Outcomes Summary

February 3-6, 2016

Keystone, Colorado

Executive Summary – Activity Details

Background: The National Jewish Health Annual *The Pulmonary and Allergy Update* highlights insights and recent advances in pulmonary medicine, asthma, allergy and immunology, presented by faculty from the leading respiratory hospital in the nation. Participants have the opportunity to network with colleagues and nationally recognized experts, and learn the latest updates on management and treatment options for patients.

Workshops and small-group sessions provide great opportunities to discuss key issues and interesting cases with colleagues and National Jewish Health faculty.

Target Audience: Allergists, Pulmonologists, Primary Care and Internal Medicine Physicians, Pediatricians, Physician Assistants, Advanced Practice Nurses, Registered Nurses and others working with adults and children with allergic and pulmonary disease.

Executive Summary – Activity Details

Method of Learning: The 38th Annual Pulmonary and Allergy Update incorporated live presentations, hands-on workshops, interaction via Audience Response System (ARS) and poster presentations over 3.5 days at the Keystone Conference Center in Keystone, CO. The activity took place on February 3-6, 2016.

Accreditation Details: This program was certified for 14.75 *AMA PRA Category 1 Credits™* and 15 Nursing Contact Hours.

National Quality Strategy Priorities: Making Care Safer, Treatment and Prevention

Executive Summary – Outcomes and Learning Objectives

Educational Outcomes Strategy: National Jewish Health measured knowledge, competence and self-reported performance for this activity. The success of the program was measured by the following:
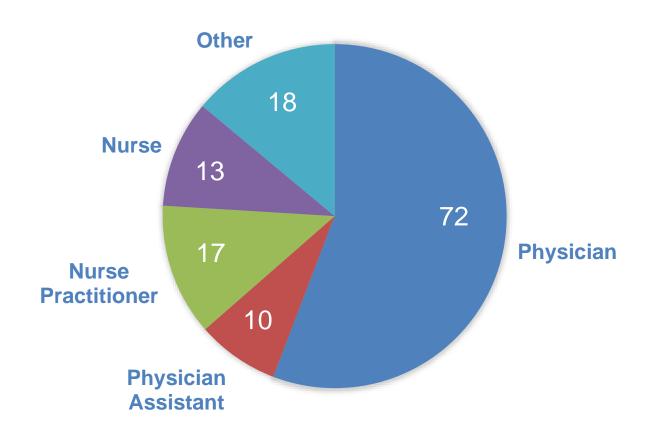
- Pre-test
- Post-test
- Evaluation
- 45-day Follow-Up Survey

Learning Objectives – Relating to Asthma and COPD

- Discuss techniques for optimizing asthma pharmacotherapy, including adherence.
- Summarize the role of biomarkers and phenotypes in asthma.
- Recognize an asthma/COPD overlap and list appropriate treatments.
- Discuss the 2014 GOLD guidelines and their application to diagnosis and management of COPD.
- Discuss recent clinical data related to COPD patients and implications for clinical practice.
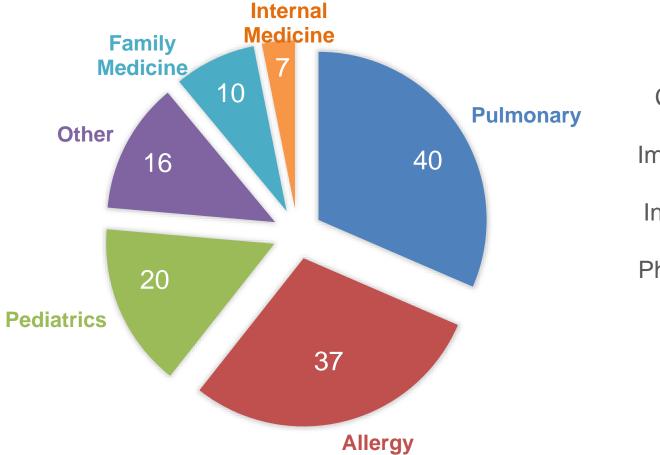
Level 1 Outcomes - Participation (n=130)

- On average, attendees treat 6 patients per week with conditions discussed during the conference.

