

Asthma Quality Improvement (QI) Building Knowledge, Confidence and Change in Primary Care Providers – Wave 1
Ohio Chapter, American Academy of Pediatrics
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Program Team

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Program Dates

October 2023 – June 2024

Executive Summary

The *Asthma Quality Improvement Building Knowledge, Confidence and Change in Primary Care Providers* program (Asthma QI program) primary goal was to increase knowledge and proficiency of pediatric healthcare providers to provide and improve optimal asthma care for pediatric patients. This includes recognition of asthma diagnosis, assessment of level of asthma severity and symptom control to guide optimal asthma care, provide asthma education to providers, patients and their families especially in diverse patient populations and provider confidence around treating asthma exacerbations and follow-up. Secondary goals included reducing the number of Emergency Department (ED)/Urgent Care (UC) visits and hospitalizations due to asthma.

The program was operated by the Ohio Chapter, American Academy of Pediatrics (Ohio AAP), an organization that exists to promote the health, safety and well-being of children and adolescents so they may reach their full potential. The Ohio AAP accomplishes this by addressing the needs of children, their families/caregivers and their communities by supporting Chapter members through advocacy, education, research, service and improving the systems through which they deliver pediatric care. The Ohio AAP and the Ohio Department of Health (ODH) Asthma QI program offered educational sessions, broad resources to aid healthcare providers in the assessment and management of pediatric asthma and one-on-one support from program implementation to program wrap-up.

The program implemented evidence-based QI measures designed to address optimal asthma care, including assessment of severity and symptom control levels, utilization of asthma action plans, screening for triggers/environmental factors and review of self-management materials. The QI curriculum was designed to support pediatric healthcare providers and practice staff.

The program utilized a multi-pronged approach, including gathering background information, resource development and QI practice facilitation aimed at practical healthcare provider behavior change. Resources for patients, caregivers and healthcare professionals were created and provided to participating practices. Healthcare providers who participated in this program will have long-term and lasting positive impacts on providing optimal asthma care for their patients with asthma.

Results Summary

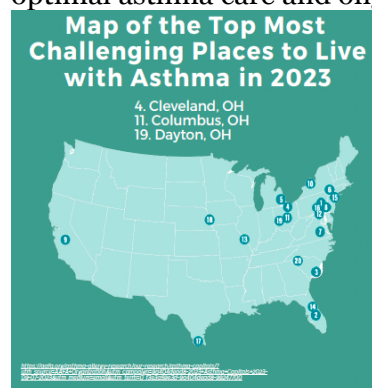
Optimal asthma care for patients increased from 30% in baseline to 80%, on average, during active QI. By the end of QI, 90% of patients screened were given an asthma action plan, over 90% were assessed for asthma symptom control, including diverse patients and over 90% were screened for any asthma triggers and/or environmental factors.

Results for all metrics, except for optimal asthma care and current flu vaccine, met or exceeded our goal by the end of active QI.

Asthma Background

Childhood asthma is one of the most common chronic diseases in children, affecting more than 5 million children in the U.S. and an estimated one in 13 (7.7%) Ohio children, as of 2019.¹

Asthma is a significant public health concern due to its significant morbidity and health care utilization. In the list of the 10 U.S. cities with highest rate of asthma-related ED visits, 4 of them were in Ohio, which highlights the need for effective asthma management, increased access to optimal asthma care and ongoing education efforts.



<https://aafa.org/wp-content/uploads/2023/09/aafa-2023-asthma-capitals-report.pdf>

Asthma is a heterogeneous disease diagnosed based on a clinical presentation of recurrent episodes of wheeze, cough, shortness of breath and chest tightness with expiratory airflow limitation. Symptoms typically vary over time in terms of frequency and intensity. The underlying pathobiology includes airway inflammation, airway smooth muscle hyper-reactivity and airway remodeling. There are multiple phenotypes of asthma characterized by varying degrees of involvement of inflammatory cell types including eosinophils, neutrophils, mast cells, lymphocytes and epithelial cells.²

