



PCORI Symptom-based Adjustment of Inhaled Steroid Therapy Study (The ASIST Study) for Mild Asthma: School Nurse Implementation Guidance

“A recent study adds to evidence that symptom-based adjustment of medication works as well as provider-based adjustment for treating children and teens with mild persistent asthma.”¹

Background

The National Association of School Nurses (NASN) received funding from The Patient Centered Outcomes Research Institute (PCORI) to disseminate the results of PCORI's study *Comparing Two Ways to Manage Asthma in African American Children - The ASIST Study* (Asthma Symptom-based Adjustment of Inhaled Steroid Therapy)^(1,2) to school nurses with the following key messages for dissemination:

- “A PCORI-funded study of African American children and teens with mild persistent asthma found that symptom-based intermittent inhaled corticosteroid (ICS) adjustment provided a child-centered approach that did not differ significantly in outcomes when compared to a prescribed daily ICS plan of care. Knowledge of this evidence-based option to asthma management can be used to promote equitable student-centered care to African American children.” (*School Nurses*)
- “A PCORI-funded study comparing two groups of African American children and teens ages 6-17 with mild persistent asthma receiving daily fixed-dose versus as-needed ICS found that the groups did not differ significantly in their baseline for asthma control at the end of the study. Children and teens receiving as-needed ICS also did not differ significantly from the daily use group in asthma control, asthma exacerbations, lung function and quality of life. Children and teens in both groups had better asthma control at the end of the study than at their starting baseline. Children and teens receiving as-needed ICS, used about one-fourth of the ICS per month as children and teens receiving daily fixed-dose ICS.” (*Healthcare Providers*)
- “A PCORI-funded study of children and teens with mild persistent asthma found that using the control inhaler as needed worked the same as daily use in improving asthma control, controlling asthma flares, how well the lungs work and quality of life. Children and teens using the inhaler as needed used about one-fourth the amount of corticosteroid medicine as children and teens using it daily.” (*Parents/Caregivers*)

In August 2023, NASN convened key stakeholders to discuss the implications of the results of PCORI's *The ASIST Study*, and to determine ways to disseminate this information as well as PCORI-NASN agreed upon key messages to school nurses and key stakeholders. Key stakeholders were identified as school nurses, parents/guardians and healthcare providers (HCP). Representatives from the American Academy of Pediatrics (AAP), The American Academy of Allergy, Asthma, and Immunology (AAAAI), National Association of Pediatric Nurse Practitioners (NAPNAP), and two parents (from Florida and Georgia) participated. The convening was facilitated by a school nurse leader from Georgia and NASN was represented by another school nurse leader, an asthma care in schools subject matter expert from North Carolina.

Stakeholder themes from the convening for this Guidance include:

- Benefits of utilizing evidence-based research to guide practice
- Providing care as a student-focused collaborative team
- Importance of child specific education for student, family, school nurse, HCP, and school staff to minimize conflicting information and to maximize asthma control
- Ability to address health inequities that exist in student asthma care
- Highlight the role and responsibilities of the school nurse
- Necessity of updating asthma toolkits and guidance annually whenever possible.

Key Findings from The ASIST Study and Student Care Implications

This Guidance provides strategies, recommendations for interventions, and resources for understanding The ASIST Study and for implementing the study outcomes in support of students with mild (intermittent and persistent) asthma, particularly those experiencing healthcare inequities, that impact asthma management. The study outcomes are of importance to the members of the student care team (nurse, parent, HCP) since they clearly show that using inhaled corticosteroids (ICS) **only** when symptoms are present is as effective as daily preventive use, the current standard.

¹ © 2011–2021 Patient-Centered Outcomes Research Institute. “Comparing Two Ways to Manage Asthma in African-American Children -- The ASIST Study.” Last Updated September 30, 2020. [Sumino282-Final-Research-Report.pdf \(pcori.org\)](https://www.pcori.org/research-results/282)

² What is The ASIST Study: [Comparing Two Ways to Manage Asthma in African-American Children -- The ASIST Study | PCORI](https://www.pcori.org/research-results/282)

The study outcome measures included:

- Asthma control
- Number of asthma attacks
- Lung function
- Quality of life
- Use of less corticosteroids over time

Often school nurses, HCPs and parents/guardians experience challenges in maintaining daily ICS use for a variety of reasons, many of which are directly related to health inequities. These may include:

- No ICS inhaler due to lack of access to care, cost, or comprehension of need
- Lack of student motivation or comprehension in self-care
- Lack of parental availability or comprehension needed to provide supervision for use.