- On average, participants have been in practice for 14 years.

Other: BA, BS, CCRC, CCRP, MBA, MS, MA, MSPH, RD, PhD, PT

Level 1 Outcomes – Participation - Specialties (n=130)

Pulmonary 40

Allergy 37

Pediatrics 20

Other 16

Family Medicine 10

Internal Medicine 7

OTHER:
Critical Care
Emergency
Immunotherapy
Informatics
Interven. Pulm
Pathology
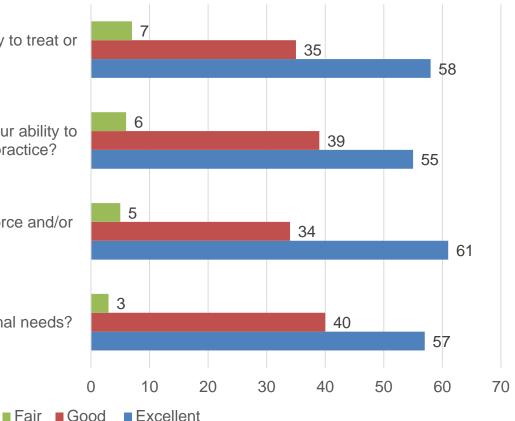Pharmaceutical
Pharmacy
Physiology
Rehab
Research
Respiratory

Level 2 and 3 Outcomes – Satisfaction and Learning
Analysis of Participants' Responses Related to Learning Objectives and Educational Needs

How well did the activity improve your ability to treat or manage your patients?
- Fair: 7
- Good: 35
- Excellent: 58

How well did the conference enhance your ability to apply the learning objectives to your practice?
- Fair: 6
- Good: 39
- Excellent: 55

How well did the information presented reinforce and/or improve your current skills?
- Fair: 5
- Good: 34
- Excellent: 61

How well did the activity meet your educational needs?
- Fair: 3
- Good: 40
- Excellent: 57

Measured in %

■ Fair ■ Good ■ Excellent
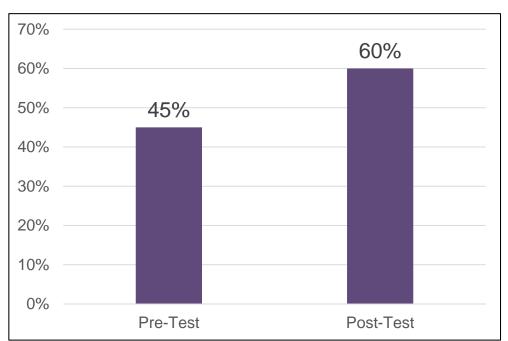
Level 3 and 4 Outcomes: Learning (Knowledge and Competence)

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.

*The **overall average increase** in correct responses from pre- to post-activity was **33%**.*

Knowledge gain was marked by an increase in correct responses from pre- to post-activity, as well as **94% indicating learning objectives were met.**

Measured in % of Correct Answers

Pre/Post Test Comparison: Indication of Knowledge Gained
Question Example Addressing Asthma/COPD Learning Objectives

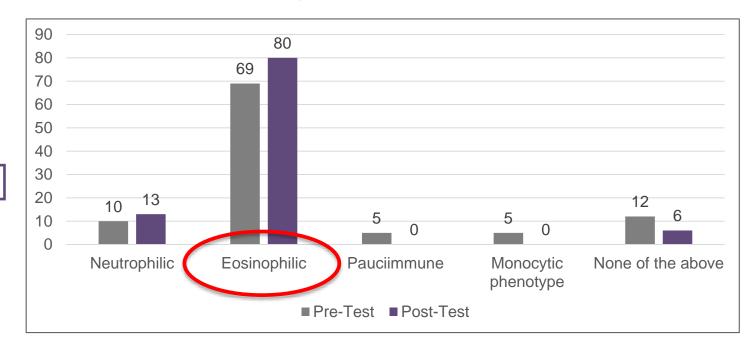**Question:** Which of the following is appropriate initial therapy for a patient with ACOS?