Symptoms are usually due to triggers, such as viral respiratory infections, allergen or irritant exposures, exercise or weather changes. Asthma symptoms and airflow limitation may be chronic and/or episodic and pose a significant burden to patients, their families and the healthcare community.²

Key components for optimal asthma care include making an accurate diagnosis and assessment of symptoms to effectively categorize asthma severity and guide management, to avoid under-treatment or over-treatment. Management of asthma includes medications, as well as education and self-management tools for patients and caregivers of children with asthma.²

Below are some statistics on the burden of asthma in Ohio to highlight the significance of asthma for children in Ohio and further emphasizes the need for effective asthma management, increased access to optimal asthma care and ongoing education efforts.

Based on *the Updated 2020 Burden of Asthma in Ohio* (featuring 2020 data) and *the Asthma Disparities Report 2021* published on the Ohio Department of Health website:

- 2020 ED visits: 8,944 pediatric visits for asthma, a rate of 34.4 ED visits per 10,000 children (0-17 years).
- 2020 Inpatient hospitalizations: 1,047 pediatric hospitalizations for asthma, a rate of 4.03 hospitalizations per 10,000 children (0-17 years).
- In 2021, Black children experienced asthma-related emergency department visits at a rate of 5.7 times that of their white counterparts (153.0 per 10,000 and 26.8 per 10,000 respectively).
- In 2021, Black children experienced asthma-related inpatient hospitalizations at a rate of almost 6.5 times that of their white counterparts (26.2 per 10,000 and 4.1 per 10,000 respectively).
- In 2021, Black children experienced asthma-related deaths at a rate of approximately 14 times that of their white counterparts (0.5 per 1,000,000 and 7.1 per 1,000,000 respectively).
- All Ohio counties with a combined child emergency department visit and hospitalization rate for asthma that was greater than the combined overall rate for Ohio were selected as priority counties for the 2019-2024 grant period. These 11 counties include: Ashtabula, Columbiana, Cuyahoga, Erie, Franklin, Hamilton, Lorain, Lucas, Mahoning, Montgomery, and Summit.

Program Design & Impact

This Asthma QI program is designed to increase provider knowledge, confidence and competence, as well as promote practice improvement in asthma care. The gold standard in behavior change is QI science, an area of expertise for the Ohio AAP. Within the framework of QI, a broad spectrum of measures is implemented to motivate providers to make behavioral changes within their practices.

For this program, the Ohio AAP employed a practice facilitation QI model, recruiting 14 practices and 28 pediatric healthcare providers. The “practice coaching” or facilitation model guided participating providers, in their unique clinical settings, as they worked to improve screening and management of patients with asthma.

With the program goals of improving optimal asthma care, positively influencing the number of ED/UC visits and hospitalizations due to asthma and provider confidence around treating asthma exacerbations and follow-up in mind, Ohio AAP and ODH found inspiration in CDC’s National Asthma Control Program (NACP) EXHALE strategies.

The Asthma QI program incorporated education on asthma self-management, environmental trigger education, training on guidelines-based asthma management and ODH Asthma Program’s website, resources request and Community Asthma Learning Series Modules were made available to all participating providers, to practice staff and to their patients with asthma and caregivers impacted by an asthma diagnosis.

The strategies listed above also supported the larger aims of the Asthma QI program:

- Global Aim
 - Provide children with the opportunity to reach their fullest potential by keeping their asthma well controlled.
- Smart Aim
 - From October 2023 to June 2024, improve the overall asthma care management for patients 0-17 years old by developing sustainable systems that incorporate guidelines, caregiver/patient education and asthma action plans that consider the diversity of the practice population.

Methodology of Data Collection (see Asthma Baseline Data Collection Criteria below)

The practice coaching model embraces provider and practice strengths and challenges; through this model personalized options for data collection and review are provided. Healthcare providers and staff reviewed patient charts at random for baseline data collection.

