Implementation and Impact of a Pharmacist Led Ambulatory Care Asthma Program

Emily Parry, PharmD
Cass Lake Indian Health Service PGY-1 Resident

Disclosure Statement & Disclaimers

Presenter(s) have no affiliation or financial relationships

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Background

2020 CDC report (18+ years)[1]:
- Asthma prevalence
  - 21,030,479 (AI/AN: 11.3%)
  - 40.7% report an asthma attack in past 12 months
- National healthcare use
  - 1,045,423 ER visits; 104,805 inpatient stay

"CDC National Asthma Control Program : America Breathing Easier."

IHS Strategic Initiative

Asthma Control in Tribal Communities (ACT)
- ACT to increase asthma awareness
- ACT to recognize and diagnose asthma
- ACT to support asthma control
- ACT to improve asthma-related outcomes

Asthma Pathophysiology

LaMorte, Wayne. "Respiratory Health." Asthma, Boston University School of Public Health.
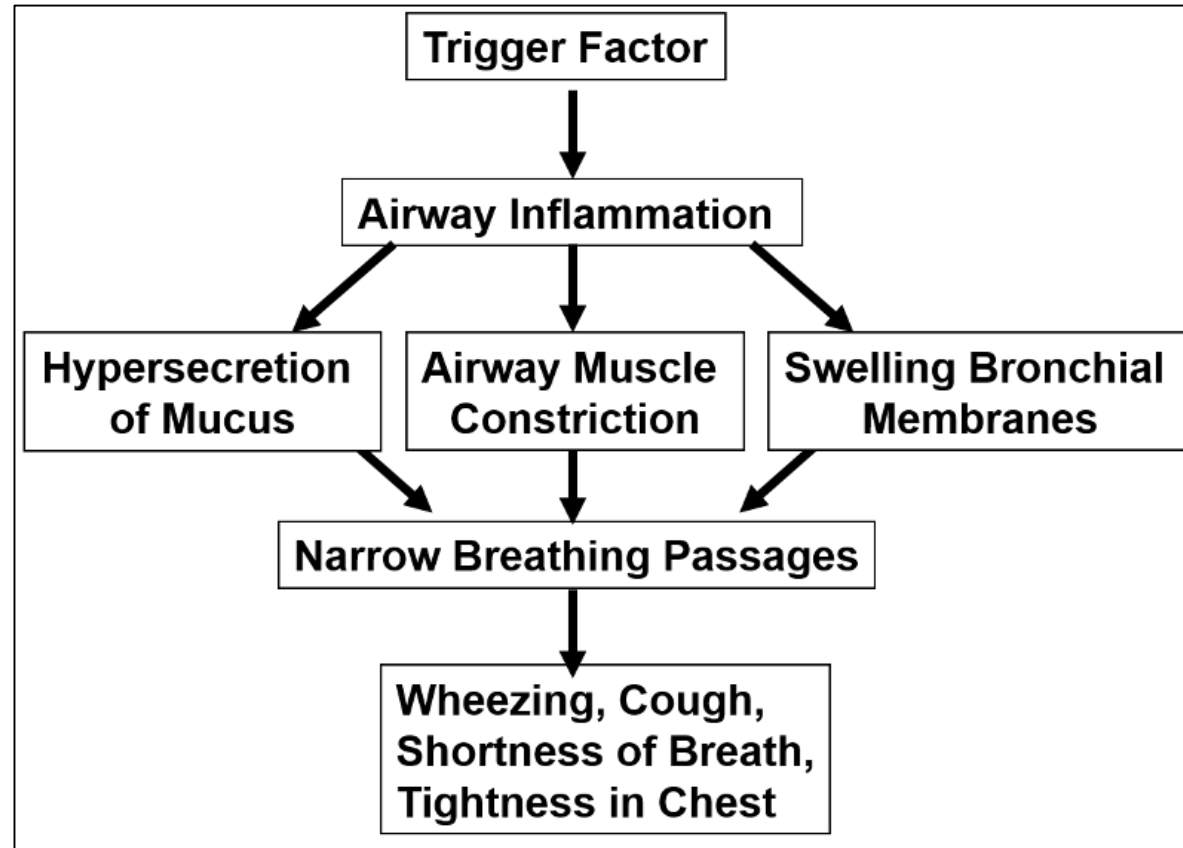
Rescue Inhalers

