The AAP Asthma Guideline for Pediatric Primary Care

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Overview

- A primary pediatric clinic in Houston, TX with average 5% asthmatic population.
- The importance of quality evidence-based asthma management.
- Quality Improvement(QI) project used a pre-post chart review design to
  - Improve compliance with the American Academy of Pediatrics (AAP) Asthma Guideline
  - Decrease Emergency Room (ER)/urgent care transfer due to asthma exacerbation.
- Practice pearl: Asthma is a clinical diagnosis and delaying treatment might lead to increased morbidity (Booker, 2014).

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Introduction

- Asthma is one of the leading causes of frequent childhood hospitalizations (Sawick et al., 2016).
- Many patients who experience asthma exacerbation seek help from primary care facilities (Price et al., 2017).
- Quality asthma care to reduce impairment and risk from asthma exacerbation (Patel et al., 2019).
- Low providers' compliance rate with asthma guideline before project.
- Implementation of the AAP asthma guideline.

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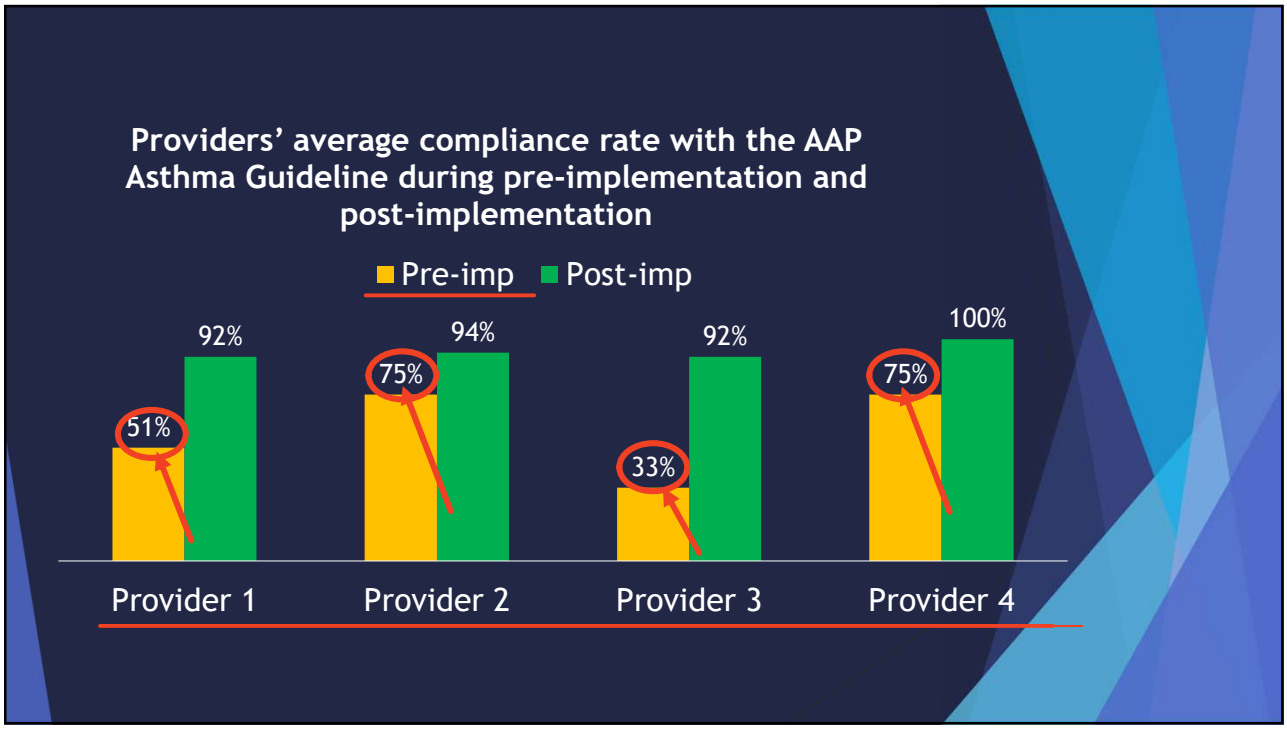

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Problem Statement

- Many pediatric patients who experience asthma exacerbation seek help from primary care facilities (Price et al., 2017).
- Low providers' compliance rate with a national asthma guideline before the DNP project.

Purpose Statement

- To educate primary care providers on the use of the AAP Asthma Guideline to identify and treat the pediatric population between 2-17 years with asthma
- To evaluate if that improve the providers' compliance rate with the evidence-based asthma guideline and reduces the number of ER/urgent care visits due to asthma exacerbation with a period of six weeks.

