Open Airways for Schools (OAS)

- Evidence-based asthma self-management curriculum from the American Lung Association (ALA).
- Empowers youth to control their asthma by teaching warning signs of asthma, identification of asthma triggers, and proper medication use.
- When a child completes OAS, they are healthier, absent less from school, and participate in more physical activity.
- OAS facilitator training is available to healthcare providers, school personnel, & other advocates.

33 Nurses trained in OAS

- 33 VT school nurses completed the training from the ALA to instruct OAS.

61 students completed OAS

- 11 Vermont schools offered OAS.
- 100% of the students enrolled completed the OAS curriculum.

Impact of OAS in VT

- 14% of VT school nurses from 23 school supervisory unions were trained in enhanced asthma management and OAS certified.
- 100% of enrolled students completed OAS.
- VT students completing OAS:
  - Increased their use of long-term control medication,
  - Used a spacer with inhaler,
  - Increased proper inhaler technique,
  - Experienced less uncontrolled asthma.
Open Airways in VT Schools

Vermont Asthma Program Achievements for 2014-2019

Student demographics

• Student enrolled in OAS were 6 - 14 years old.
• Most were male, Medicaid insured, and had a primary care provider.

Average Age 9.3 years
Male 57%
Medicaid Insured 72%
Have PCP 100%
Racial/Ethnic Minority 3%

OAS Participant profile

• 38% of students had an ED/Urgent care visit or hospitalization for asthma in the year prior to OAS.
• All enrolled students completed at least 60% of the sessions and 9 in 10 completed all sessions.

Hospitalization or ED visit in past year 38%
Completed 60% or more sessions 100%
Completed 100% of sessions 90%

Medication use

• Students completing OAS showed a 20% relative increase in long-term control medication use, universal spacer use, and 52% increase in proper inhaler technique.

Inadequate control med use 25%
Spacer use 74%
Proper inhaler technique 64%

Asthma control

• Average Asthma Control Test (ACT) score increased from 20 to 22.
• Proportion of students with poorly controlled asthma decreased from 39% to 25%.
• 69% of students achieved improved asthma control (33/48).

Pre Post: 1 month
Inadequate control med use 25% 20%
Spacer use 74% 100%
Proper inhaler technique 64% 97%

Pre Post: 1 month
Asthma Control Test (ACT) Score 20 22
Poorly controlled Asthma 39% 25%

Sources: Open Airways Participant forms, 2015-2019
December 2019
Learn more at healthvermont.gov
Open Airways in VT Schools
Vermont Asthma Program Achievements for 2014-2019

OAS Curriculum

- Delivered by OAS certified facilitator.
- Developed for youth ages 8 to 11.
- Taught in five or six 30-minute small-group sessions that include:
  - Caring for your lungs,
  - Identifying and decreasing exposure to asthma triggers,
  - Recognizing and managing asthma symptoms,
  - Understanding how to properly use asthma medications,
  - Getting exercise and doing well at school.

Tips for Conducting OAS

- Identify students with uncontrolled asthma.
- Form cohorts of students from a single grade to aid in scheduling.
- Begin early in the semester to allow time for curriculum and 1-month follow up.
- Seek an asthma champion to assist in delivering OAS.

Data Notes

- OAS was not implemented in Year 1 of CDC grant.
- # of sessions attended was not available in year 2, and not available for one school in year 3.
- Percentages calculated as the # / # students with data for given measure (missing data dropped).
- Relative percent change = (baseline - final)/baseline * 100.
- Collection of all data points for each student is needed to fully assess the impact of OAS in VT.

To learn more...

Vermont Asthma Program
www.healthvermont.gov/wellness/asthma

Vermont Asthma Data
https://www.healthvermont.gov/health-statistics-vital-records/surveillance-reporting-topic/asthma

Open Airways for Schools
www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/asthma-education-advocacy/open-airways-for-schools

Sources: Open Airways Participant forms, 2015-2019
December 2019
Learn more at healthvermont.gov
## OAS Performance Measure Summary

<table>
<thead>
<tr>
<th>CDC Performance Measures</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
<th>Y5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of students enrolled</td>
<td>17</td>
<td>14</td>
<td>20</td>
<td>10</td>
<td>61</td>
</tr>
<tr>
<td># w/ ED/IP/UC in past year</td>
<td>n/a</td>
<td>7</td>
<td>8</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td># w/ uncontrolled asthma at enrollment</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>% w/ uncontrolled asthma at enrollment*</td>
<td>25%</td>
<td>89%</td>
<td>30%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td># completing 60% of sessions</td>
<td>n/a</td>
<td>9*</td>
<td>20</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td># completing 100% of sessions</td>
<td>n/a</td>
<td>9*</td>
<td>16</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td># completing 60% of sessions who demonstrate skills/knowledge</td>
<td>n/a</td>
<td>7</td>
<td>18</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td># completing 100% of sessions who demonstrate skills/knowledge</td>
<td>n/a</td>
<td>7</td>
<td>15</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td># completing 60% of sessions w/o PCP who received referral</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>0†</td>
<td>0†</td>
</tr>
<tr>
<td># completing 100% of sessions w/o PCP who received referral</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>0†</td>
<td>0†</td>
</tr>
<tr>
<td># completing 60% of sessions w/ uncontrolled asthma @ enrollment</td>
<td>n/a</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td># completing 100% of sessions w/ uncontrolled asthma @ enrollment</td>
<td>n/a</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td># comp. 60% of sessions &amp; w/ uncontrolled Asthma &amp; using LT control Med &lt;7 d/wk @ enrollment</td>
<td>n/a</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td># completing 100% of sessions &amp; w/ uncontrolled Asthma using &amp; using LT control Med &lt;7 d/wk @ enrollment</td>
<td>n/a</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td># completing 60% of sessions &amp; w/ uncontrolled Asthma &amp; using LT control Med @ enrollment, who ↑ med use</td>
<td>n/a</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td># completing 100% of sessions &amp; w/ uncontrolled Asthma &amp; using LT control Med @ enrollment, who ↑ med use</td>
<td>n/a</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td># completing 60% of sessions w/ uncontrolled asthma @ enrollment, &amp; controlled at 1 m follow up</td>
<td>n/a</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td># completing 100% of sessions w/ uncontrolled asthma @ enrollment, &amp; controlled at 1 m follow up</td>
<td>n/a</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td># completing 60% of sessions who had ED/IP/UC in past year</td>
<td>n/a</td>
<td>5</td>
<td>8</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>7 performance measures were n/a due to no 12 m follow up</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

n/a: data not collected/available; * Those with missing data excluded from calculation; † All students had primary care provider at intake. The Vermont Asthma Program began promotion of OAS in Year 2 of CDC grant.