Short Acting Beta Agonists (SABA)
◦ Albuterol, Levalbuterol
  ◦ Work to relax muscles around the airways
  ◦ Stop symptoms once they start (as needed)
◦ Cough, wheeze, exercise induced bronchospasm

Side effects:
◦ Tremors
◦ Nerves
◦ Insomnia

Over-use of SABA:
- Tolerance
- Increased eosinophils, exacerbations
- Mortality

Johnson, DB, and BJ Merrell. Albuterol - StatPearls - NCBI Bookshelf.
Johnston, S. L, and M. R Edwards. "Mechanisms of Adverse Effects of & B-Agonists in Asthma."

Gina Guidelines: <5 years old

Asthma medication options:
Adjust treatment up and down for individual child's needs

	STEP 1	STEP 2	STEP 3	STEP 4
PREFERRED CONTROLLER CHOICE		Daily low dose inhaled corticosteroid (ICS) (see table of ICS dose ranges for pre-school children)	Double 'low dose' ICS	Continue controller & refer for specialist assessment
Other controller options	Consider intermittent short course ICS at onset of viral illness	Daily leukotriene receptor antagonist (LTRA), or intermittent short courses of ICS at onset of respiratory illness	Low dose ICS + LTRA Consider specialist referral	Add LTRA, or increase ICS frequency, or add intermittent ICS
RELIEVER	As-needed short-acting β₂-agonist			
CONSIDER THIS STEP FOR CHILDREN WITH:	Infrequent viral wheezing and no or few interval symptoms	Symptom pattern not consistent with asthma but wheezing episodes requiring SABA occur frequently, e.g. ≥3 per year. Give diagnostic trial for 3 months. Consider specialist referral. Symptom pattern consistent with asthma, and asthma symptoms not well-controlled or ≥3 exacerbations per year.	Asthma diagnosis, and asthma not well-controlled on low dose ICS	Asthma not well-controlled on double ICS
			Before stepping up, check for alternative diagnosis, check inhaler skills, review adherence and exposures	

GINA 2021. Box 6-5 Asthma management, children 5 years and younger   © Global Initiative for Asthma, www.ginasthma.org