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Project Question

- **P :** 4 healthcare providers in pediatric clinic.
- **I :** Use of the AAP Asthma Guideline to asthmatic children between 2-17 years of age.
- **C :** The compliance rate with the guideline and the number of ER/urgent care transfer due to asthma exacerbation before/after implementation of the guideline.
- **O :** Improving the providers' compliance rate and reduced ER/Urgent care visits.
- **T (**Timeframe): Six weeks.

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Project Objectives

- Educate providers regarding implementation of the AAP Asthma Guideline prior to implementation of the DNP project.
- Implement the AAP Asthma Guideline to treat asthmatic patients between 2-17 years of age in the primary pediatric clinic.
- Increase the providers' compliance with the using the AAP Asthma Guideline.
- Reduce ED/urgent care transfer for asthma exacerbation within the next 6 weeks.

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Literature Review

- Multiple statistics suggest that the identification of asthma exacerbation and treatment of asthma are crucial in the primary care setting to prevent high ED visits (NAEPP, 2007).
- Risk factors for asthma exacerbations includes race, ethnicity, and socioeconomic status, viral infections, air pollution, allergens and indoor pollutants, psychosocial stress, and poor adherence to treatment.
- Two major goals in managing asthma in children are reducing impairment and reducing risk (Patel et al., 2019). National asthma treatment guidelines consider the prevention of asthma exacerbations as a crucial component of establishing best possible asthma control (NAEPP, 2007; AAP, 2013)
- The AAP guidelines (2013) include the classification of asthma severity and level of control and a stepwise approach to pharmacologic treatment. Besides, the guideline recommend to provide patients a written asthma action plan and patient education. The guideline was updated in 2019.

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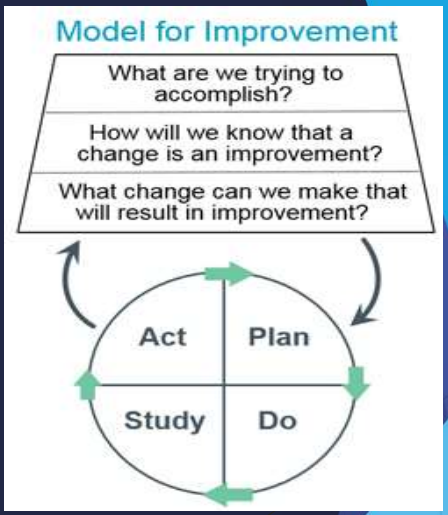
Theoretical Model

Plan-Do-Study-Act (PDSA) cycle model
(Deming, 1919)



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Methodology (Project Plan)

- QI project, pre-post chart review design
- Setting : Pediatric primary care clinic in Houston, TX
- Population of interest : Four providers (1 MD, 3 NPs)
- Tools : AAP asthma guideline, Chart review tool, Powerpoint, educational materials, and asthma action plan
- Data collection and analysis:
  - Provider's compliance with the AAP asthma guideline by two-tailed Wilcoxon Signed Rank Test with 95% confidence intervals
  - ED/Urgent care transfer due to asthma exacerbation by Odds Ratio with 95% confidence intervals.

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Discussion of Implementation

- Week 1: The educational training performed for providers, it covered the AAP Asthma Guideline, chart review tools, asthma action plan, and inhaler spacer factsheet by using PowerPoint presentation. Following the training, 4 providers agreed to participate in the project. The project lead collected the providers' email address and contact number to communicate and answer any questions during the project implementation.
- Week 2-7: The AAP asthma guideline implemented for 6 weeks to identify and treat asthmatic children between 2-17 years of age in the project site.
- Week 7: The project lead analyzed project findings based on the chart review.

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The four key items of the AAP Asthma Guideline

- 1* is a compliance rate with the classifying asthma severity and level of asthma control by using the AAP Asthma Guideline (AAP, 2013).
- 2** is a compliance rate with providing optimal treatment options based on the stepwise approach by using the AAP Asthma Guideline (AAP, 2013).
- 3*** is a compliance rate with the inspecting medications, inhaler, and spacer and educating the administration skills and knowledge for self-management by using the Inhaler Spacer Factsheet (CDC, 2018).
- 4**** is a compliance rate with the providing asthma action plan and follow up plan by using the Asthma Action Plan (The Pediatric/Adult Asthma Coalition of New Jersey, 2014)

