

American Lung Association  
New York State *Asthma Management in Schools*  
**END OF YEAR REPORT**

Fiscal Year 2023 | Year 5

# New York State Asthma Management in Schools 2022-2023 Evaluation Report

Prepared by the **Research & Evaluation Group** at Public Health Management Corporation for the American Lung Association

February 2023

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## About this Report

During the first half of the 2022-2023 school year, the American Lung Association trained facilitators to implement Open Airways for Schools® (OAS), Kickin' Asthma, and "Let's Take Control of Asthma" Flip Chart in New York State to provide a comprehensive public health approach to asthma control and management through established interventions. This project was funded by the New York State Department of Health Asthma Control Program. The final project period took place between March 2022 and February 2023. The purpose of this report is to share program outcomes and inform decision-making around training for asthma self-management educators in school settings. This report was prepared independently by the Lung Association's external evaluator, the Research & Evaluation Group (R&E) at Public Health Management Corporation (PHMC).

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## Evaluation Methods

### Asthma Flip Chart

Asthma Flip Chart is a brief asthma intervention program that is delivered to school-aged children to provide students with basic asthma and medication knowledge. The program is facilitated by school nurses and School Based Health Center nurses and medical staff. Facilitators provide students with a brief presentation during their asthma visit. Students complete a pre-test and post-test that measures the students' asthma knowledge before and after their asthma visit, respectively.

- **Asthma Flip Chart Pre- Post- Data Entry Form:** Students, with or without assistance, answered six multiple choice questions to test their asthma knowledge.

## Evaluation Methods *continued*

### Kickin' Asthma

Kickin' Asthma (KA) is a school-based asthma self-management education program for students in grades 6 through 10. During the 2022–2023 school year, data was collected with three evaluation tools:

- **Student Attendance Tracking form:** Facilitators collected student attendance using unique student codes.
- **Pre-Post Data Entry form:** A pre- and post-test survey was used to assess students' asthma knowledge, asthma control, and asthma self-management skills.
- **Facilitator Training Evaluation form:** At the conclusion of Kickin' Asthma training, newly trained facilitators had the opportunity to provide feedback about confidence and intent to facilitate.

### Open Airways for Schools

Open Airways for Schools® is a school-based curriculum that educates children in grades 3 through 5 on asthma and asthma self-management by teaching them how to detect the warning signs of asthma, recognize and avoid triggers, and make decisions about their asthma and personal health.

During the 2022–2023 school year, the American Lung Association trained local nursing students to act as OAS facilitators throughout New York State and administer OAS in New York State schools.

The goal of this was to measure both facilitator outcomes and student participant outcomes in accordance with CDC grant requirements. Student outcomes included change in four key metrics: (1) Medication Adherence, (2) Asthma Knowledge, (3) Asthma Self-Management Skills, and (4) Asthma Control. For the student evaluation, three evaluation tools were used:

- **OAS Parent Registration Form:** Parents completed a registration form as part of their child's enrollment. It included questions about their child's asthma control and medication adherence.
- **Student Attendance Tracking Form:** Facilitators collected student attendance using unique student codes.
- **OAS Pre/Post Assessment:** A pre- and post-test survey was used to assess students' asthma knowledge, asthma control, and asthma self-management skills.

OAS Facilitator outcomes included: (1) level of confidence in performing necessary asthma education tasks, and (2) intent to conduct a program within six months of the training. To evaluate the facilitators, one evaluation tool was used:

- **OAS Facilitator Post-Training Survey:** A survey link shared with facilitators at the end of each OAS training to collect information about facilitator confidence and intent to facilitate.

## Asthma Flip Chart

### Evaluation Sample

Thirty-nine (39) Flip Chart pre- and post- assessment surveys were completed during the evaluation period. Participants reported receiving the training in **three** different locations.