Since each student team member has a unique perspective on student care, three resource/reference sections are provided at the end of this Guidance along with the PCORI-NASN agreed upon key messages for dissemination. The sections include tools tailored for the school nurse, parents/guardians, and HCPs. These can aid the school nurse in engagement with information and support of all members of the student's care team and guide the team in collaboratively implementing these new strategies and interventions, when appropriate for the student.

Severity Levels of Asthma Appropriate for Application of the Guidance

School nurses do not label the severity level of asthma; rather the asthma severity is identified by the student's HCP. Level of asthma is generally determined by the symptoms present and treatment required to maintain asthma control as prescribed by the HCP. However, in advocating for students with unmet needs related to asthma care in school it can be helpful for the school nurse to know the indicators for levels of asthma to better inform nursing care and referral decisions.

The following guidelines were established by the National Institutes of Health (NIH) with input from all national organizations that represent asthma healthcare providers and the Global Initiative for Asthma (GINA) guidelines^(3,4). (For the purpose of the Guidance we focus only on mild intermittent and mild persistent asthma.)

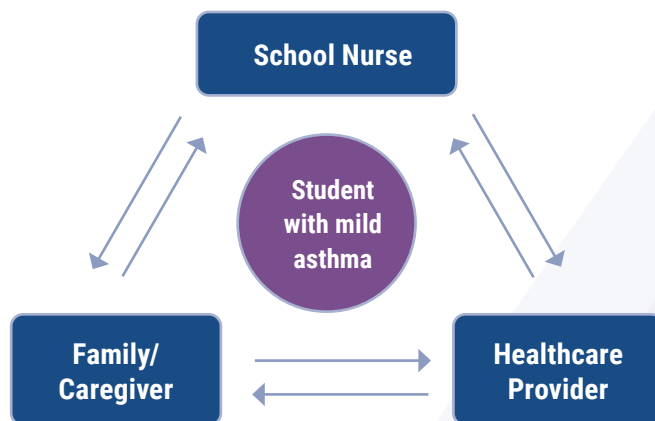
Diagnosed Asthma Severity Level	Common Indicators
Mild Intermittent Asthma	<ul style="list-style-type: none"> ▪ Symptoms less than twice a week with no symptoms between flares ▪ Flares last a few hours to a few days ▪ Nighttime symptoms experienced less than twice a month.
Mild Persistent Asthma	<ul style="list-style-type: none"> ▪ Symptoms more than two times a week, but no more than once a day ▪ Activity level may be affected by flares ▪ Nighttime symptoms experienced more than twice a month.
Moderate Persistent Asthma	<ul style="list-style-type: none"> ▪ Symptoms with rescue inhaler use every day ▪ Flares twice a week or more with possible effect on activity ▪ Nighttime symptoms experienced more than twice a week.
Severe Persistent Asthma	<ul style="list-style-type: none"> ▪ Constant symptoms with a decrease in activity ▪ Frequent flares and nighttime symptoms.

School Nurse Dissemination and Implementation Guidance

The following Guidance is suggested for identification of, and planning for, students that may fit the parameters of The ASIST Study outcome recommendations. The numbers in this Guidance refer the school nurse to specific supporting resources at the end of the document. Strategies and interventions are presented as actions that should be considered based on the student/family assessed needs. All actions will not be applicable to every student or family. Resources listed at the end of the Guidance are identified as R1, R2, etc. in the Guidance.

Pathways to optimal care coordination for students with mild asthma: The School Nurse Role in Implementation and Dissemination of The ASIST Study Results