For each healthcare provider seeking MOC credit, 12-15 statistically random charts were pulled, for each month, for review for all visits completed during the months of October 2022, January 2023 and April 2023 for patients up to 17 years old with a current diagnosis of asthma.

For active QI period data, providers and staff were asked to submit as many patient charts, as time would allow, via the asthma data collection tool built within the asthma program website.

Active QI data collection fields included:

- Practice name
- Provider name
- Date of visit
- Age of patient
- Insurance carrier of patient
- Race of patient
- ED/UC visit due to asthma
- Hospitalization due to asthma
- Flu vaccine
- Asthma specialist referral

Chart documentation, including:

- Completed assessment of level of asthma severity
- Completed, reviewed OR updated Asthma Action Plan
- Completed, reviewed OR updated inhaler and spacer technique
- Completed assessment of asthma symptom control (i.e., ACT or another formal screener)
- Diagnosis of persistent asthma
- Handouts/rack cards/other asthma resource or referral provided to patient/caregiver
- Screened for environmental triggers (i.e., verbally, skin prick, RAST)

Data Results (see data attachment for charts)

During wave 1, 1,366 patients were screened for asthma throughout the active QI months of December 2023 – May 2024. Of the patients that were screened, 629 (46%) were diverse and 812 (59%) had persistent asthma. For the purposes of this QI program, diverse was defined by using the demographic information of race (White, non-Hispanic/Latinx not included) and socioeconomic status (SES) captured as insurance payer in the patient's chart.

Optimal asthma care for patients increased from 30% in baseline to 80%, on average, during active QI. By the end of the active QI months, 90% of patients screened were given an asthma action plan, over 90% were assessed for asthma symptom control, including among diverse patients, and over 90% were screened for any asthma triggers and/or environmental factors. Assessing asthma symptom control increase from 55% in baseline, to 91% at the end of active QI (an average of 82% over the combined active QI months). And among diverse patients with asthma, the assessment rate of asthma symptom control increased from 65% to 94% (with an average of 84% over the combined active QI months).

Assessing asthma symptom severity also increased from 47% in baseline to 94% at the end of QI (an average 91% over the combined active QI months). Patients screened for asthma triggers and environmental factors increased to 94% at the end of active QI from 45% at baseline.

Vaccine rates saw a decrease from 82% at baseline to 45% at the end of active QI (rationale explained later). The rates of ED and UC visits due to asthma decreased, on average, from 21% at baseline to 7% during active QI. Hospitalizations due to asthma also decreased from 11% at baseline to a little less than 1% during the active QI period. This data is an aggregate representation of the monthly data collected and submitted by the practices enrolled in the Asthma QI program. Because the patients were not followed over time, ED and UC rates, as well as hospitalization rates due to asthma, were measured among the same patient population during baseline and during QI. In other words, the patients whose data was collected during QI were asked if they had visited the ED or UC for asthma within the year prior to the visit in which data was collected.

While this was not designed as a longitudinal study that followed individual patients, the decrease in ED/UC visits and hospitalizations due to asthma care could be positively impacted by improved provider confidence in delivering optimal asthma care to patients.

Some months may have the potential for higher ED/UC visits and/or hospitalizations based on what time of year they were collected; this could potentially affect the trend over the QI period.

A limitation of the data collection is that this QI program was not designed to follow individual patients over time, as the data collected is not identifiable. While this was not designed as a longitudinal study that followed individual patients, the decrease in ED/UC visits and hospitalizations due to asthma care could be positively impacted by improved provider confidence in delivering optimal asthma care to patients. Further prospective studies would need to be performed to assess ED/UC data.

Further prospective studies would need to be performed to assess ED/UC data. The resources provided to the families are also informative on how to better manage symptoms and avoid certain triggers and environmental factors that may exacerbate these symptoms.

Confidence Data

On average, provider-level confidence increased by 2 points on a 10-point scale for providing optimal asthma care and treatment plans, disseminating educational asthma resources and prescribing controller medications to patients with persistent asthma. The highest increase in provider confidence was in providing asthma resources to patients and caregivers; a 3.5-point increase.