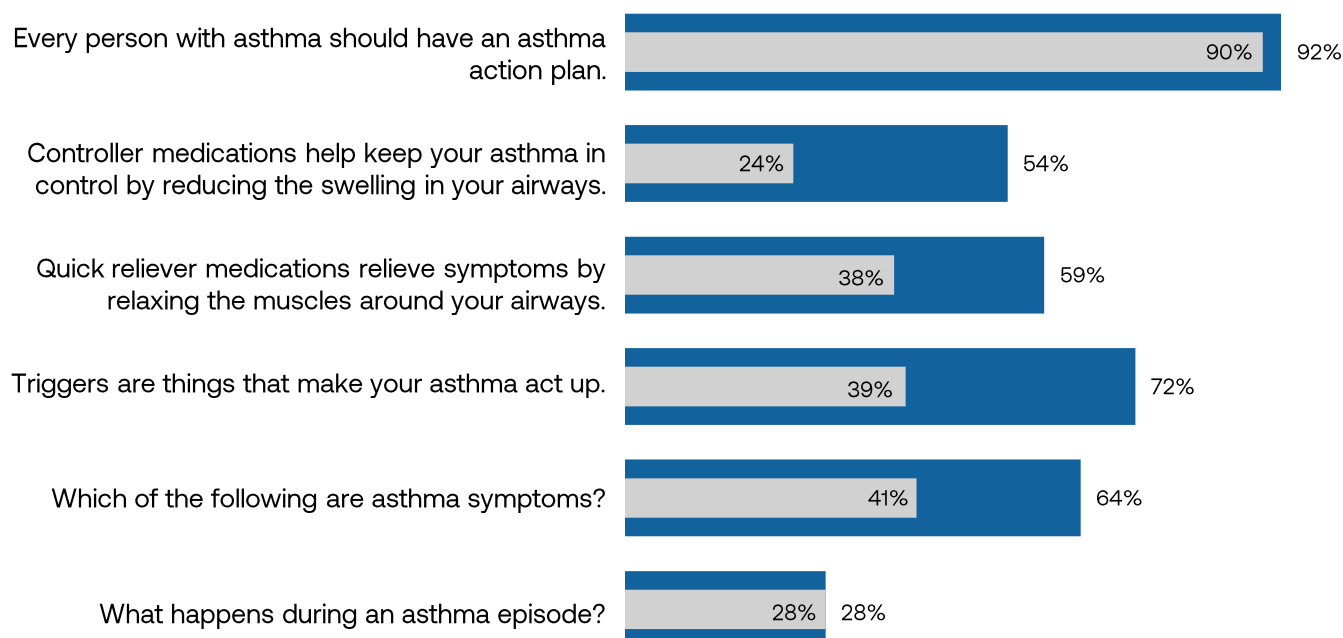
The participants' ages range from eight to fourteen years (average 10.6 years). Thirty-seven participants reported their Grade. Participants were in Grade 3 (n=3), Grade 4 (n=7), Grade 5 (n=6), Grade 6 (n=9), Grade 7 (n=6), Grade 8 (n=4), and Grade 10 (n=2). Most (n=27) of the participants completed the assessments independently without any assistance, and the remainder (n=10) of the participants were aided in completing the assessment by the Flip Chart administrator.

### Pre- and Post-Assessment Evaluation Findings

Participants were given pre- and post- multiple-choice assessments to measure knowledge before and after receiving the Flip Chart presentation. Each question on the assessment was worth one point for a correct answer and zero points for an incorrect answer. For questions with multiple correct answers (i.e., "check all that apply"), the answer needed to be fully correct.

Participants in this sample had a pre-assessment mean score of 43% and a post-assessment mean score of 62%. The largest increase in the percentage of students answering correctly was for the question, "*\_\_\_\_\_ are things that make your asthma act up.*" There was no change in the percentage of students (28%) who correctly answered, "*What happens during an asthma episode?*"

On average, an **increased** percentage of students answered each question correctly on the **post-exam**, compared to the **pre-exam**.



