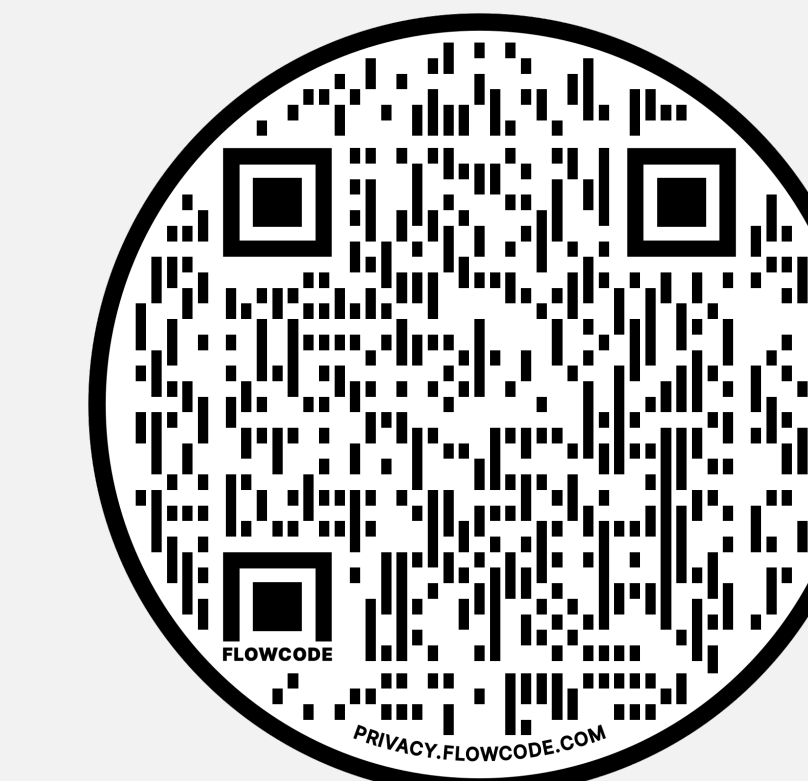


BACKGROUND

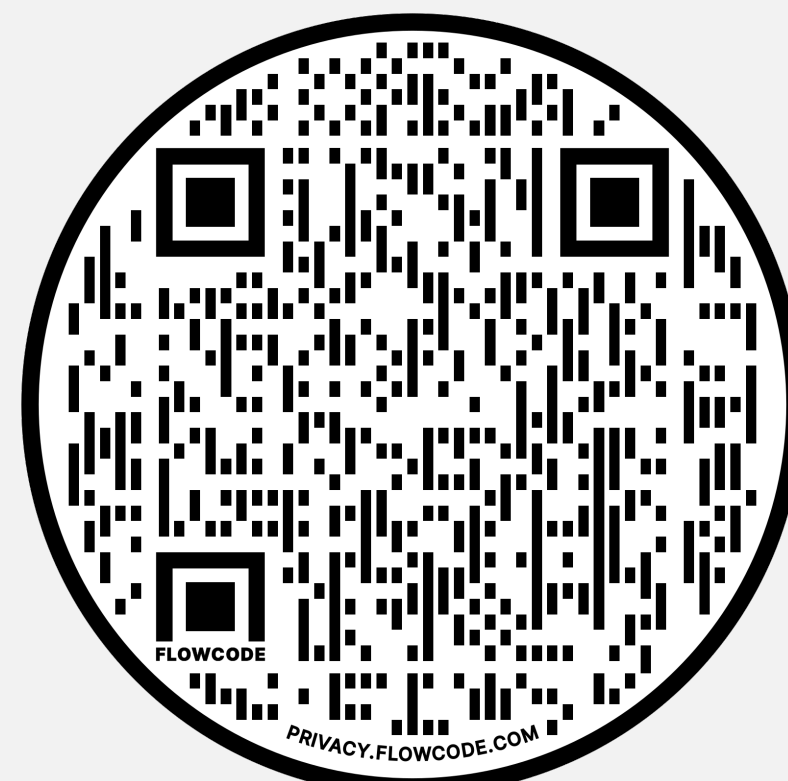
- Prompt administration of albuterol and corticosteroids reduces hospital admissions in patients who present to emergency departments with asthma exacerbations
- Clinical pathways lead to reductions in time to treatment and admission rates for many common diseases.

OBJECTIVE

- Update and implement a collaborative clinical pathway for the management of asthma exacerbations in a pediatric emergency department to improve patient outcomes



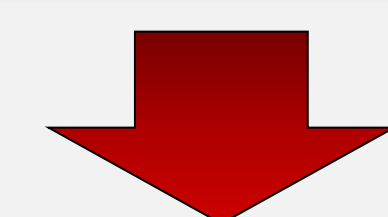
PROTOCOLS
◀ Current | Update ▶



SCORING SYSTEMS

Clinical Asthma Score (CAS)

Score points	SpO2	Auscultation	Accessory Muscle Use/Retractions	Inspiratory breath sounds	Dyspnea
0	>95% on room air	None or end expiratory wheezes	None	Normal	Speaks in sentences/ coos and babbles
1	90-95% on room air	Wheezing through entire expiratory phase	Substernal/ subcostal/ intercostal/ nasal flaring	Unequal	Speaks in partial sentences/ short cry
2	<90% on room air/ requiring any oxygen	Inspiratory and expiratory wheezing	Supraclavicular/ See-saw respirations	Decreased	Speaks in single words/short phrase/grunting