Of the 22 providers who completed the exit survey, 20 indicated that they were very confident in assessing level of asthma severity and asthma symptom control. 20 of the 22 providers also indicated they were very confident in both screening for asthma triggers as well as completing or reviewing an asthma action plan.

Provider confidence in evaluating or counseling on ED or UC visits and hospitalizations due to asthma, on average, increase by 1.7 points. Of the 22 providers, 16 responded they were very confident and 6 responded that they were confident. Those providers also had the same response to confidence in prescribing controller medications to patients with persistent asthma.

Race & Ethnicity and Insurance Carrier Breakdown of Patients Screened

Race & Ethnicity	Number of patients screened
African American	329
Asian	47
Hispanic	77
Bi-racial	48
White non-Hispanic	681
Other (including Middle Eastern)	31
Unknown	209
Total Diverse Patients	532

Insurance Carrier	Number of patients screened
Medicaid	438
Non-Medicaid	915
Total Diverse Patients	438

Target goals were set for all measures.

The Asthma QI program met target goals for assessing asthma symptom control, among both all diverse and non-diverse patients, assessing asthma symptom severity, giving an asthma action plan, screening for asthma triggers and environmental factors, providing self-management materials, prescribing patients with persistent asthma controller medications and decreasing the rate of patients who visited the ED or UC or were hospitalized due to asthma.

The target for optimal asthma care came close to the target but did not meet it – this result could be because optimal asthma care was a combination of 3 different measures, and occasionally providers were only able to complete 2 of 3 during the office visit. Also, flu vaccine rates did not reach the goal – this measure was likely impacted by the post-pandemic mistrust of vaccines rate and reduced immunization availability beginning in April 2024. Although ED and UC visits decreased, the target percentage was not met.

Exit Survey Takeaways

Per the Asthma QI program exit survey results, most participating providers and their staff reported high levels of positive and educational experiences. Feedback from patients and caregivers reflected the usefulness of the ODH materials and resources practices obtained and distributed. To ensure the changes made during the program could be sustained, providers and staff added to the technology previously built into their EMRs around asthma, assigned program champions to continue the momentum and modified regular staff trainings to include asthma topics. Lastly, the program wins shared via the exit survey reflect the benefits the Asthma QI program had on residents, providers, practice staff and, of course, on the lives of patients and caregivers living with an asthma diagnosis.

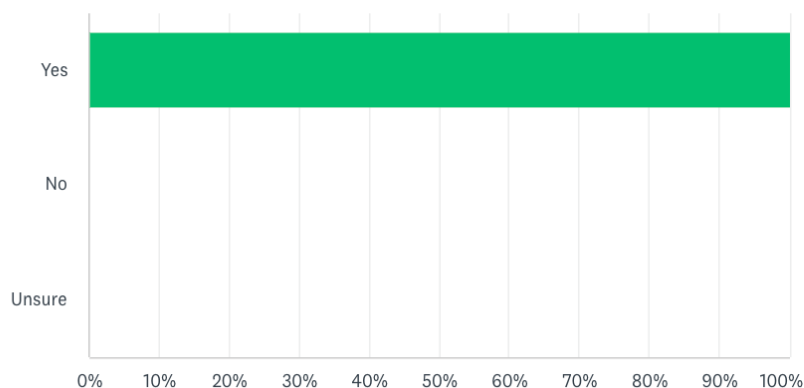
Aspects of improved asthma care within practices who participated in the asthma QI program:

- Optimal Asthma Care
- Use of asthma action plan
- Reducing asthma exacerbations/Increasing asthma symptom control
- Best practices in asthma treatment in primary care
- Asthma triggers/environmental factors
- Use of self-management materials

100% of providers who completed the exit survey said they plan to sustain changes made within their practices after program end.

Do you plan to sustain any changes made within your practice during the Asthma program after the end of the program?