## Kickin' Asthma Student Attendance Tracking

### Evaluation Sample

One facilitator submitted attendance information for five students during the evaluation period.

### Evaluation Findings

One student attended one lesson and four students attended all four lessons. No students received the Asthma Action Plan. All students (n=5) were reported to have received the pre-test, and 80% (n=4) received the post-test. The medication/spacer teach-back was completed by 80% (n=4) students.

## Kickin' Asthma Pre-Post Data Entry

### Evaluation Sample

Three (3) students responded to the Pre- Data Entry Form during the evaluation period. All students were from the same school, received assistance to fill out the form, and were participating in Kickin' Asthma for the first time. All students were in Grade 6 and 11 years old. Four (4) responses were submitted to the Post- Data Entry Form.

### Pre- and Post- Assessment Evaluation Findings

No students were able to fully identify asthma triggers in the pre-assessment. One student was able to identify all asthma triggers in the post evaluation.

Zero students in the pre-survey and one (25%) student in the post-survey were able to correctly identify what happens during an asthma episode.

Two pre-survey respondents (33%) and one post-survey respondent (25%) answered correctly when asked when asked, *"What asthma medication should you take right away if you have trouble breathing?"*

In the pre-assessment, two (66%) respondents rated their asthma to be *"poorly controlled"* and one (33%) student responded that their asthma was *"well controlled."* In the post-assessment, two (50%) students described their asthma as *"well controlled,"* one student (25%) responded *"somewhat controlled,"* and one student (25%) responded *"poorly controlled."*

## Kickin' Asthma Facilitator Training Evaluation

### Evaluation Sample

One facilitator from Dutchess County submitted an evaluation form for their online training.

### Evaluation Findings

The respondent participated in training for the first time because they planned to facilitate the program. They reported definite plans to conduct a Kickin' Asthma program within the next six months at a school location.

## Open Airways for Schools Parent Registration Form

### Evaluation Sample

Eleven Parent Registration Forms were submitted in mid-February for analysis as part of FY23.

### Assessment Evaluation Findings

Almost all respondents (n=10, 91%) indicated that their child has a primary health care provider.

In the past three months, most (n=6, 67%) children had not visited the emergency department (ED) for their asthma. Two children (22%) had visited the ED for this reason one time, and one child (11%) had been to the ED twice. One child (10%) stayed in the hospital as a result of their asthma during this time period, while nine children (90%) did not.

Children were reported to take their long-term control medication 0 days per week (n=2, 33%), 2 days per week (n=1, 17%), or 7 days per week (n=3, 50%). Children were reported to use their rescue inhaler or nebulizer medication either 2 days or fewer per week (n=6, 67%) or more than once a day (n=3, 33%).

Two (22%) respondents answered **none of the time** when asked, "How often does your child's asthma keep them from playing or going to school?" Asthma was a barrier to playing and attending school for two children (22%) **a lot of the time** and five children (56%) **some of the time**. (n=9).



Asthma symptoms woke most (n=4, 50%) children up **less than one time per month**, while fewer (n=3, 38%) were woken **once per month**. Only one child (13%) was woken by their asthma symptoms **more than once per week**. (n=8).



Most children (n=6, 67%) experienced asthma symptoms **two days or fewer each week**, while only one child (11%) experienced symptoms **throughout the day**. Approximately 22% (n=2) of the children were reported to experience asthma symptoms **more than two days per week**. (n=9).



## Open Airways for Schools Parent 1-Month Follow-Up

### Evaluation Sample

No responses were submitted to the OAS Parent 1-Month Follow-Up form in FY23.

## Open Airways for Schools Student Attendance Tracking

### Evaluation Sample

Only one partial response to the OAS Student Attendance Tracking form was submitted in FY23.

## Open Airways for Schools Pre- Data Entry

### Evaluation Sample

Eleven Pre- Data Entry forms and zero Post- Data Entry forms were submitted in FY23. All eleven students received assistance when filling out the form. One student had previously participated in OAS and the remaining ten students were participating for the first time.