Measured in %

Answer: The correct answer is **d. Inhaled corticosteroid with or without a long-acting bronchodilator.** Only 65% of participants that responded selected the correct answer during the pre-test, compared to 80% in the post-test, *demonstrating a 23% increase in declarative and procedural knowledge and competence.*

Pre/Post Test Comparison: Indication of Knowledge Gained
Question Example Addressing Asthma Learning Objectives

Question: The most common phenotype in asthma is:

Measured in %

Bar chart comparing Pre-Test and Post-Test percentages by phenotype:

Phenotype	Pre-Test	Post-Test
Neutrophilic	10	13
Eosinophilic	69	80
Pauciimmune	5	0
Monocytic phenotype	5	0
None of the above	12	6

Answer: The correct answer is **b. Eosinophilic.** Only 69% of participants that responded selected the correct answer during the pre-test, compared to 80% in the post-test, *demonstrating a 16% increase in declarative and procedural knowledge and competence.*

Pre/Post Test Comparison: Indication of Knowledge Gained
Question Example Addressing Asthma Learning Objectives

Question: Which of the following is an IL-13 induced protein which predicts better response to inhaled corticosteroids and Anti-IL13?

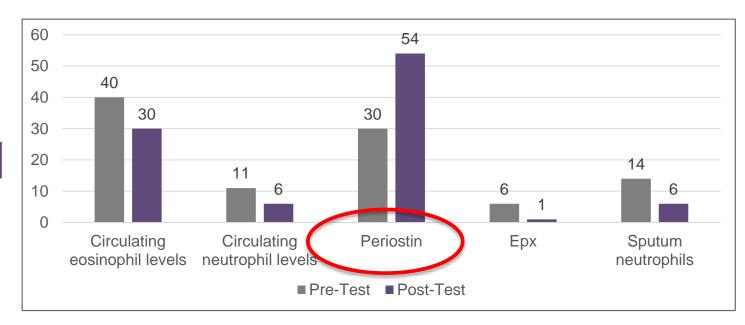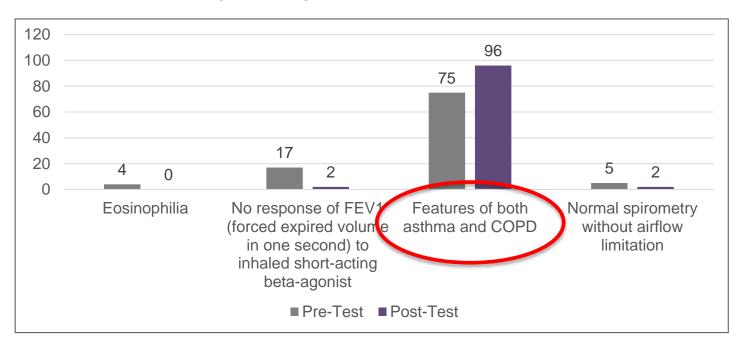Measured in %

Answer: The correct answer is **c. Periostin.** Only 30% of participants that responded selected the correct answer during the pre-test, compared to 54% in the post-test, *demonstrating a 80% increase in declarative and procedural knowledge and competence.*

Pre/Post Test Comparison: Indication of Knowledge Gained
Question Example Addressing Asthma/COPD Learning Objectives

Question: Which of the following is diagnostic of ACOS?