Answered: 22 Skipped: 1



Changes practices plan to sustain:

- Continue assessing for asthma symptom control
- Continue to provide Optimal Asthma Care
- Continue to use asthma action plan
- Continue to screen for asthma triggers/environmental factors
- Continue to prescribe controller medications to patients with persistent asthma
- Continue to follow-up after ED, UC or hospitalizations due to asthma

The following have been completed by providers to ensure changes made continue to be sustained:

- Created EMR dot phrase, template or update
- Created an office flow for program actions
- Obtained additional resources
- Planned data collection/review
- Added asthma topics to regular trainings
- Designated a program champion

Direct feedback via participating providers' narrative responses from their patients and/or caregivers:

- Patients loved the books and parents really appreciated the spacers provided by ODH.
- Appreciation for reviewing asthma action plan with them and providing multiple copies for home, school, and other family member houses.
- Patients and caregivers very grateful to have asthma clinic in-house again. It's provided a great service for them.
- Patients have loved the asthma education materials and really appreciate the spacers we were able to provide. Patients elaborated that they were better able to understand asthma and triggers after explanation using the educational materials.
- Caregivers appreciated the rack cards and education about the underlying cause of asthma. The patients and caregivers liked the materials provided by ODH.
- Patients loved the books and parents really appreciated the spacers provided by ODH.

Asthma QI program wins directly from the narrative responses from participating providers:

- Residents are using the ACT tool now.
- We have converted many patients to SMART therapy and parents love the easy and convenience of using one inhaler. We have seen better compliance with asthma therapies and fewer patient visits to the UC or ER.
- Decreased ED and UC utilizations lead to decreased hospitalizations.
- Having some parents being able to access their child's Asthma Action Plan via the EMR portal to use anywhere.
- Our group has monthly business meetings. We did address issues we have with asthma follow up every 6 months. We put a plan in place (and all MDs agreed) for every 6 month follow up!
- Due to better documentation, I was able to identify known asthma triggers in a patient who was having persistent asthma attacks!

Asthma QI Program Wave 1 Participating Providers

Practice	Provider Name	County
Cleveland Clinic Children's - Hudson	Jacqueline Kaari, DO Heather Sever, DO	Cuyahoga
Cleveland Clinic Children's - Pulm	Fariha Rezaee, MD Parevi Majmudar, DO Silvia Cardenas, MD	Cuyahoga
Cornerstone Pediatrics	Greg Eberhart, MD Craig Chalfie, MD Jennifer Sweat, MD Michele Dritz, MD Pamela Wentworth, CNP Talena Ullery, APRN CNP	Montgomery
Healthy Kids Pediatrics	Marcus Baratian, MD, FAAP	Serves patients in: Cuyahoga, Geauga, Portage, Summit and Trumbull Counties
Kettering Pediatric and Family Care	Ramzieh Azmeh, MD	Montgomery
MetroHealth	Gurinder Kumar, MD	Cuyahoga

Nationwide Toledo Navarre Pediatrics	Kehinde Obeto, MD, FAAP	Lucas
Pediatric Associates - Hilliard	Susan Mills, RT Heather Hines, LPN Diana Wagner, MD Rob Reis, MD, FAAP Jumana Giragos, MD	Franklin
Pediatric Associates - Whitehall	Michelle Simonelli, RN	Franklin
Pediatriccenter - Bainbridge	Kathleen Utech, MD	Cuyahoga
Pediatriccenter - Mayfield Heights	Justin Rich, MD	Cuyahoga
Stephanie Tubbs Jones Clinic	Lauren Larkin-Baker, MD, MS Noah Schwartz, MD	Cuyahoga
TriHealth Madeira	Andrea Rinderknecht, MD Micah Resnick, MD, FAAP	Hamilton
Westshore Primary Care	Matthew Kacir, MD	Serves patients in: Cuyahoga County

Patient Population Impacted

All pediatric patients with an asthma diagnosis 0-17 years of age

Identified priority counties:



Counties included in wave 1:

Cuyahoga
Franklin
Hamilton
Lucas
Montgomery
Summit

Priority counties for this Asthma QI program were identified using *The Current Status of Asthma Burden* in the Ohio Counties starred above, per [ODH's Asthma Program](#) and CDC's National Asthma Control Program. (See page 3 for additional information)

Asthma Baseline Data Collection Criteria

Baseline allows for comparison of improvements providers make in practice during the program.

