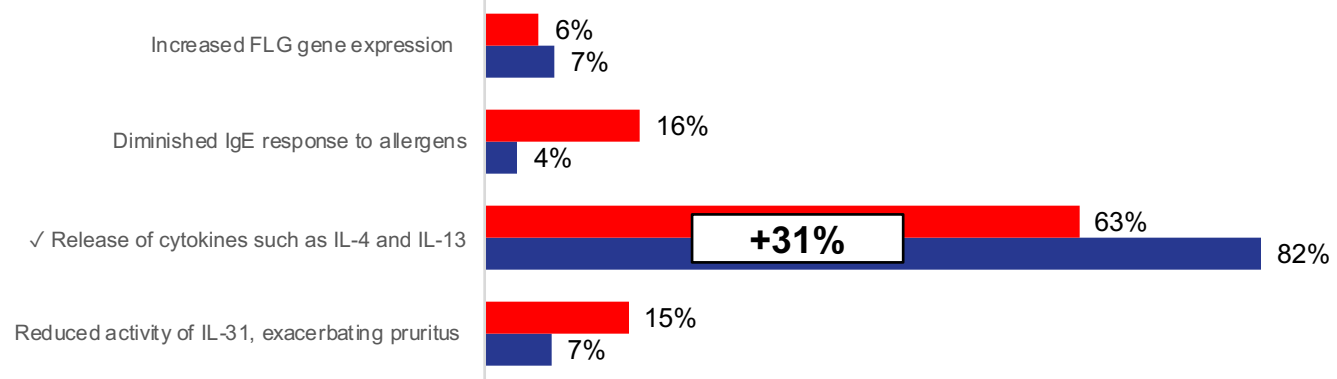
**Slides 28 – 30: Pre-Test, Post-Test, and  
PCA matched item responses\***

# Knowledge Items

Pre-Test  
Post-Test

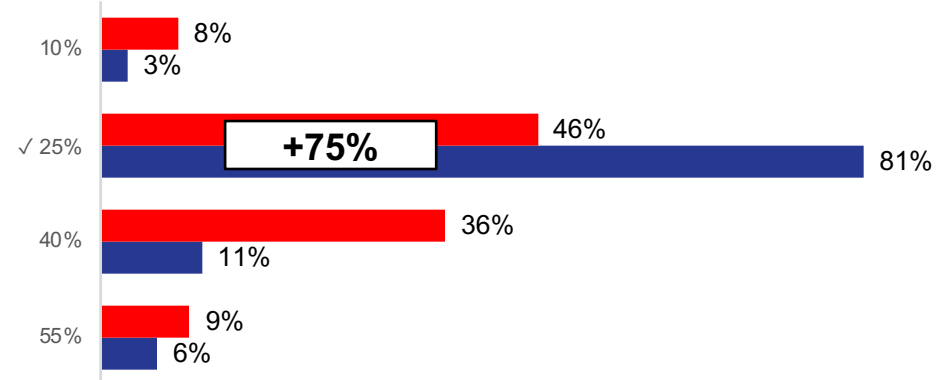
Antigen-mediated Th2 cell activation contributes to which of the following in atopic dermatitis (AD)?

N = 311 Matched responses



Approximately what proportion of patients with AD also have comorbid asthma?