Gina Guidelines: 6-11 years

Box 3-5B © Global Initiative for Asthma 2022, www.ginasthma.org
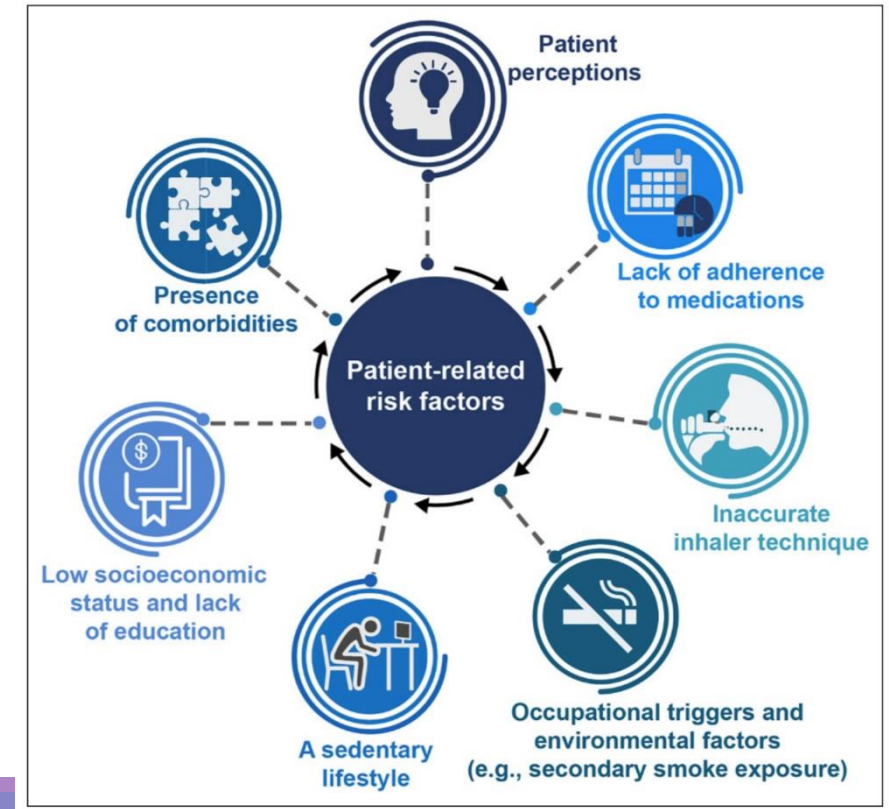