Measured in %

Answer: The correct answer is **c. Features of both asthma and COPD.** Only 75% of participants that responded selected the correct answer during the pre-test, compared to 96% in the post-test, ***demonstrating a 28% increase in declarative and procedural knowledge and competence.***
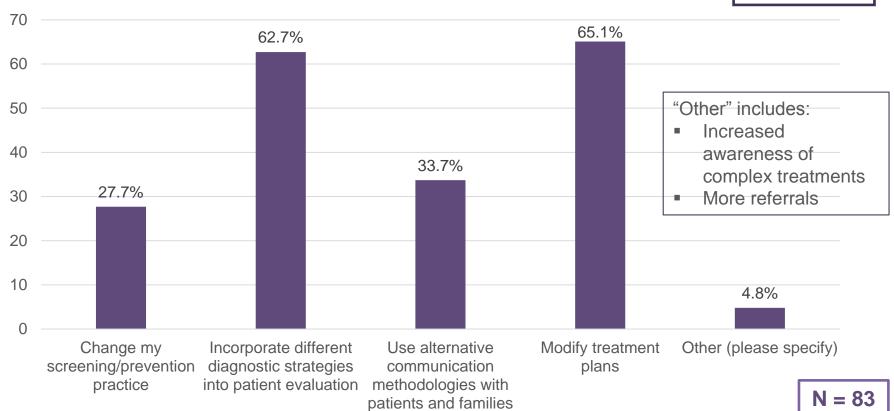
Level 4 Outcomes – Competence (Intent to Change)

90% of participants stated that they are somewhat to extremely likely to make a **change to their practice based on the content presented**.

The changes I intend to make in my practice include:

> **Measured in % of Respondents**

> "Other" includes:
> - Increased awareness of complex treatments
> - More referrals

Chart data:
- Change my screening/prevention practice: 27.7%
- Incorporate different diagnostic strategies into patient evaluation: 62.7%
- Use alternative communication methodologies with patients and families: 33.7%
- Modify treatment plans: 65.1%
- Other (please specify): 4.8%

N = 83
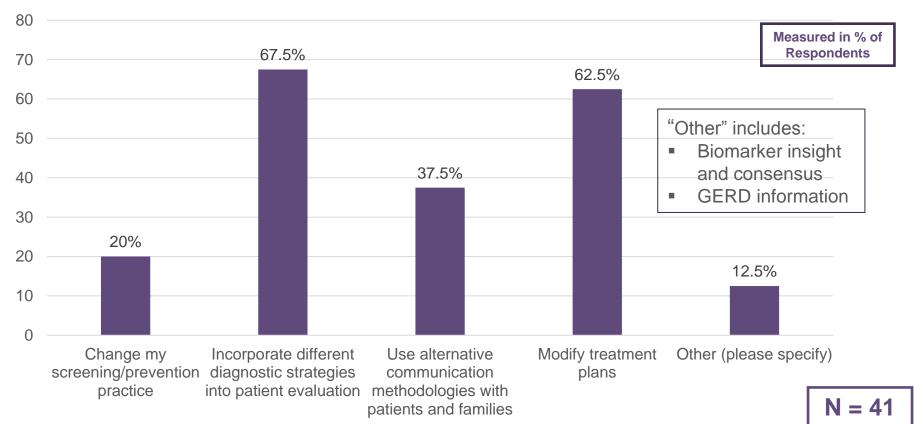
Level 5 Outcomes – Self-reported Performance

45 days after the conference, participants indicated the following changes were incorporated into their practice:

Measured in % of Respondents

"Other" includes:
- Biomarker insight and consensus
- GERD information

Chart data:
- Change my screening/prevention practice: 20%
- Incorporate different diagnostic strategies into patient evaluation: 67.5%
- Use alternative communication methodologies with patients and families: 37.5%
- Modify treatment plans: 62.5%
- Other (please specify): 12.5%

N = 41

Level 5 Outcomes – Self-reported Performance

An important predictor in this interactive activity for competence and self-reported performance change comes from our 45-day post-activity assessment: **95% of our participants (n=41) stated that this activity provided new ideas or information that they have used in practice.**

From Classroom to Practice

Based on the educational content delivered at the *Pulmonary and Allergy Update*, participants **have changed** their screening and prevention practices, **have incorporated** different diagnostic strategies into patient evaluation, **have modified** treatment plans and **are using** alternative communication methods with their pulmonary and allergy patients and their families as they indicated at the meeting.