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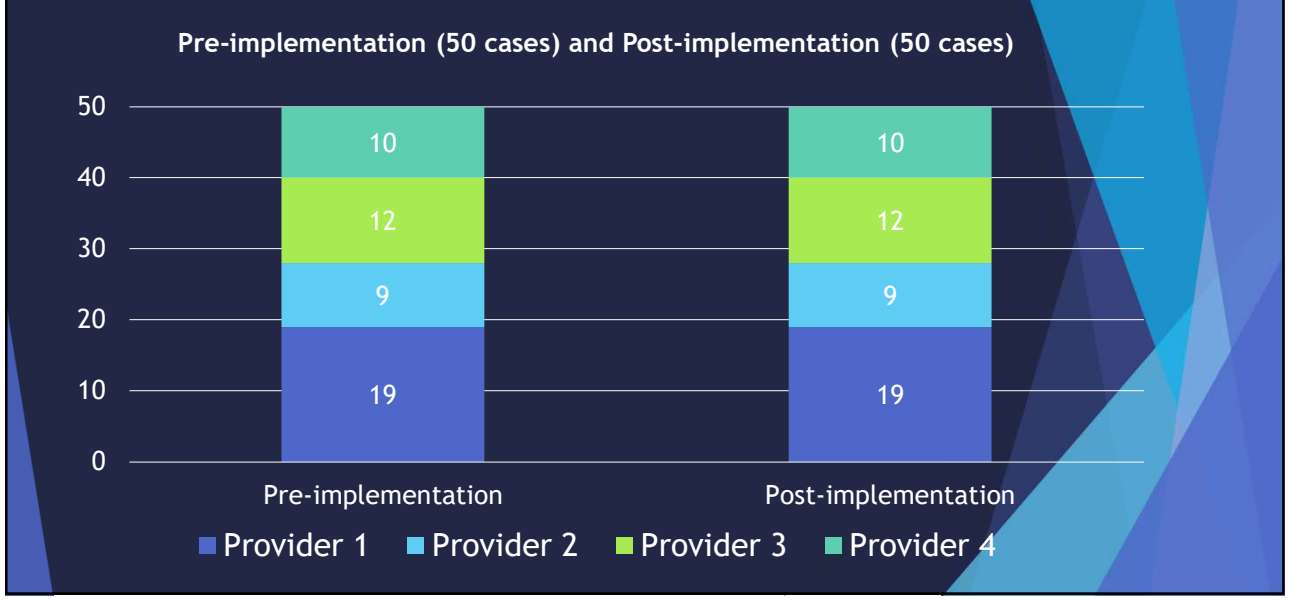
Results/Findings



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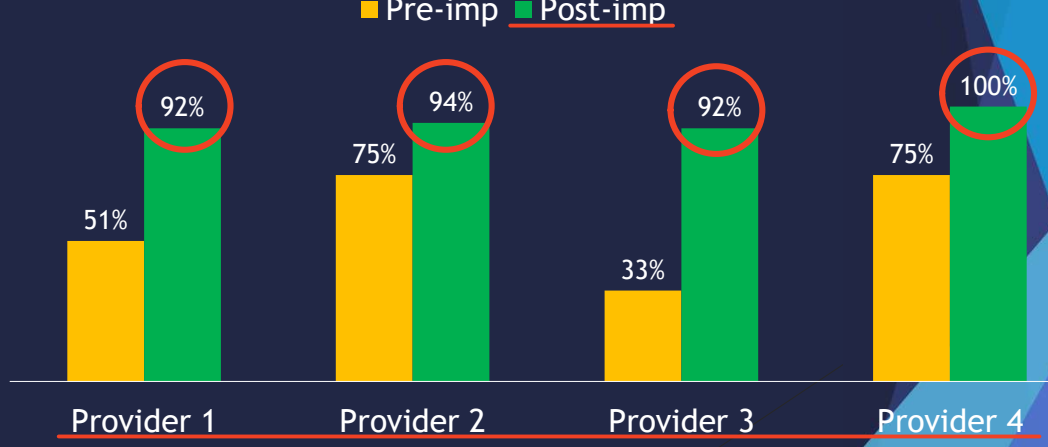
Results/Findings (cont'd)

Providers' average compliance rate with the AAP Asthma Guideline during pre-implementation and post-implementation



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Results/Findings (Cont'd)

Providers	A	B	C	D
W-Value	0	0	0	0
Mean Difference	-25	-72.73	-32.14	-25
Sum of pos. ranks	0	0	0	0
Sum of neg. ranks	171	66	28	55
Significance of the result (p < .05)	Yes	Yes	Yes	Yes

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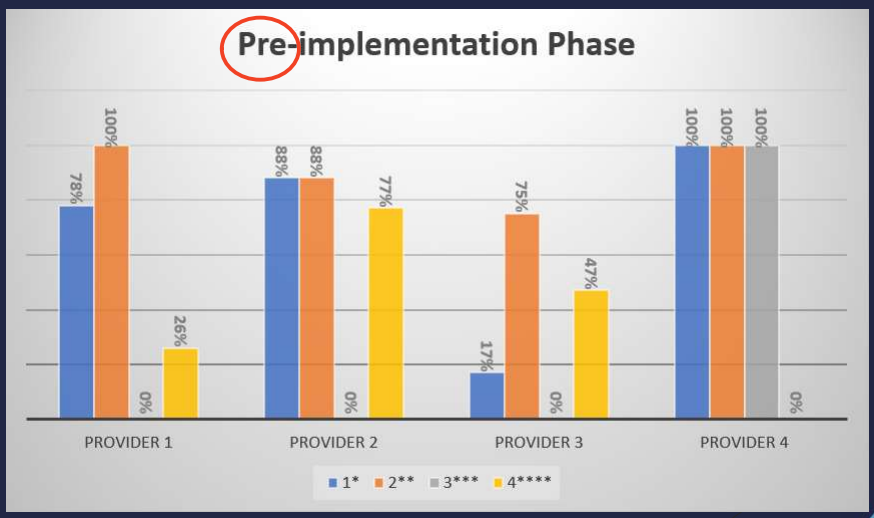
Providers' Compliance Rate