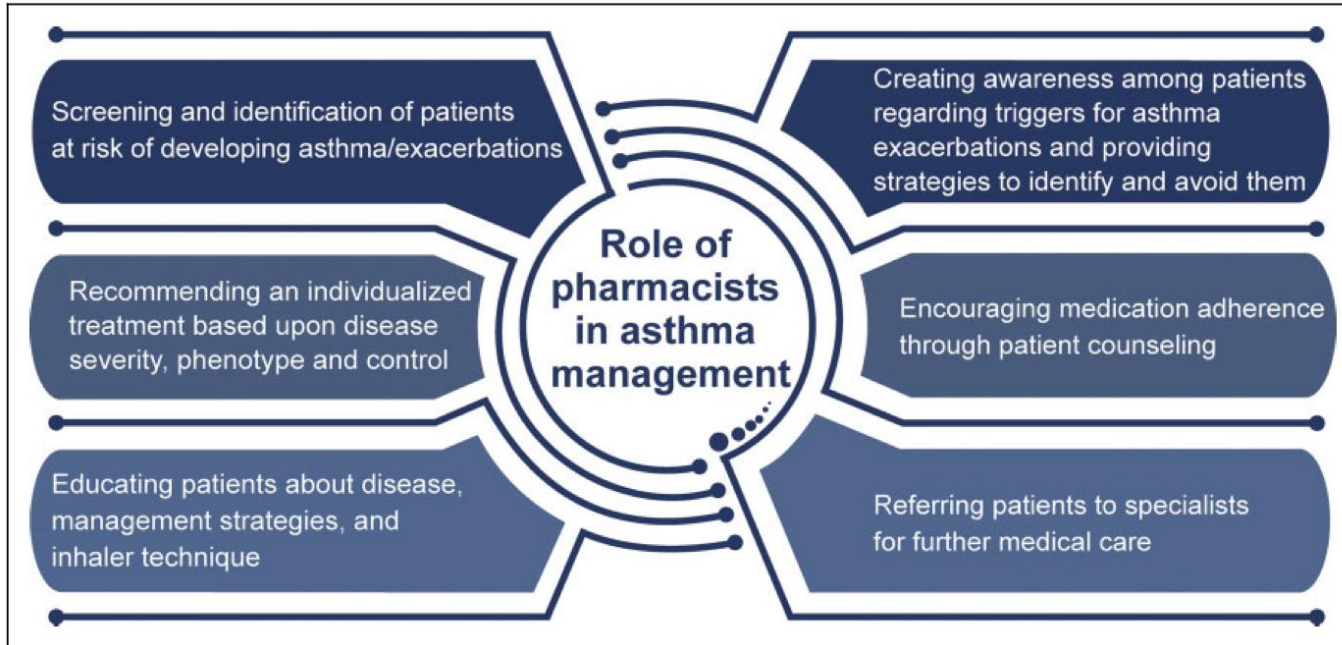
Gina Guidelines: 12 years +
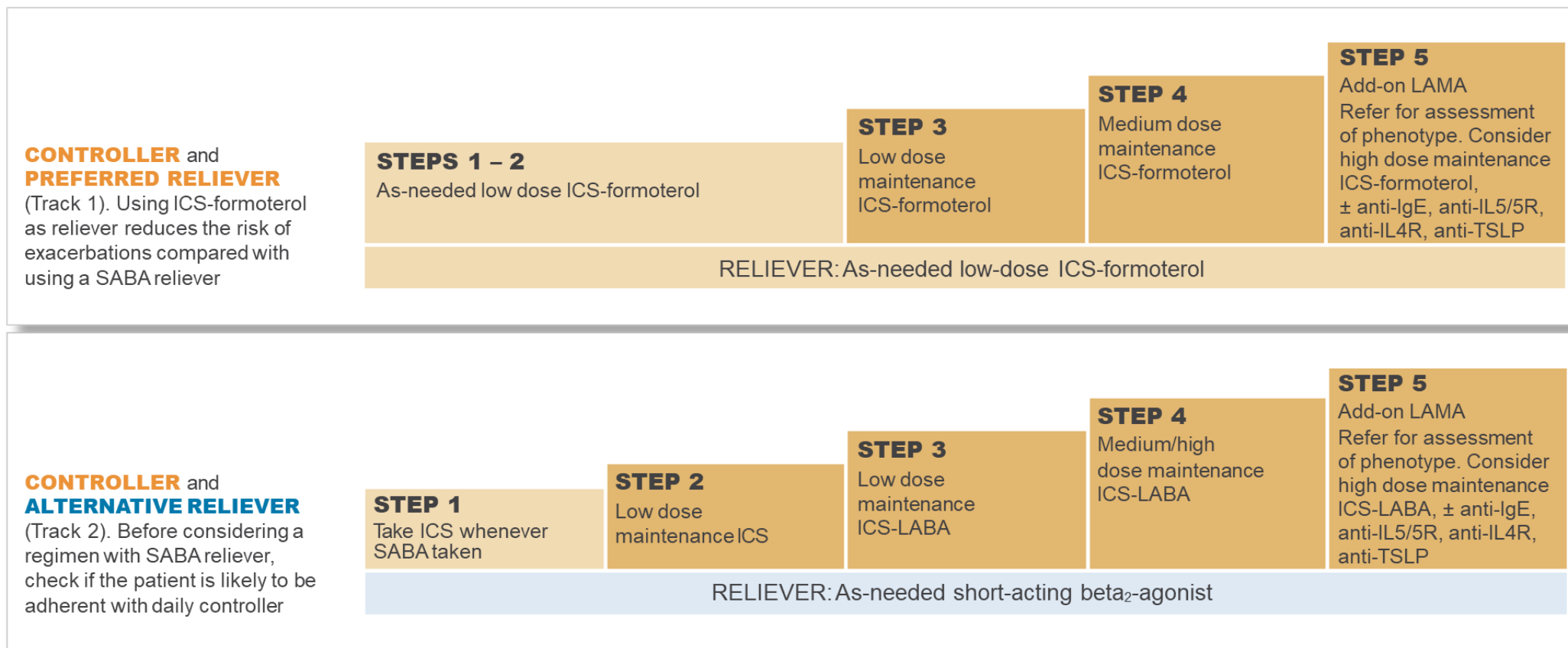
SMART

