P131: Clinician Knowledge, Confidence, and Need for Education in Severe Asthma Management

LaTemple DC[1], Simmons JS[1], Bixler B[2], Fitzpatrick AM[3], Rogers L[4], Bleecker ER[5]

[1]RedMedEd, Malvern, Pennsylvania. [2]Penn State College of Medicine, Hershey, Pennsylvania. [3]Department of Pediatrics, Emory University, Atlanta, Georgia. [4]Icahn School of Medicine at Mount Sinai, Mount Sinai – National Jewish Health Respiratory Institute, New York, New York. [5]Center for Genomics and Personalized Medicine Research, Wake Forest School of Medicine Winston-Salem, North Carolina.

INTRODUCTION

- 5%−10% of asthma patients have severe disease
- Treatment approaches evolving to target specific clusters of patients and rely on phenotypic characterization
  - May be helpful when considering nonspecific and/or targeted therapy
- Clinicians may be unfamiliar with the phenotypes and heterogeneity of disease subtypes and with clinical advances in targeted therapy
- Properly assessing asthma control and making appropriate adjustments to treatment requires:
  - Recognizing poorly controlled asthma
  - Identifying patients with severe asthma
  - Developing a treatment plan to achieve optimal control of severe asthma

METHODS

- A five-activity educational curriculum was developed to help physicians identify patients with severe asthma and develop treatment plans based on phenotypic characterization **(Figure 1)**
- Activities identified participants' current severe asthma management practices and assessed levels of confidence in identifying and managing severe asthma
- Pre-/post-surveys used to measure changes in participant knowledge and confidence in/frequency of use of clinical strategies
  - Paired data were analyzed using Student's t-test
- Activities were available for 1 year
- Demographic, satisfaction data summarized and reported in aggregate
- Knowledge, confidence, and intent-to-change data reported as percent change (pre to post) **(Figure 2)**

Figure 1. Educational Design

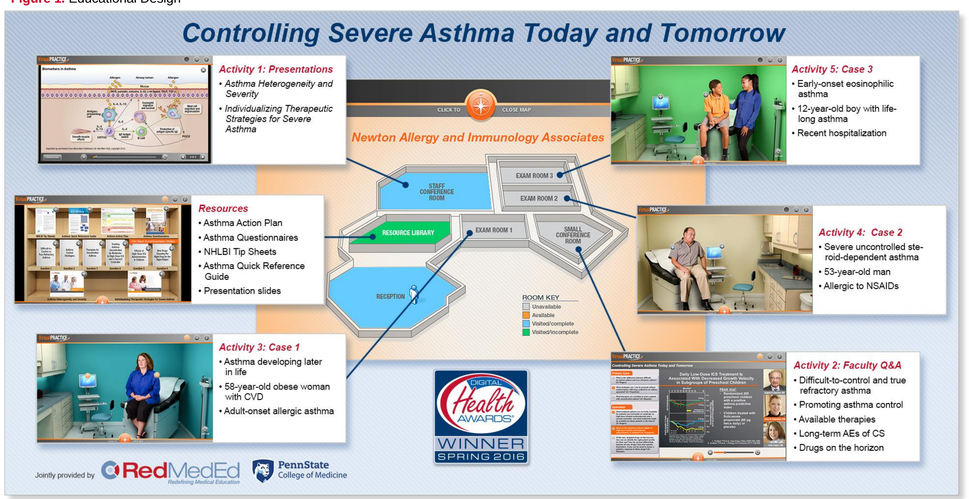


Figure 2. Educational Curriculum Assessment Methodology

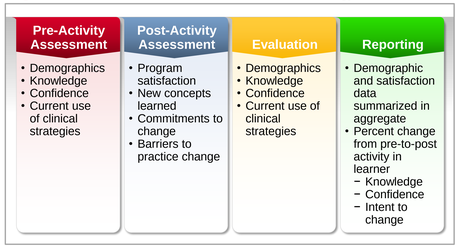


Table 1. Physician Participant Demographics

	Participants (%)
	Entire Curriculum
Completers for CME (n)	261
Specialty (%)	
Allergy & immunology	34
Primary care (internal med, family prac, general prac)	29
Pulmonology/pulmonary disease	13
Pediatrics	11
All other	13
Years in practice (%)	
≤5	4
6–25	31
>25	59
NA	6
Patients with severe asthma seen per week (%)	
1–10	58
11–20	24
>21	9
NA	9