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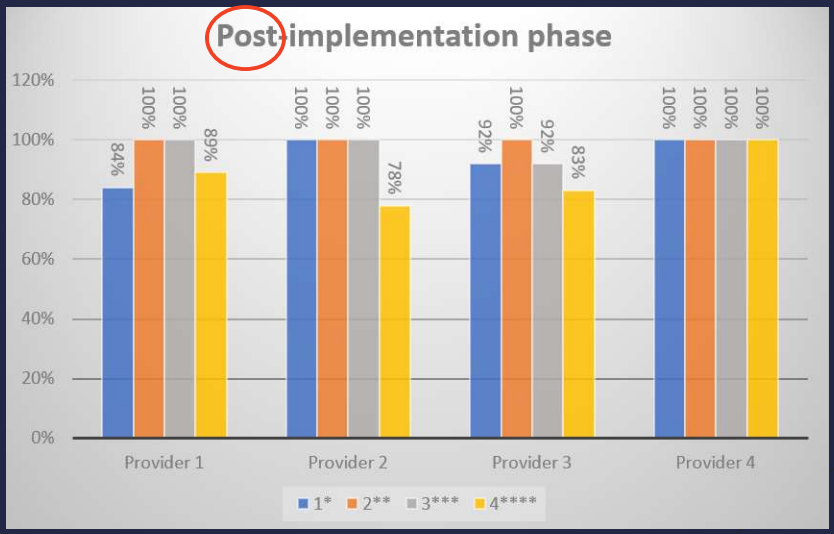
Providers' Compliance Rate



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Results/Findings (Cont'd)

Chart review results for ED/urgent care transfer			
	Transferred	Not transferred	Total
Pre-implementation	1	49	50
Post-implementation	1	49	50
Total	2	98	100
Odds ratio with a 95% confidence interval result			
Odds ratio	0.4898		
95 % CI	0.0430 to 5.5818		
z statistic	0.575		
Significance level	P = 0.5653		

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Discussion With Key Conclusions

- Increased the guideline-based asthma management.
- Patient-centered education.
- Improving providers' documentation in the EMR.
- Limited result to verify the reduction of ER/Urgent care transfer for asthma exacerbation.

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Ideas For Future Dissemination

- The project will be prepared as a poster presentation and delivered to NCNP (National Conference of Nurse Practitioner) 2020 fall conference in Las Vegas, NV.
- The project will also be submitted to the DNP repository.
- The DNP candidate will the DNP QI project to stakeholders and providers in current healthcare organizations 2020 summer meeting.

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Reference

American Academy of Pediatrics (AAP). (2014). The AAP Asthma Guideline (2014). Retrieved from https://www.aap.org/en-us/Documents/medicalhome_resources_keypointsforasthma.pdf

Booker, Rachel. (2014). Asthma in children: diagnostic and management dilemmas. *Practice Nurse*, 44(11), 13-18.

Centers for Disease Control and Prevention. (2018). Asthma. Retrieved from https://www.cdc.gov/asthma/inhaler_video/default.htm

National Asthma Education and Prevention Program Expert Panel Report 3 (EPR-3) (2007). Guidelines for the Diagnosis and Management of Asthma-Summary Report 2007. *J Allergy Clin Immunol,* 120, S94-138. Retrieved from: http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm.

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Reference (Cont'd)

O'Connor, M. G., Berg, K. Stack, L. B., & Arnold, D. H. (2015). Variability of the acute asthma intensity research score in the pediatric emergency department. *Annals of Allergy, Asthma & Immunology,* 115(3), 244-245.

Patel, S. J., Teach S. J. (2019). Asthma. Pediatrics in Review, 40, 549-567.

The Pediatric/Adult Asthma Coalition of New Jersey. (2014). Asthma Treatment Plan. Retrieved from http://www.pacnj.org/pdfs/atpfillablestudentengsp.pdf

Sawicki, G., Haver, K., Wood, R. A., Redding, G., & TePas, E. (2016). Asthma in children younger than 12 years: Initial evaluation and diagnosis.

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