Single Maintenance and Rescue Therapy (SMART)
- Long Acting Beta Agonist + Inhaled Corticosteroid
  - Formoterol + Budesonide
- Quick relief of asthma symptoms
  - Short onset of action (similar to albuterol)
  - Duration of action (longer than albuterol)
- Reduce risk of severe exacerbations

Reddel, Helen K., et al. "A Practical Guide to Implementing SMART in Asthma Management."

Pharmacists & Asthma Management

Bridgeman, Mary B., and Lori A. Wilken. "Essential Role of Pharmacists in Asthma Care and Management."

Asthma Program Implementation
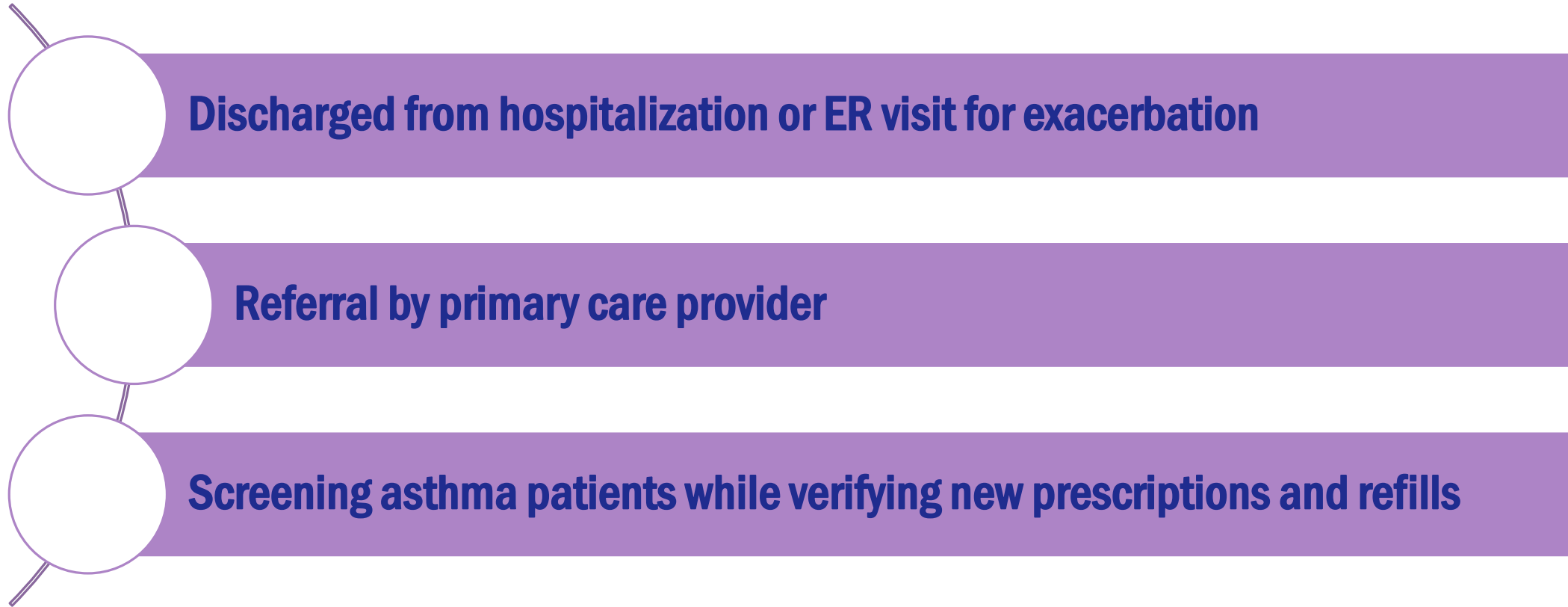
Education
- Pharmacists
- Providers

Enrollment
- Asthma or mixed Asthma-COPD Diagnosis
- 18 years or older

Patient Visits
- Asthma History
- Triggers
- Inhaler Technique

Identifying Patients

Discharged from hospitalization or ER visit for exacerbation

Referral by primary care provider

Screening asthma patients while verifying new prescriptions and refills

Outcomes

Primary:
- Observed changes in Asthma Control Test (ACT)

Referrals: X

Attempted Visits:
◦ X patients declined
◦ X phone calls
◦ X no shows

Outcomes

Secondary:
- Interventions made by pharmacists:
  - Immunizations
  - Tobacco cessation
  - Medication impact
    - X discontinuations
    - X medication switches
    - X restarts
    - X new medication starts

Asthma Control Test (ACT)

1. In the past 4 weeks, how much of the time did your asthma keep you from getting as much done at work, school or at home?   SCORE

| All of the time [1] | Most of the time [2] | Some of the time [3] | A little of the time [4] | None of the time [5] | .... |

2. During the past 4 weeks, how often have you had shortness of breath?

| More than Once a day [1] | Once a day [2] | 3 to 6 times a week [3] | Once or twice a week [4] | Not at all [5] | .... |

3. During the past 4 weeks, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?

| 4 or more nights a week [1] | 2 to 3 nights a week [2] | Once a week [3] | Once or twice [4] | Not at all [5] | .... |

4. During the past 4 weeks, how often have you used your rescue inhaler or nebulizer medication (such as albuterol)?

| 3 or more times per day [1] | 1 to 2 times per day [2] | 2 or 3 times per week [3] | Once a week or less [4] | Not at all [5] | .... |

5. How would you rate your asthma control during the past 4 weeks?

| Not Controlled at All [1] | Poorly Controlled [2] | Somewhat Controlled [3] | Well Controlled [4] | Completely Controlled [5] | .... |

TOTAL: ....