N = 319 Matched responses

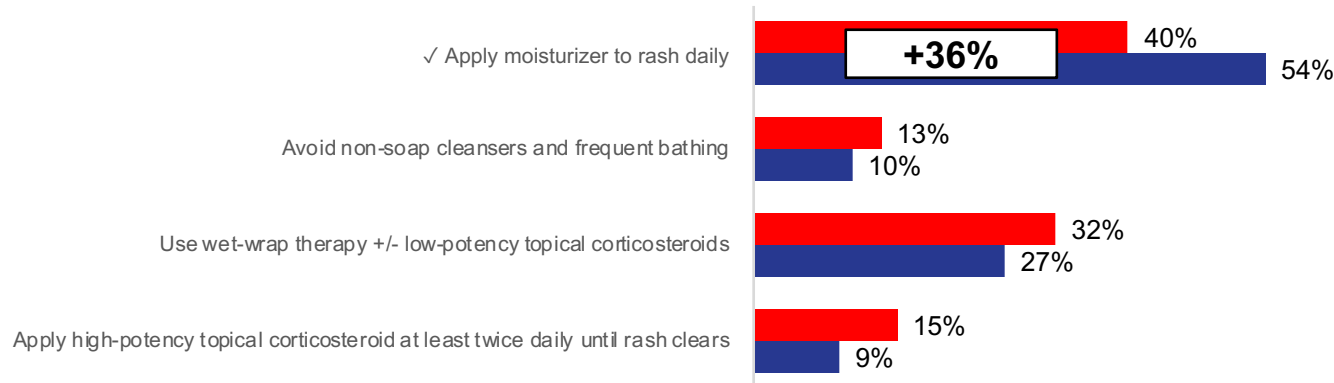


# Competence Items

Pre-Test  
Post-Test

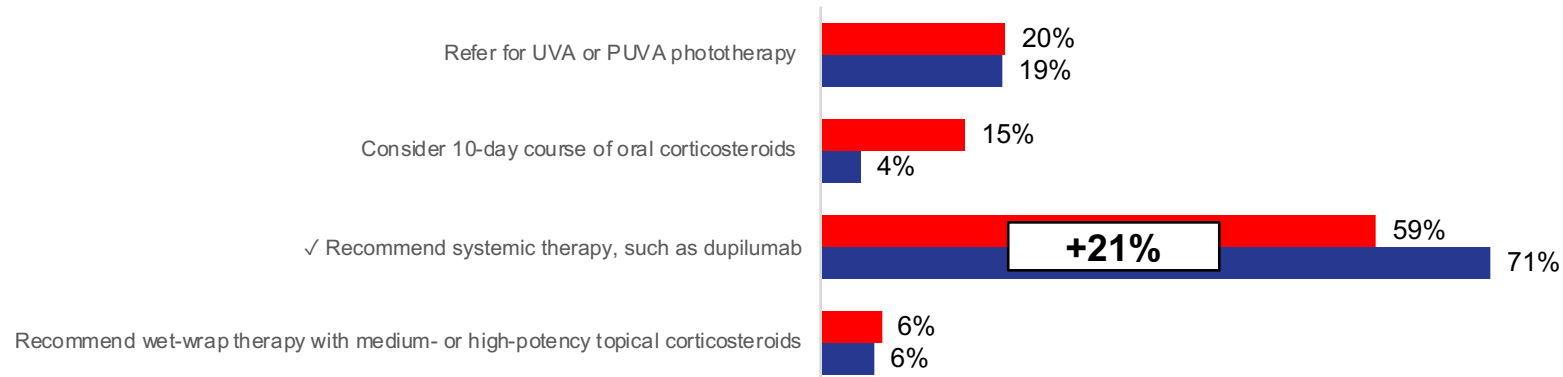
10 y/o girl presents with her mother, complaining of rash on flexural surfaces and cheeks. History includes allergic rhinitis and peanut allergy. Rash appears dull red with perceptible elevation and mild excoriation. She scratches the rash frequently. Estimate of body surface area affected is 3%. Which of the following is an integral part of this patient's treatment?

N = 298 Matched responses



29 y/o man with 20-year history of moderate AD, asthma, and allergic rhinitis presents complaining of trouble sleeping due to itching and daytime fatigue. Workup identifies rash on 17% of body surface area (face, flexural surfaces, back, hands). Current meds: fluticasone propionate nasal spray, cetirizine prn, crisaborole 2%, moisturizers; refuses topical corticosteroids due to development of skin atrophy with previous treatment; previously used topical calcineurin inhibitors. What might be an appropriate action at this time?

