Implementation of Provider-Completed Asthma Action Plans in a School Setting

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Implementation of Provider-Completed Asthma Action Plans in a School Setting

DNP Defense by Madison G. Branham
Problem & Clinical Significance

- Students with asthma are required to bring an asthma action plan at the start of school with their medication.
- An organizational assessment was conducted to explore the needs and areas of improvement with this process.
- Parents were completing the asthma action plan for their student, not the medical provider.
- Medication errors, safety, evidence-based care
What is an Asthma Action Plan?

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>DOB:</th>
<th>School Year:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homeroom Teacher:</td>
<td>Grade:</td>
<td>Grad Year:</td>
</tr>
<tr>
<td>Parent/Guardian Name:</td>
<td>Phone Number:</td>
<td></td>
</tr>
<tr>
<td>Parent/Guardian Name:</td>
<td>Phone Number:</td>
<td></td>
</tr>
<tr>
<td>Emergency Contact:</td>
<td>Phone Number:</td>
<td></td>
</tr>
<tr>
<td>I give permission for the medicine(s) listed below to be administered in school by the nurse or other trained school staff, as appropriate. I give consent for communication between the listed health care provider and Oak Ridge School Staff necessary for asthma management and administration of this medicine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent/Guardian Signature:</td>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>

(Health Care Provider to Complete)

<table>
<thead>
<tr>
<th>Provider:</th>
<th>Phone:</th>
<th>Fax:</th>
</tr>
</thead>
</table>

Severity Classification: □ Intermittent □ Mild Persistent □ Moderate Persistent □ Severe Persistent

Asthma Triggers (list):

Green Zone: Doing Well
- Symptoms: Breathing is good. No cough or wheeze. Can work and play. Sleeps well at night.
- Medication to be given at school:
  - Puffs: Time/Frequency:
  - Medication: Time/Frequency:
  - Physical Activity: Use albuterol puffs, 15 minutes prior to activity. With all activity, as needed.

Yellow Zone: Caution
- Symptoms: Some problems with breathing. Cough, wheeze, or chest tight. Problems working/playing. Wake at night.
- Quick Relief Medication:
  - Puffs: Frequency:
  - Medication: Frequency:
  - The child should feel better within 20-60 minutes of the quick-relief treatment. If the child is getting worse or is in the Yellow Zone for more than 24 hours, THEN follow the instructions in the RED ZONE and call the doctor right away.

Red Zone: Get Help Now!
- Take Quick Relief Medication NOW:
  - Puffs: Frequency:
  - Call 911 immediately if the following danger signs are present: trouble walking/talking due to shortness of breath, lips or fingernails are blue, and/or still in the red zone after 15 minutes.

Self Administer:
- I certify that this child has been trained in the use of the listed medication and it is agreed upon by myself and the parent/guardian that the child is capable of carrying and self-administering the medication listed above.
- I certify that this child has been trained in the use of the listed medication and it is agreed upon by myself and the parent/guardian that the child is NOT capable of carrying and self-administering the medication listed above.

Provider Signature: Date:

Received by School Nurse: Date:
Project Purpose

• Purpose:
  – Increase the number of provider-completed asthma action plans for children with asthma in the middle school setting

• Goal:
  – Improve the health and evidence-based care delivered to students
  – Decrease the number of school absences
  – Decrease the number of unplanned visits to a healthcare provider.
Guiding Framework

• Guide clinicians through the Evidence-Based Practice Process through Six Steps

• Integrates quality improvement principles, teamwork tools, and evidence-based strategies to promote the adoption of a new practice
Search Strategy

PICOT question
“In (P) children with asthma in a school setting, how does a (I) physician or advanced practice provider-completed asthma action plan compared to (C) current practice of a parent-completed asthma action plan affect (O) school absences and unscheduled asthma healthcare visits over a (T) three-month period?”