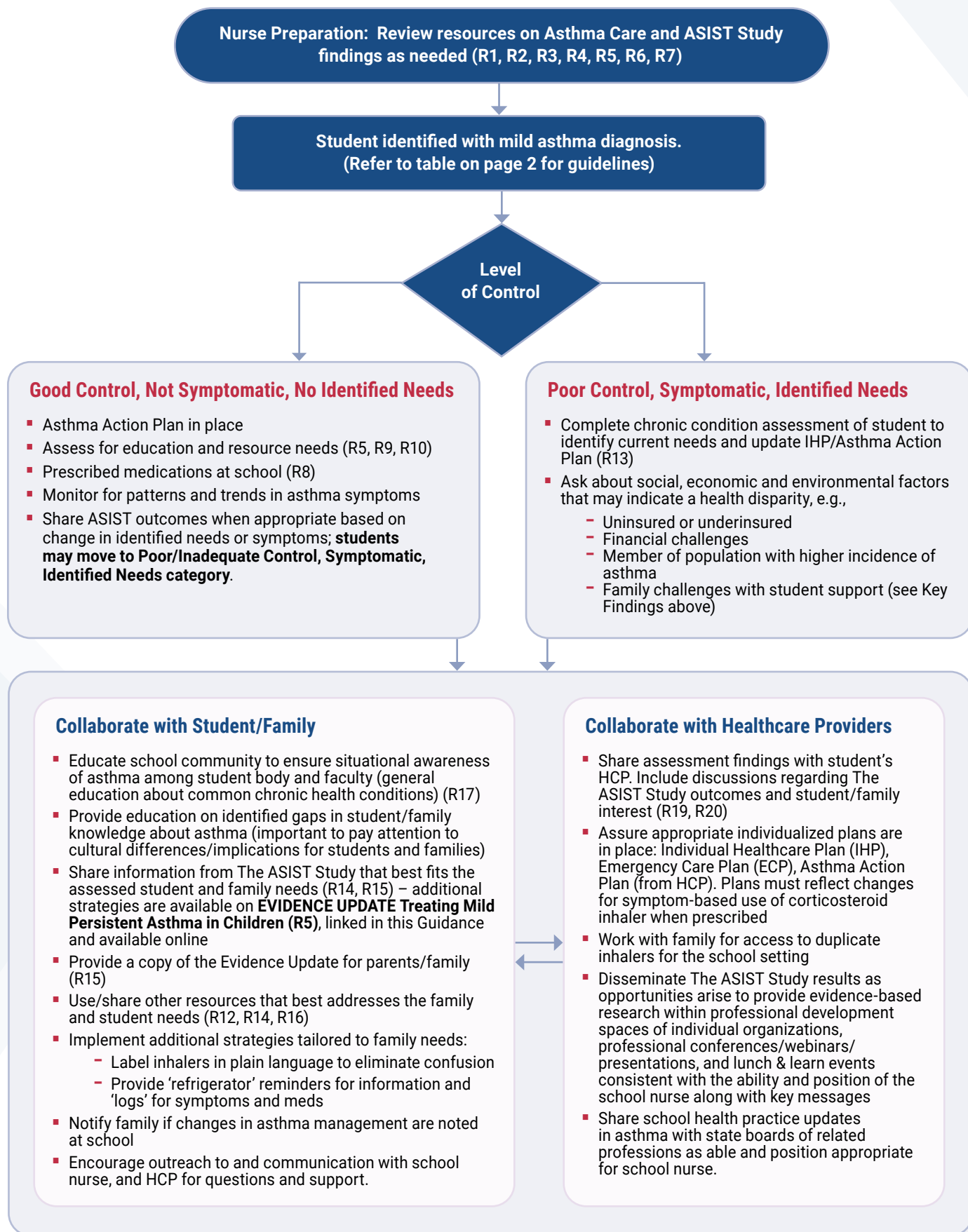
The figure below illustrates the communication structure essential to the implementation and dissemination of the ASIST Study results. The student with asthma is always at the center, and communication and information sharing flows bidirectionally to and from the school nurse to the family/caregiver and healthcare provider, and to and from family/caregiver and healthcare provider.



³ Levels of asthma; Children's Hospital Pittsburgh. Children's Hospital of Pittsburgh. (n.d.). <https://www.chp.edu/our-services/pulmonology/services/asthma/resources/levels>

⁴ 2023 GINA Main Report - Global Initiative for Asthma - GINA (ginasthma.org); Pocket Guide for Asthma Management and Prevention - Global Initiative for Asthma - GINA (ginasthma.org); UPDATED: 2023 What's New In GINA Slide Set - Global Initiative for Asthma - GINA (ginasthma.org)

Guidance: The School Nurse Role in Implementation and Dissemination of The ASIST Study Results



Resources

Resources for School Nurses:

1. © 2011–2021 Patient-Centered Outcomes Research Institute. "Comparing Two Ways to Manage Asthma in African-American Children -- The ASIST Study." Last Updated September 30, 2020. <https://www.pcori.org/Sumino282>
2. Levels of asthma: Children's Hospital Pittsburgh. Children's Hospital of Pittsburgh. (n.d.). <https://www.chp.edu/our-services/pulmonology/services/asthma/resources/levels>
3. 2023 GINA Main Report - [Global Initiative for Asthma - GINA \(ginasthma.org\)](https://ginasthma.org/); Pocket Guide for Asthma Management and Prevention - [Global Initiative for Asthma - GINA \(ginasthma.org\)](https://ginasthma.org/); UPDATED: 2023 What's New In GINA Slide Set - [Global Initiative for Asthma - GINA \(ginasthma.org\)](https://ginasthma.org/)
4. What is The ASIST Study: [Comparing Two Ways to Manage Asthma in African-American Children -- The ASIST Study | PCORI](https://www.pcori.org/Sumino282)
5. Evidence updates for The ASIST Study for school nurses and clinicians - [Treating Mild Persistent Asthma in Children](https://www.pcori.org/Sumino282)
6. NASN PCORI The ASIST study webinar: [Evidence-Based Decision Making - "As-Needed" Inhaled Corticosteroid Therapy for Pediatric Asthma | NASN Learning Center](https://www.pcori.org/Sumino282)
7. NASN's Clinical Practice Guidelines: [School Nursing Evidence-Based Clinical Practice Guideline: Students with Allergies and Risk for Anaphylaxis | NASN Learning Center](https://www.pcori.org/Sumino282)
8. National Association of School Nurses (2021). [Medication Administration in the School Setting - National Association of School Nurses \(nasn.org\)](https://www.pcori.org/Sumino282)
9. Educate students who have two inhalers and their families about self-care: [Guidelines-based Care for the School Nurse to Create Healthy Environments for Children with Asthma \[Enduring\] | NASN Learning Center](https://www.pcori.org/Sumino282)
10. NASN's Toolkit for Allergy and Anaphylaxis: [Allergy and Anaphylaxis Toolkit | NASN Learning Center](https://www.pcori.org/Sumino282)
11. NASN's Webinar on Toolkit and Clinical Practice Guidelines: [Allergy & Anaphylaxis: Clinical Practice Guidelines and Toolkit for School Nurses | NASN Learning Center](https://www.pcori.org/Sumino282)
12. GINA Guidelines (updated each year): [2023 GINA Main Report - Global Initiative for Asthma - GINA \(ginasthma.org\)](https://ginasthma.org/); [Pocket Guide for Asthma Management and Prevention - Global Initiative for Asthma - GINA \(ginasthma.org\)](https://ginasthma.org/); UPDATED: [2023 What's New In GINA Slide Set - Global Initiative for Asthma - GINA \(ginasthma.org\)](https://ginasthma.org/)
13. National Association of School Nurses (2021). [A Model for School Nurse Led Case Management](https://www.pcori.org/Sumino282)

Collaborating with Parents/Guardians resources:

14. What is The ASIST Study: [Comparing Two Ways to Manage Asthma in African-American Children -- The ASIST Study | PCORI](https://www.pcori.org/Sumino282)
15. Link for evidence updates for parents/guardians of children 6 years and older: [Managing Mild Asthma in Children Age Six and Older](https://www.pcori.org/Sumino282)
16. A school nurse breaking down The ASIST study for parents/guardians – what is The ASIST Study: <https://attendee.gotowebinar.com/recording/8377633623419402069>
17. Help educate other parents about asthma care: [CDC - Asthma - Parents](https://www.pcori.org/Sumino282)
18. Asthma camps for children: [Asthma Camps Encourage Kids to Get Up and Go ... Outside | Allergy & Asthma Network \(allergyasthmanetwork.org\)](https://www.pcori.org/Sumino282)

Collaborating with Healthcare Providers resources:

19. What is The ASIST Study: [Comparing Two Ways to Manage Asthma in African-American Children -- The ASIST Study | PCORI](https://www.pcori.org/Sumino282)
20. Link for evidence updates for The ASIST Study for school nurses and clinicians - [Treating Mild Persistent Asthma in Children](https://www.pcori.org/Sumino282)