N = 281 Matched responses

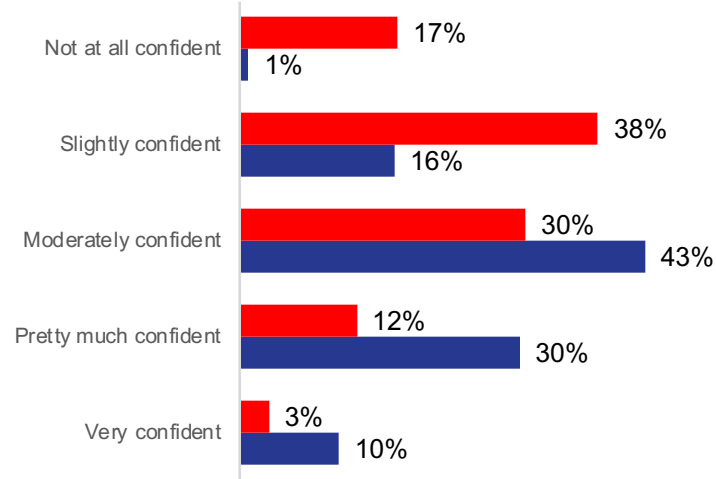


# Confidence and Practice Strategy Items

Pre-Test  
Post-Test

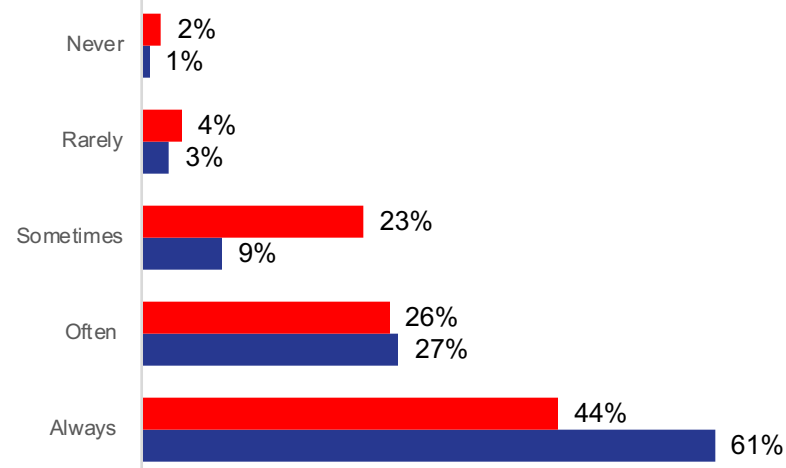
How confident are you in your ability to manage patients with moderate-to-severe AD?

N = 325 Matched responses



How often do you consider a patient's comorbidities when selecting treatment for AD?