• Keywords from the PICOT questions were used to search the following databases:
• CINAHL COMPLETE, PubMed, Scopus, and Cochrane
Records identified through database searching of CINAHL (n = 16), Cochrane (n=30), PubMed (n=14), and Scopus (n=20)

Additional records identified through other sources (n = 0)

Records after duplicates removed (n =58)

Records screened (n =58)

Full-text articles assessed for eligibility (n =13)

Studies included in synthesis of literature (n = 5)

Full-text articles excluded, with reasons (n = 8)
- Peak flow based asthma action plan (n=2)
- Nurse role focused (n=3)
- Technology focused (n=1)
- Parent education/use focused (n=2)

https://doi.org/10.1186/s13643-021-01626-4
Leveling and Synthesizing Evidence

• Five articles pertaining to provider-completed asthma action plans were critically appraised

• Johns Hopkins Nursing Evidence-based Practice (JHNEBP) guidelines and tools were utilized to complete a critical appraisal of the literature and assign an evidence level and quality rating

• The evidence was synthesized and recommendations for a practice change were proposed
## Synthesis Table

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>School absences</td>
<td>↓</td>
<td>↓</td>
<td>↓$^s$</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>Unscheduled asthma health care visits</td>
<td>↓</td>
<td>↓</td>
<td>↓$^s$</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>Any other outcomes of interest</td>
<td>Ø</td>
<td>↓ In nocturnal awakening</td>
<td>↓ In nocturnal awakening</td>
<td>↓ In symptom monitoring WAAP vs, peak flow</td>
<td>Readability, suitability, and content</td>
</tr>
<tr>
<td>Sample Size</td>
<td>52 pediatric patients</td>
<td>68 pediatric patients</td>
<td>80 pediatric patients</td>
<td>335 pediatric patients</td>
<td>30 asthma action plans</td>
</tr>
<tr>
<td>Level of Evidence</td>
<td>II</td>
<td>I</td>
<td>I</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>Quality of Evidence</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Any other information important to the PICOT question</td>
<td>WAAP completed by provider</td>
<td>WAAP completed by provider</td>
<td>WAAP completed by provider</td>
<td>WAAP completed by provider</td>
<td>WAAP completed by provider</td>
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<tr>
<td>INTERVENTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written Asthma Action Plan</td>
<td>✓ $\downarrow^s$</td>
<td>✓ $\downarrow$</td>
<td>✓ $\downarrow$</td>
<td>✓ $\downarrow^s$</td>
<td>✓ $\downarrow$</td>
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<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
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</table>
Recommendations for Practice Change

• Utilization of a provider-completed written asthma action plan (WAAP) in pediatric patients with asthma in the school setting.

• Implementation of an asthma action plan in the school setting to reduce school absences and unplanned asthma healthcare visits.

• A symptom-based WAAP be used over a peak flow-based action plan in the pediatric population.

**AIM statement:** The aims for the project were to increase the number of provider-completed asthma action plans, to decrease the number of school absences in children with asthma, and to decrease the number of unplanned visits to a healthcare provider secondary to asthma.
Stakeholders and Setting

• Key Stakeholders at the project site included: Executive Director of Leadership, Director of Pupil Services, Coordinated School Health Coordinator, School Nurse Coordinator, Practicing RN

• Project took place in a middle school setting, grades 5<sup>th</sup>-8<sup>th</sup>

• Projected number of participants: 15-20 students, based off 2021-2022 health services survey information
Implementation

• Met with key stakeholders at the project site to discuss project and plan
• Educated site nurses on need for provider completed asthma action plan
• Sent out permission form to parents, explaining project/consent to enroll
• Contacted parents/students to gain pre-intervention data
• Implemented provider-completed asthma action plan
• The Iowa Model was used to guide project implementation
Implementation Timeline

• Defend Proposal
• Provided a provider-completed asthma action plan (PCAAP) to students who currently had an asthma diagnosis to be completed for next school year
• Obtained IRB determination
• Implemented (PCAAP) and collected data
• Collected and analyzed data
• Final defense, disseminate findings
Outcomes measured include:

- Demographic data (age and gender)
- Education Level
- Years of asthma diagnosis
- Provider completed asthma action plan (yes/no)
- Previous and Current Number of unscheduled asthma related healthcare visits
- Previous and Current Type of unscheduled asthma related healthcare visits
- Previous and current number of school absences
Findings

- 6 students, 66.7% female, 33.3% males
- Ages 12-14, 6th-8th grade
- Years of Diagnosis
- Wilcoxon Signed Ranks Test

<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Absences (N)</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>School Absences (Median)</td>
<td>2.5</td>
<td>0.50</td>
</tr>
<tr>
<td>Unscheduled Healthcare Visits (N)</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Unscheduled Healthcare Visits (Median)</td>
<td>0.50</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Practice Implications and Lessons Learned

- Reduction in absenteeism
- Unscheduled healthcare visits
- School nurse reported higher level of confidence
- Student reports
- COVID-19
- Sample size
- Age Range
Questions?
References

• Please refer to manuscript document p. 13-16