Per provider seeking MOC credit, 12-15 statistically random charts were pulled, for each month, for review for all visits completed during the months of October 2022, January 2023 and April 2023 for patients up to 17 years old with a current diagnosis of asthma.

The Asthma QI program measures focused on the process outcomes of provider behavior from baseline chart reviews. Baseline data was collected for the same months the previous year to eliminate potential biases that may arise from seasonal and environmental changes, including flu season, school activities and holidays.

Data was collected by participating healthcare provider teams and submitted via the data collection tool. Program kick-off and learning session calls described the process for data entry and were recorded and shared on the [Asthma program website](#) for on-demand review. This program collected data using chart reviews and provided feedback on program measures using run charts. The Asthma QI program data analyst performed data analysis and produced various reports (baseline and aggregate data charts, practice level data charts, etc.) to assist in monitoring progress. Data was collected, analyzed and reported to the leadership team and participants monthly.

Providers were also responsible for developing and testing three PDSA cycles for tests of changes as they incorporated program elements into daily practices. They also documented their current workflow and updated this process as the Asthma QI program is implemented. All PDSAs were submitted to the Ohio AAP.

The above data collection and improvement activities fulfill the American Board of Pediatrics Maintenance of Certification (ABP MOC), Part IV credit requirements for QI programs.

The Asthma QI program items and events listed were mutually beneficial to the success of the program. These items supported the participating providers during program implementation, provided education to providers and practice staff throughout the program (and beyond) and allowed all parties to gauge how much progress was being made at any given time.

- Pre-work Survey
- Asthma Baseline Data Collection Criteria
- Active QI Data Collection
- Learning Session
- Program Kick-off
- Action Period Calls
- Practice Coaching Calls
- Asthma Training Series
- Check-in Emails (see example below)
- PDSA Cycle Worksheets
- Checkpoint Survey
- Sustainability & Exit Survey

Example of Asthma Resources Shared with Participating Providers via Check-in Email
⇒ ODH Asthma Resources Request
⇒ Child and Teen Vaccine-Preventable Diseases (English & Spanish)
⇒ Asthma Toolkit (includes ODH Community Asthma Learning Series Modules)
⇒ Pediatric Asthma Risk Score
⇒ Asthma Treatment Transition for Older Patients – gottransition.org
⇒ Transition readiness in middle and older adolescents with asthma and associated factors: a descriptive study
⇒ Transition Readiness Assessment Questionnaire (TRAQ)
⇒ Physical Activity and Asthma: The Movement Rx
⇒ Bill's Story – When Allergies Lead to Asthma
⇒ A Primary Care-Based Quality Improvement Project to Reduce Asthma Emergency Department Visits
⇒ Pediatric Asthma Quality of Life Questionnaire

Healthcare Professional Population Impacted

Originally intended to reach 10 primary care practices.

Recruited 14 practices and 28 pediatric healthcare providers.

Average annual patient volume for practices who completed program = 16,573

Average percentage of patients with Medicaid insurance for practices who completed program (per pre-work survey) = 33%

Program Barriers

- The most significant barriers to optimal asthma care for the participating providers patients:
 - Additional education needed to fully understand asthma treatment plan, medications or techniques
 - Limited access to local asthma resources, social services agencies or referral opportunities
 - Limited access to after-hours asthma access (e.g., plan for asthma treatment when practice is closed, when to go to the ED/UC, etc.)