N = 375 Matched responses



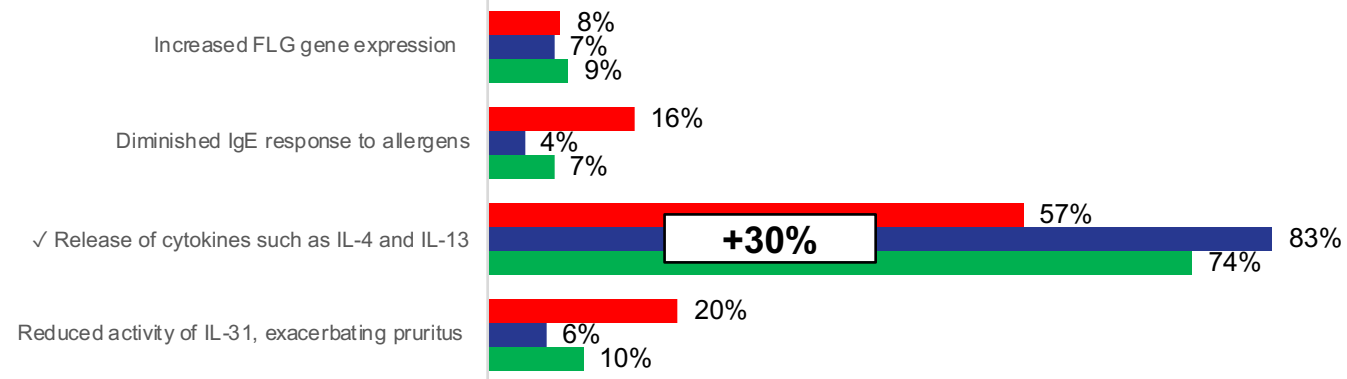
# Knowledge Items

## Post Curriculum Assessment (PCA)



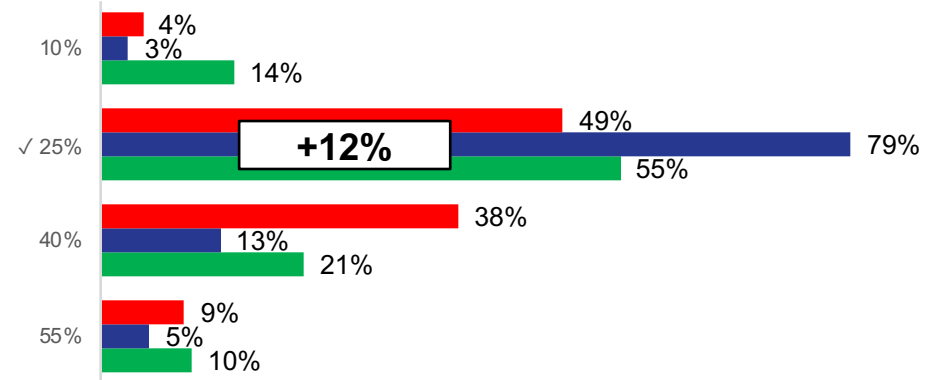
Antigen-mediated Th2 cell activation contributes to which of the following in atopic dermatitis (AD)?

N = 129 Matched responses



Approximately what proportion of patients with AD also have comorbid asthma?