The *Pulmonary and Allergy Update* fulfills **National Quality Strategy Priorities** in **making care safer** for patients with asthma, COPD, atopic dermatitis and other pulmonary and allergy conditions, as well as promoting the most effective **treatment and prevention** practices for these disease states.

Interactivity

Audience Response System (ARS) technology was used throughout the *Pulmonary and Allergy Update* to engage the audience, promote discussion, and enhance interactivity. This was our second year in utilizing this technology for response and reflection. Some attendees provided their feedback regarding how ARS enhanced their learning experience. Here are a few examples:

- "As an adult learning tactic, I like to use the ARS system"

- "Seeing how my response compared with the group is good feedback"

- "ARS did lead to discussion. For example, the "I Don't Know" response made me feel like I was lacking basic knowledge. Yet, I realized after the discussion that modern medicine doesn't know the answer."

Faculty presenters were able to address knowledge gaps instantly as a result of incorporating ARS into presentations.

Overall Activity Impact

Main Findings: The attendees' (n=83) responses to post-test evaluation questions demonstrated the following:

- **100%** of participants indicated that the materials were **presented objectively and free of commercial bias**.

- **95%** of participants indicated that the activity **addressed strategies for overcoming barriers to optimal patient care**.

- **100%** of participants stated that the content **presented was evidence-based and clinically relevant**.

Overall Activity Impact Continued

Main Findings: The attendees' (n=41) responses to a follow-up survey 45 days after the program demonstrated the following:

- Attendees report that an average of **9 of their patients have already benefited form the information learned during this CME activity.**

- **Attendees report they need more education in the following area:**

  - Optimizing asthma pharmacotherapy
  - Allergen immunotherapy
  - Pulmonary hypertension
  - Chronic sinusitis
  - Vocal cord dysfunction treatment/diagnosis
  - Role of biomarkers and phenotypes in asthma
  - Recognizing the asthma/COPD overlap
  - Treatments for atopic dermatitis
  - Smoking cessation strategies
  - Weight loss management
  - Sarcoidosis
  - COPD treatment and management
  - Reading chest CT scans
  - Contact dermatitis
  - Eosinophilic esophagitis

Critical Learning Points Identified by Participants

- "We can better help asthmatics if we figure out specific type of asthma people have. There's lots of new treatment options."
- "Important information on the new medications for asthma."
- "How to better use biologics."
- "I learned the most about biomarkers in asthma. It was good to learn about what biomarkers we may be able to use in the future to better individualize a patient's treatment."
- "Now I understand much more about atopic dermatitis."
- "I will change the way I treat my COPD patients, particularly the way I recommend inhaled medications."
- "Maintain a broader differential diagnosis for many of the patients and conditions that present in my office."
- "The new category of ACOS and discussion of first line treatment."
- "Asthma/COPD overlap is a difficult diagnosis to make and should be considered very carefully before drawing conclusions."
- "Better awareness immune deficiency presenting as an allergic disease and the importance nonacid GERD acid in asthma control."
- "To consider immune deficiency in allergic patients."

Participant Comments

- "Nice job - conference has an excellent reputation."

- "Excellent lectures. I enjoyed and learned new things."

- "Thank you for hosting the conference. National Jewish sounds like a very nice place to be treated, especially since so many resources are available."

- "Excellent conference - looking forward to next year!"

- "Wonderful conference!"

- "Excellent faculty and ability to ask questions outside of the conference time."

- "Conference overall exceeded my expectations. Wonderful speakers. Excellent support staff."

- "One of the best conferences for me with excellent material presented that is practical but still new and stimulating."

- "Refreshing knowledge of practical medicine."