Most students (n=5, 45%) were in 3rd grade. Two students (18%) were in 4<sup>th</sup> grade and four (36%) students were in 5<sup>th</sup> grade. On average, students were aged 9.4 years, with the youngest students being 8 years old (n=3, 27%) and the oldest being 12 years old (n=1, 9%).

### Pre- and Post- Assessment Evaluation Findings

Most students (n=6, 55%) answered **some of the time** when asked, *Do you wake up during the night because of your asthma?* One student (9%) reported waking up **all the time** and four students (36%) reported that they wake up **none of the time**.



Six (55%) respondents answered **all the time** when asked, *Do you cough because of your asthma?* Four (36%) students answered **some of the time**, and one student (9%) responded **none of the time**.



Most (n=4, 36%) respondents answered **not a problem** when asked, *How much of a problem is your asthma when you run, exercise, or play sports?* Asthma was a **little problem** when exercising for one (9%) respondent, a **problem** for three (27%) respondents, and a **big problem** for three (27%) respondents.



One (9%) respondent answered **very bad** when asked, *How bad is your asthma today?* Five students (45%) described their asthma as **good**, and five students (45%) described it as **very good**.



No students were successfully able to identify all five asthma triggers and only one student correctly identified what happens during an asthma episode. All students but one (n=10, 91%) knew what medication to take right away when they have trouble breathing.

Students were asked *How often do you tell an adult when you have trouble breathing?* Four (36%) students responded “some of the time” and seven (64%) students stated “all of the time.” Most respondents (n=8, 73%) never use a peak flow meter.

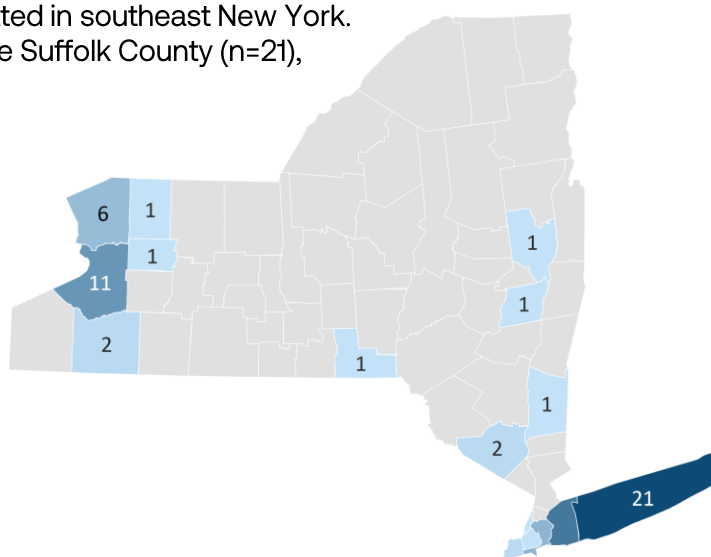
## Open Airways for Schools *Facilitator Training*

### Evaluation Sample

Seventy-four (74) individuals responded to the Post-OAS Facilitator Training Evaluation during the evaluation period. Fifty-four (73%) of the trainings were completed in an online format, while 20 trainings (27%) were completed in-person. Most of the participants (n=70) were not Lung employees, while four participants reported being employed by Lung. Similarly, most respondents had neither been trained in OAS nor facilitated an OAS program.

Geographically, respondents were concentrated in southeast New York. The counties with the most respondents were Suffolk County (n=21), Nassau County (n=15), and Erie County (n=11).

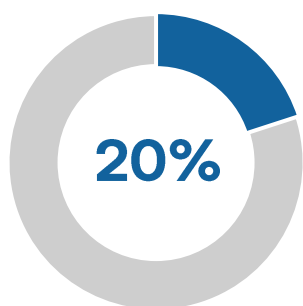
Most respondents (n=60) completed the training to fulfill a requirement at a job or academic program. Ten individuals reported planning to facilitate OAS programs. One respondent indicated completing the training “to learn more about asthma” and one respondent explained “I am a required to complete training for academic program, and plan to facilitate OAS programs.” Two respondents indicated “nursing” as their reason for completing the OAS training.