N = 135 Matched responses



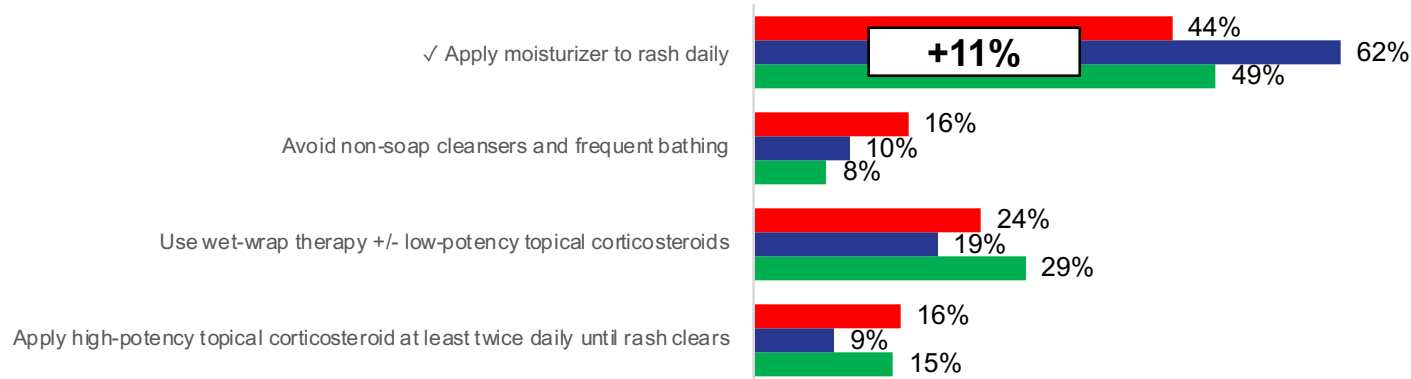
# Competence Items

## Post Curriculum Assessment (PCA)



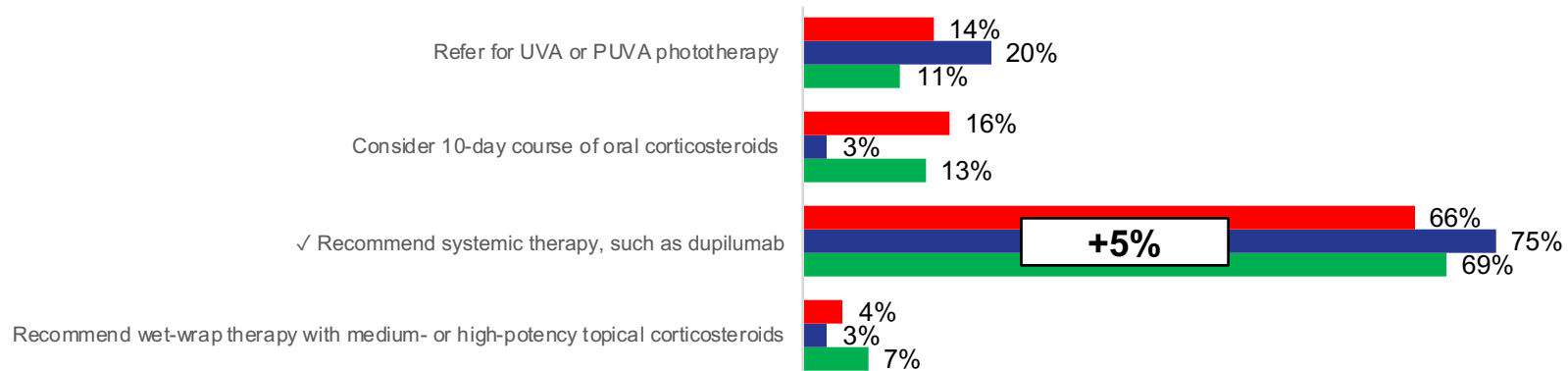
10 y/o girl presents with her mother, complaining of rash on flexural surfaces and cheeks. History includes allergic rhinitis and peanut allergy. Rash appears dull red with perceptible elevation and mild excoriation. She scratches the rash frequently. Estimate of body surface area affected is 3%. Which of the following is an integral part of this patient's treatment?

N = 129 Matched responses



29 y/o man with 20-year history of moderate AD, asthma, and allergic rhinitis presents complaining of trouble sleeping due to itching and daytime fatigue. Workup identifies rash on 17% of body surface area (face, flexural surfaces, back, hands). Current meds: fluticasone propionate nasal spray, cetirizine prn, crisaborole 2%, moisturizers; refuses topical corticosteroids due to development of skin atrophy with previous treatment; previously used topical calcineurin inhibitors. What might be an appropriate action at this time?

N = 114 Matched responses



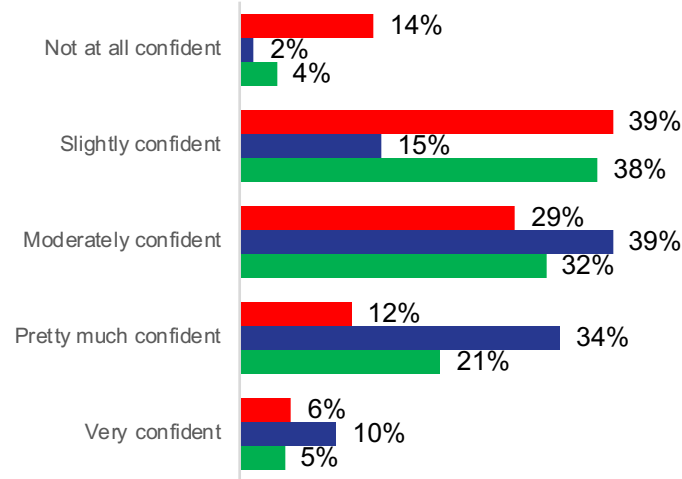
# Confidence and Practice Strategy Items

## Post Curriculum Assessment (PCA)

Pre-Test  
Post-Test  
PCA

How confident are you in your ability to manage patients with moderate-to-severe AD?

N = 127 Matched responses



How often do you consider a patient's comorbidities when selecting treatment for AD?

N = 150 Matched responses