- Challenges keeping asthma controlled in all environments (e.g., home, grandma's house, day care, school, etc.)
- Non-English-speaking patients and caregivers (e.g., limited translation services, cultural considerations, etc.)
- Social determinants of health (SDoH) barriers (e.g., access to transportation, medication, unsafe environment, etc.)
- Insurance barriers with large number of patients being on Flovent and generic is not covered in many private plans.
- This causes parents to stop controller all together due to frustrations and inability to fill meds.
- Keeping the patient within the medical home
- Best practice for completing and sharing asthma action plan
- Medication barriers with Flovent brand discontinued and insurance coverage for commercial insurances
- Convincing some families to get yearly influenza vaccines
- Availability of correct/ideal medication for patient/age, covered by insurance, replacement of Flovent, pharmacy logistics difficulties
- Multiple caregivers and they may come with a grandparent for exam and not parents, which makes it hard to assess the control and educate

Every program will have barriers and challenges to overcome during an implementation phase. This program, though strong in its foundation, saw limits with time for scale up, this resulted in not being able to secure IRB (Intuitional Review Board) designation, though not required for QI, is helpful for publishing. Additionally, the data collection timeline was truncated for practices. Though QI program can show significant results in as low as 3 months of data, the gold standard is 9 months. Ohio AAP is skilled in implementation science, allowing for custom coaching of practices, addressing data concerns and course corrections in a rapid cycle, as not to impact outcomes overall.

Clinically, the post-pandemic mistrust of vaccines likely impacted the flu immunization administration rate, a critical vaccine for asthma patients. To address this, vaccine safety and efficacy training and materials are provided to participants to utilize with families.

Limitations discovered during the program implementation are prioritized when planning for subsequent program waves. Eliminating barriers for pediatricians, both operating and clinical is critical for success and positive outcomes.

Ohio AAP feels very strongly about the continuation of asthma education to our membership and their patients and caregivers. We plan to expand the [Asthma Toolkit](#), create educational modules, promote the asthma training series and keep in touch with our contacts in the school-based healthcare space to collaborate on spreading asthma education to the school-based health providers.

Utilizing the lessons learned throughout wave 1, Ohio AAP along with our partners, would create a continuation of educational content that would go naturally with the resources already created. This would allow us to hold trainings on updated asthma guidelines, medication shortage/insurance coverage trends and how asthma continues to impact pediatrics patients throughout Ohio.

Additional resources needed to address asthma education to parents during the pediatric asthma visit

- Spread of asthma education and resources into the classroom and school-based health centers or school nurse offices.
- Per the providers who participated in the program, they would like to add copies of the [Allergy & Asthma Network Respiratory Treatments poster](#) to their office resources. They also asked about getting additional spacers (of all sizes) to distribute to their patients with asthma. Some of the providers also requested asthma resources and materials to be available in additional languages to be able to reach and educate more of their patient population.

Educational services needed to enhance education to physicians about Asthma Best practices for patients

- Asthma program focused on education and/or an additional wave of the Asthma QI program, if needed.
- The participating providers and program medical directors all said they enhanced their asthma knowledge throughout the program by attending the educational sessions within the action period calls, which included topics on:
 - What is asthma?
 - Immunizations and asthma
 - Childhood asthma cases discussions
 - How to teach the asthma action plan & asthma device
 - Asthma & sports
 - Single Maintenance and Reliever Therapy (SMART)
 - Resolving asthma medication access barriers
 - Best practices learning collaborative
 - Un-Eclipsing Asthma: An *Inequitable* Disease (DEI & asthma considerations)
 - Allergies & asthma
 - Asthma lived experience expert discussion
 - Resolving Asthma Medication Access Barriers (expanded version for the asthma training series)
 - Lessons Learned in School-Provider Linkage from School-Based Asthma Therapy (SBAT)
 - Asthma: Health Equity & Justice
- Healthcare providers not participating in the asthma QI program also obtained unique and robust asthma education by attending the asthma training series sessions.

Proposed infrastructure changes to build capacity to educate pediatricians on best practices of Asthma Management across Ohio

The Asthma QI program was designed to address optimal asthma care and to support pediatric healthcare providers and practice staff aimed at practical healthcare provider behavior change. The QI program provided health care providers education, tools and resources to best implement optimal asthma care, however limitations with practice and provider-based infrastructure may provide limits to change.

