

# Increasing Communication between School Nurses and Providers on Students with Asthma

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## Introduction & Background

- Prevalence of asthma in US school-aged children is ~8.6%<sup>1</sup>
- Less than half of school-aged children have an annual non-urgent asthma care visit, meaning the school nurse is often the only consistent healthcare provider seen<sup>2</sup>
- School nurses have limited interaction with primary care providers (PCPs) about children with asthma<sup>3</sup>
- Without care coordination, students may have a higher degree of uncontrolled asthma leading to chronic absenteeism<sup>4</sup>
- Missed school days and higher burden of disease increase costs for families, school districts, and the health care system<sup>5</sup>
- School-based asthma programs aim to increase care coordination and can increase asthma knowledge and quality of life and decrease ED visits<sup>2</sup>

## Purpose

To implement an online education module and associated toolkit and evaluate its effect on the amount of communication that occurs between school nurses and providers on students with asthma

## Aims

- School nurses will engage in the online education module resulting in increased knowledge on the importance of care coordination with PCPs about students with asthma
- To increase the number of times school nurses communicate with providers about students with asthma utilizing toolkit materials
- School nurses will receive more completed asthma action plans after utilizing toolkit materials

## References

<sup>1</sup>Centers for Disease Control and Prevention (CDC) (2020). *Asthma: Most recent national asthma data*. [https://www.cdc.gov/asthma/most\\_recent\\_national\\_asthma\\_data.htm](https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm)  
<sup>2</sup>Gleason, M., Cicutto, L., Haas-Howard, C., Raleigh, B. M., & Szeffler, S. J. (2016). Leveraging partnerships: families, schools, and providers working together to improve asthma management. *Current Allergy and Asthma Reports*, 16(10), 74.  
<sup>3</sup>Sneider, H. M., Nickels, S., Gleason, M., McFarlane, A., Szeffler, S. J., & Allison, M. A. (2017). Stakeholder perspectives on optimizing communication in a school-centered asthma program. *Journal of School Health*, 87(12), 941-948.  
<sup>4</sup>McCabe, E. M. (2020). School nurses' role in self-management, anticipatory guidance, and advocacy for students with chronic illness. *NASN School Nurse*, 1942602X20906534.  
<sup>5</sup>Isik, E., & Isik, I. S. (2019). Asthma care coordination in schools by school nurses: An integrative literature review. *Public Health Nursing*, 36(4), 498-506.  
<sup>6</sup>American Academy of Asthma Allergy & Immunology (AAAAI) (2016). *SAMPRO Toolkit*. <https://www.hjpxchange.org/sampro-toolkit>  
<sup>7</sup>American Lung Association (ALA) (2020). *Asthma-friendly schools initiative toolkit*. <https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/asthma-education-advocacy/asthma-friendly-schools-initiative/toolkit>

## Methods

**Design:** Pre-/post-test design with independent samples

**Setting:** Midwestern public school district

**Sample:** Convenience sample of certified school nurses and non-certified school nurses

**Interventions:** Online education Power Point created by the School-Based Asthma, Allergy, & Anaphylaxis Management Program (SAMPRO)<sup>6</sup> and associated toolkit with sample forms including asthma action plan (AAP) templates, sample letters to physicians, and an asthma checklist<sup>7</sup>

**Measures:** DNP student created survey to assess school nurses' knowledge of asthma care coordination (maximum score of 40), amount of communication with providers, and proportion of AAPs received