### Pre- and Post- Assessment Evaluation Findings

Respondents were questioned about their confidence across nine asthma education tasks. Confidence was reported across a 7-point Likert scale ranging from 1 – no confidence, 3 – some confidence, 5 – strong confidence, to 7 – expert confidence.

Participants in this sample had a pre-training mean confidence score of 5.0 and a post-training mean confidence score of 5.5. All questions demonstrated an increase in confidence score.



20% of respondents were “definitely” (n=7) or “probably” (n=7) planning to conduct an OAS program in the next six months. The remaining 80% of respondents responded “no” (n=18), “probably not” (n=21), or “maybe” (n=18) to the planning question.

Eight respondents reported that they had definite plans and an agreement to host an OAS program in the next six months at a school location, while no respondents had taken these steps at a non-school location.

The online training course, skills building session, facilitator’s guide, handouts, and posters were each found to be useful by most respondents. Fifty-one individuals reported that all five elements were useful OAS components.



## Limitations

- 1) Because of the abbreviated Year 5 reporting period (March 2022 thru Feb 2023, but only including school year data from August 2022 thru January 2023), data collection ended earlier than previous reporting periods.
- 2) The low response rates to the program forms inhibit the ability to draw larger conclusions related to the success of the program.
- 3) The data reported here may not be representative of the larger population of youth who participated in Asthma Flip Chart, Kickin' Asthma, and Open Airways for Schools programs.

## Key Points & Discussion

The average Asthma Flip Chart post-assessment score was 62%, nineteen percentage points higher than the pre-assessment score. This outcome is similar to that of FY22, where the post-assessment score was 65%, after rising 22 percentage points from the pre-assessment score. The most difficult question for students in both FY23 and FY22 was identifying what happens during an asthma episode.

- ❑ The Asthma Flip Chart education surrounding asthma episodes should be revisited to support improved student learning.

Too few responses were received from students participating in Kickin' Asthma to draw large conclusions; however, one key detail is that no students received the Asthma Action Plan.

- ❑ Emphasizing the importance of this plan during training may improve this metric.

Sixty-three percent (63%) of students described asthma as a barrier to exercise, and 78% of parents described asthma as a barrier for their children. This alignment in the perception of asthma as a barrier to exercise is supported by the 100% of student respondents that reported telling an adult that they are having trouble breathing either *all of the time* or *some of the time*. This communication is an improvement from FY22, when between 13% and 32% of student respondents told an adult when they were having trouble breathing *none of the time*.

Twenty percent (20%) of respondents reported plans to conduct an OAS program in the next six months. In FY22, this number was 37% and in FY21 it was 9.4%. Note that program implementation during the 2020-2021 school year was impacted by COVID restrictions.

The geographic distribution of newly-trained OAS facilitators has expanded since FY22 to better reflect the need for OAS facilitators in the state. Still, facilitators have not yet been trained from select counties in the upper quartile of asthma emergency department visits.<sup>1</sup>

- ❑ Future programming should continue to incorporate outreach efforts to recruit new OAS facilitators from additional counties where they are most needed.

<sup>1</sup> New York State Department of Health (2022). *Asthma Dashboard – County Level: Asthma emergency department visit rate per 100,000 – aged 5-11 years, 2017-2019*. New York State. [https://webbit.health.ny.gov/SASStoredProcess/guest?\\_program=%2FEBI%2FFPHIG%2Fapps%2Fasthma\\_dashboard%2Fad\\_dashboard&p=gm&ind\\_id=ad2](https://webbit.health.ny.gov/SASStoredProcess/guest?_program=%2FEBI%2FFPHIG%2Fapps%2Fasthma_dashboard%2Fad_dashboard&p=gm&ind_id=ad2)