Figure 3. Physician Knowledge Changes

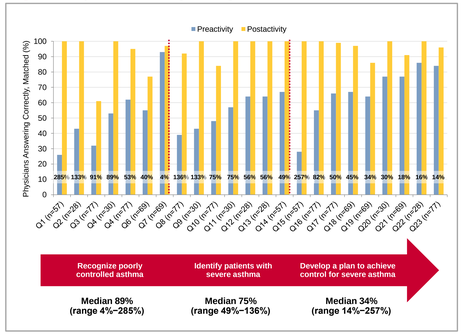


Figure 4. Physician Changes in Confidence

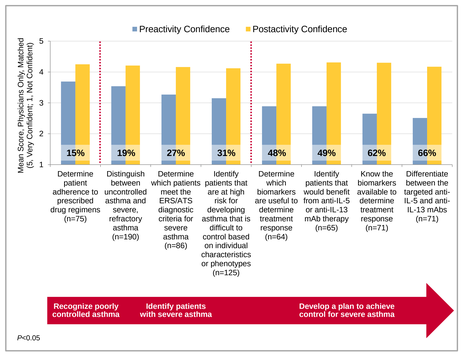


Figure 5. Physician Changes in Frequency of Use

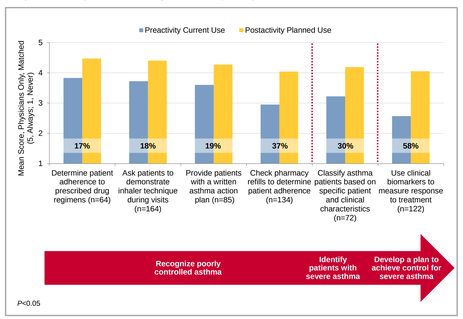


Table 2. Physician Commitment to Change

Having completed this activity, how committed are you to making the following changes?	Mean Score (Physicians Only) (5=Very Committed; 1=Not Committed)
Commitment to Change	Entire Curriculum
Personalize treatment plans for patients with severe asthma	4.34 (n=74)
Consider add-on therapy to long-acting beta-2 agonists (LABAs) for patients with moderate to severe asthma	4.43 (n=138)
Consider anti-IL-5 or anti-IL-13 monoclonal antibody therapy for patients with severe asthma	4.19 (n=135)
Identify alternative therapies or clinical trials for patients with difficult-to-treat asthma who do not respond to conventional therapy and oral corticosteroids	4.26 (n=92)
Classify asthma patients based on specific patient and clinical characteristics (eg, eosinophilic/neutrophilic inflammation, age of onset, lung function, asthma control on medication, exacerbations, obesity)	4.43 (n=88)
Develop a treatment plan that takes into account a patient's weight, home environment, and comorbidities	4.37 (n=52)

Table 3. Physician Barriers

What barrier(s) outside of your control affect your ability to make the practice change(s) you indicated?	Physician Participants (%)*
Barriers	Entire Curriculum (n=248)
Insurance/financial	38
Lack of patient compliance/adherence	32
No barriers	27
Time	23
Lack of practice guidelines	9
Patient lack of knowledge regarding disease/treatment	15
Institutional	8
Adverse effects of treatment	8
Other	7

*Percentages do not add up to 100% because participants could select more than one option.

SUMMARY

- Participation improved learner knowledge 4%–285%
- Learner confidence improved in the following areas:
  - Recognizing when asthma is poorly controlled (15%)
  - Identifying patients with severe asthma (19%–31%)
  - Developing a plan to control severe asthma that includes the use of targeted agents (48%–66%)
- Improvements in planned use of recommended clinical strategies:
  - Determining patient adherence (eg, checking inhaler technique or pharmacy refills)(17%–37%)
  - Classifying asthma by phenotype (30%)
  - Using biomarkers to assess treatment response to targeted therapy (58%)
- Physician learners were committed to making practice changes (4.3/5)
- The main expected barriers to implementing practice changes were insurance/financial (38%) and lack of patient compliance/adherence (32%)

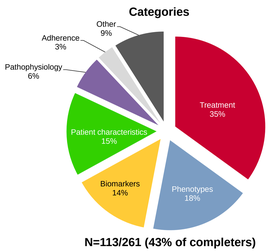
DISCUSSION

- The educational curriculum highlighted a continuing need for education on clinical strategies for determining when asthma is poorly controlled versus it being a severe phenotype.
  - The ability to make this distinction will improve clinicians' ability to apply the appropriate therapy—an increasing challenge in the age of new, targeted therapies
- Physician participants identified the following as areas of need for future education on severe asthma:
  - Algorithms to incorporate SARP, biomarkers, treatment regimens
  - Clear qualifying criteria for biologics
  - Clinical use of new anti-interleukin antibodies
  - Data on the value of biomarkers (periostin and FENO) in the real world

Table 4. Physician Participant Satisfaction

		Mean Score, Physician Completers (5=Strongly Agree/Excellent; 1=Strongly Disagree/Poor)
Category	Questions	Entire Curriculum
Educational Content and Clinical Relevance	The content covered was useful and relevant to my practice	4.28 (n=240)
	The information from this activity will help improve my skills or judgment within the next 6 months	4.23 (n=244)
	I am better able to identify indicators of poorly controlled asthma as established by the National Asthma Education and Prevention Program (NAEPP) Expert Panel Report (EPR) 3 (LO1)	4.26 (n=250)
	I am better able to list the clinical characteristics of the various phenotypes of severe asthma (LO2)	4.18 (n=184)
	I am better able to identify patients who have severe asthma and their respective phenotype (LO3)	4.17 (n=184)
	I am better able to list the immune cells and cytokines involved in the pathophysiology of inflammation in asthma (LO4)	4.23 (n=142)
	I am better able to outline a treatment plan to achieve and maintain control for patients with severe asthma based on phenotype (LO5)	4.18 (n=248)
Educational Format	The instructional effectiveness and expertise of the faculty were excellent	4.56 (n=261)
	The learning method, including the active learning component, was excellent	4.54 (n=261)
	The instructional materials provided were appropriate and complemented the activity	4.56 (n=261)
	The learning assessment questions were appropriate	4.54 (n=261)
Overall	I would recommend this activity to others	4.58 (n=261)
	What is your overall rating of this activity?	4.56 (n=261)
Commercial Bias	The activity was fair, balanced, and free of commercial bias	4.63 (n=261)

Figure 6. Physician Self-Reported New Concepts



N=113/261 (43% of completers)

ACKNOWLEDGMENTS

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