## Results

**Sample Characteristics:** 32 nurses completed either the pre-survey and/or post-survey, six nurses completed both

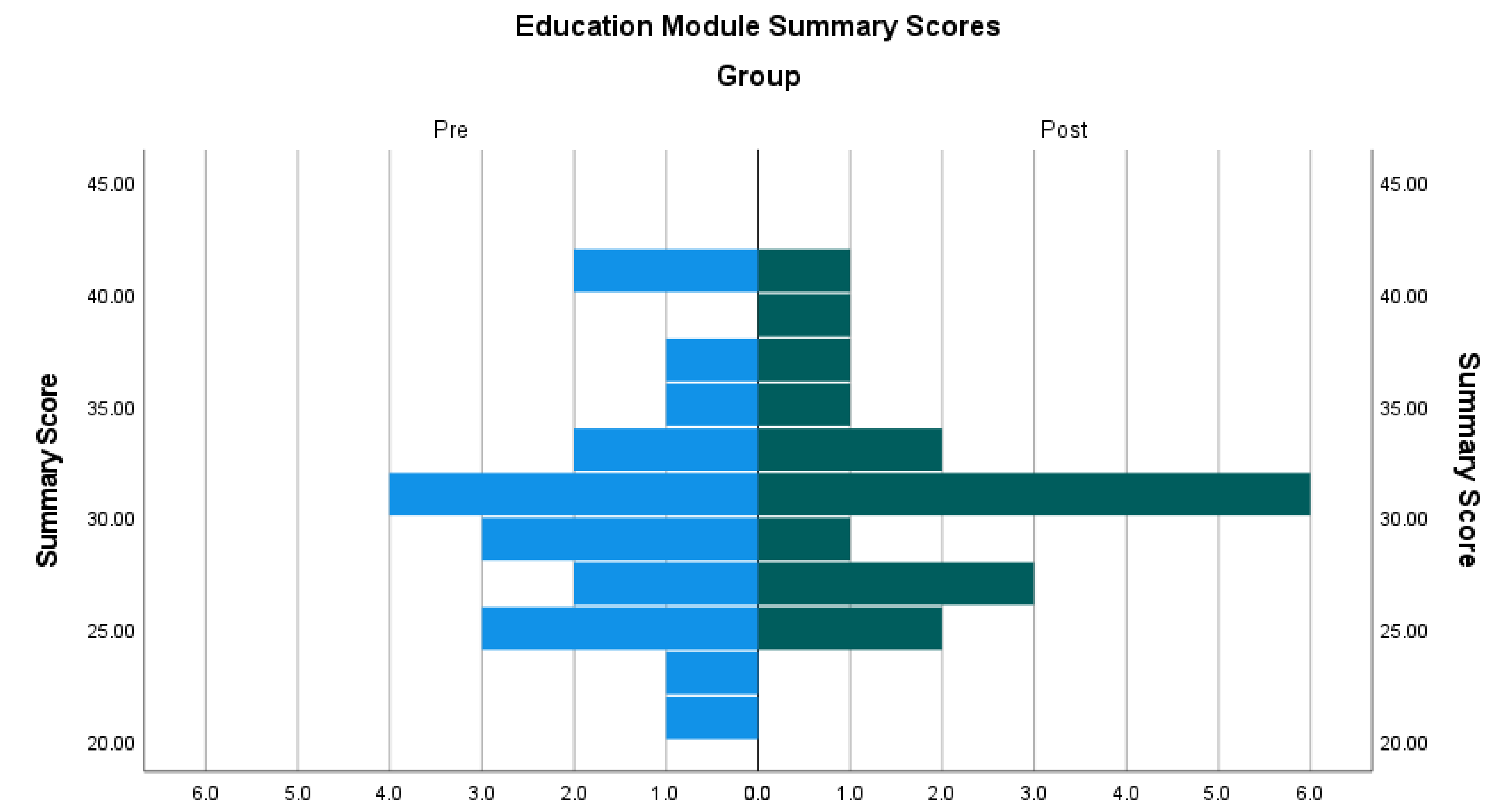
Demographic Characteristics	N=20	
Education level, n (%)		
Associate's degree	2	(10%)
Bachelor's degree	15	(75%)
Master's degree	3	(15%)
Professional degree	0	(0%)
Doctorate degree	0	(0%)
Years working as a nurse, n (%)		
<5 years	2	(10%)
5-10 years	3	(15%)
10-20 years	5	(25%)
20+ years	10	(50%)
Years working for district, n (%)		
<5 years	10	(50%)
5-10 years	7	(35%)
10-20 years	3	(15%)
20+ years	0	(0%)

**Aim 1:** The pre-survey summary score was 29.5 (IQR 7.5) and the post-survey score median was 30 (IQR 6.75). This was not a significant difference (p=0.517). A median score of 30 shows that most participants correctly identified most statements as true in both surveys

**Aim 2:** There was no significant difference in the amount of communication reported (p=0.974)

**Aim 3:** There was no significant difference in the number of AAPs received (p=0.878).

**Aim 1**



Aim 2	Pre-Survey (n=20)					Post-Survey (n=18)				P
	Significant	Moderate	Small	None	First year working for district <sup>a</sup>	Significant	Moderate	Small	None	
Amount of Communication with Providers on Students with Asthma	0(0%)	2(10%)	14(70%)	3(15%)	1(5%)	0(0%)	4(22%)	8(44%)	6(33%)	0.974
<sup>a</sup> Option only available for pre-survey										

Aim 3	Pre-Survey (n=20)					Post-Survey (n=18)				P
	75-100%	50-75%	25-50%	0-25%	First year working for district <sup>a</sup>	75-100%	50-75%	25-50%	0-25%	
Proportion of Students with Completed Asthma Action Plan	5(25%)	3(15%)	3(15%)	8(40%)	1(5%)	3(17%)	3(17%)	4(22%)	8(44%)	0.878
<sup>a</sup> Option only available for pre-survey										

## Conclusion & Dissemination

- While this project did not significantly improve outcomes, it reaffirms the lack of communication between school nurses and providers and completed AAPs. Participant's knowledge scores did not significantly increase indicating ineffective education.
- Findings of this project suggest a need for further research to determine how to increase communication between school nurses and providers on students with asthma. School nurses may also require additional education on the importance of care coordination.
- Results of this project will be shared via email with the coordinator of health services, appropriate administration, and the health department at the school district where implementation took place.