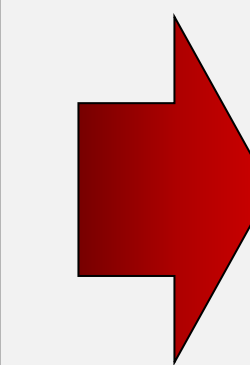
Pediatric Asthma Score

Score	0	1	2
Respiratory Rate			
0 – 11 months	≤ 50	51 – 65	≥ 66
12 – 23 months	≤ 40	41 – 54	≥ 55
2 – 3 years	≤ 34	35 – 39	≥ 40
4 – 5 years	≤ 30	31 – 35	≥ 36
6 – 12 years	≤ 26	27 – 30	≥ 31
> 12 years	≤ 23	24 – 27	≥ 28
Oxygen Requirement*	> 95% on room air	90 – 95% on room air	< 90% on room air
Auscultation	Normal breath sounds to end-expiratory wheeze only	Expiratory wheezing	Inspiratory and expiratory wheezing to diminished breath sounds
Retractions	None or intercostal	Intercostal and substernal	Intercostal, substernal, and supraclavicular
Dyspnea	Speaks in sentences, coos, and babbles	Speaks in partial sentences, short cry	Speaks in single words/short phrases/grunting

*Trial on room air to assess oxygen requirement for Pediatric Asthma Score

SIGNIFICANT CHANGES

PHASE I (0 – 60 minutes)	PHASE I (0 – 60 minutes)
Mild = CAS 0 – 2	Mild = PAS 0 – 2
albuterol neb over 15 min	(≤ 20 kg) albuterol MDI 4 puffs VHC
(< 20 kg) albuterol 2.5 mg	(> 20 kg) albuterol MDI 8 puffs VHC
(≥ 20 kg) albuterol 5 mg	
PHASE II (60 – 120 minutes)	PHASE II (60 – 120 minutes)
Mild = CAS 0 – 2	Mild = PAS 0 – 2
albuterol neb over 15 min	(≤ 20 kg) albuterol MDI 4 puffs VHC
(< 20 kg) albuterol 2.5 mg	(> 20 kg) albuterol MDI 8 puffs VHC
(≥ 20 kg) albuterol 5 mg	
Moderate = CAS 3 – 4	Moderate = PAS 3 – 5
albuterol neb continuously over 1 h	(≤ 20 kg) albuterol MDI 4 puffs VHC
(< 20 kg) albuterol 10 mg	(> 20 kg) albuterol MDI 8 puffs VHC
(≥ 20 kg) albuterol 20 mg	<i>alternative:</i>
	(≤ 20 kg) albuterol 2.5 mg BAN
	(> 20 kg) albuterol 5 mg BAN

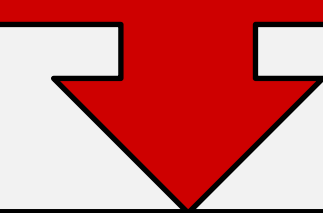


DISCUSSION

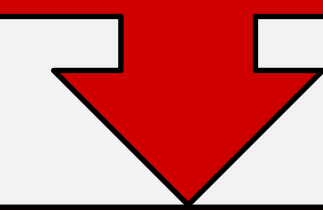
The endeavor to update the ED clinical pathway for asthma management was well-received by providers from all practice areas. However, barriers to implementation were the addition of the inpatient pathway to the revision agenda, provider availability for discussion of key pathway components, and staffing limitations leading to alterations to the clinical pathway as well as delays in the building the protocol into the electronic medical record.

REVISION PROCESS

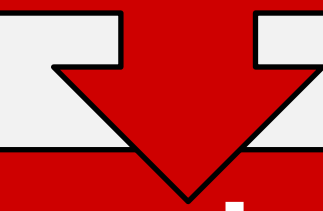
August 2021 - October 2021: perform literature evaluation for protocol research



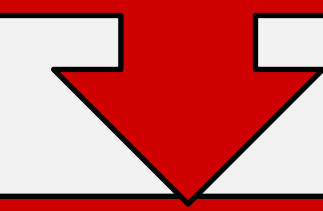
November 2021: create pharmacy draft of protocol revision



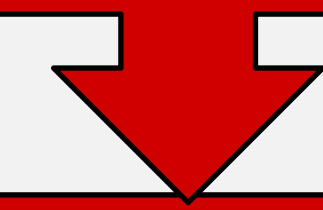
December 2021: revise inpatient asthma clinical pathway with updated scoring system



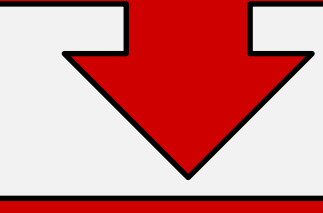
January 2022: receive pulmonologist feedback of protocol rough draft



February 2022: update protocol revision and prepare for workgroup meeting



March 2022: finalize protocol revision for submission with workgroup



April 2022: submit protocol for formal approval process