To provide the best care to all patients and caregivers impacted by asthma, all healthcare professionals and staff who work in pediatric primary care practices should be provided asthma education at least annually. This would allow for practice staff, from the front of the office to the

back of the office, to work at the top of their licenses to assist patients and caregivers navigate asthma symptoms, questions, and next steps. This shared knowledge could mean the difference between an asthma emergency and an issue that could be managed within at the practice-level.

Changes that would allow ongoing education on best practices for asthma include dedicated time for education. Protected time for clinicians to attend educational sessions would be a priority. In addition, having a quick and easy way to access the most updated asthma information for clinicians, such as maintaining an asthma toolkit accessible by all Ohio pediatricians. In addition to this, providing a way for general pediatricians to connect with asthma specialists would further boost ongoing asthma education and provide improved referral access when needed.

Further infrastructure changes, at a higher level, could lead to pediatric practices having greater access to community health workers and/or certified asthma educators to help with ongoing/more in-depth asthma education and trigger remediation.

Capacity building needed to have a system of ensuring the Asthma Action Plan gets to homes of caregivers, schools and all places where the child visits that should know the components of the Asthma Action Plan

- Training
 - Schools → All Caregivers (parents, grandparents, babysitters, daycare staff, siblings, etc.)
 - Providers → All Caregivers (parents, grandparents, babysitters, daycare staff, siblings, etc.)
 - Social media & email asthma education examples → Patients of all ages
- Effective asthma management requires a strong collaboration between the healthcare providers, patients with asthma, and parents/caregivers of those with asthma. This partnership ideally should enable patients and parents/caregivers to gain knowledge, confidence and strong self-management skills to understand and best manage their asthma. Asthma education and management should be tailored to each individual, taking into account their health literacy, goals of care, autonomy and the health care system itself. A key to asthma education and self-management requires good communication with the health system and the patient/caregiver. The healthcare provider needs to relay information clearly and check for understanding by patients/caregivers, while also empowering patients/caregivers with education and self-management tools and how to seek information/help.²
- Providing health care providers quick access and easy to use Asthma Action Plan for patients in the office or develop one for the EMR linked to the patient's health record.
 - These should be easy to fill out for the provider as well as patient and family friendly for ease of use.
 - A key concept outlined in the [GINA 2024](#) asthma guidelines includes the “asthma management cycle” for personalized asthma care which includes phases in the cycle of assess, review, adjust and review. Based on this concept, asthma management should be assessed at every visit and AAP reviewed with patient/caregivers each time to encourage use and understanding as well as empower self-management confidence.²

Summary of Limitations

- Need for additional resources around asthma education
- Staff capacity within schools and school-based health centers (SBHC)
- All-source funding
- Adherence to patient/caregiver asthma treatment plans
- Technology limitations around asthma action plan access and shareability
- Scheduling follow-up visits and making appropriate referrals to specialists and community programming
- Communication within care team about asthma action plan and treatment plan

Asthma QI Program Stakeholders

- Ohio Department of Health (ODH) Asthma Program
- Ohio Chapter, American Academy of Pediatrics
- Green & Healthy Homes Initiative
- Asthma Lived Experience Experts
- Asthma QI Wave 1 Participating Practices
- Angela Marko, DO, UH Rainbow Babies & Children's Hospital – Medical Director
- Eva Johnson, MD, FAAP, UH Rainbow Babies & Children's Hospital – Primary Care Expert
- William Hardie, MD, Cincinnati Children's Hospital Medical Center – Subject Matter Expert

Attachments

Asthma Action Plan (English & Spanish)

Data Charts

Program Measures

Rack Card (English & Spanish)

Talking Points

References

1. The 2020 Burden of Asthma in Ohio (Featuring 2019 Data). Ohio Department of Health. (n.d.-b). <https://odh.ohio.gov/know-our-programs/asthma-program/data-and-statistics/data-and-statistics>
2. 2024 Gina Main Report - Global Initiative for asthma. GINA. (2024, May 22). <https://ginasthma.org/2024-report/>