Barriers
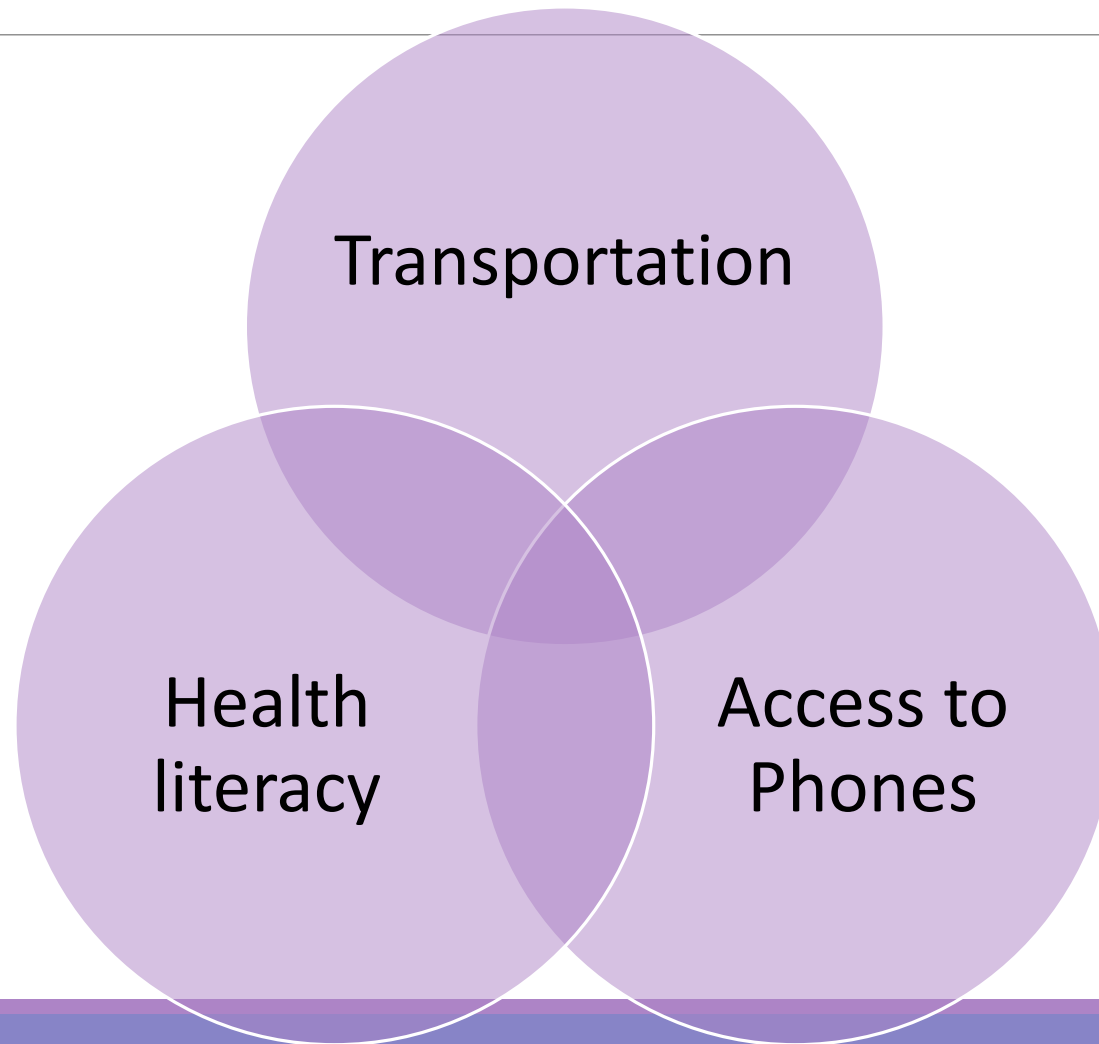
CE opportunity

Training for Pharmacists Providing ASME (*Asthma Self-Management Education*): Free 2-hour CE by MN Pharmacists Association

Module Title
ASME Module 1: Asthma Physiology, Triggers: Identification and Avoidance, Environmental Factors, Social and Emotional Factors
ASME Module 2: Asthma Action Plan, Working with your Healthcare Team, Considerations for Parents and Caregivers, Staying Active with Asthma and Personal Goals, Watching for Patterns or Changes in Control
ASME Module 3: Controller and Reliever Medications, Inhaler Use, Peak Flow Meters, Nebulizer Machines
ASME Module 4: Medication Adherence Strategies, Immunizations, ASME Implementation in Pharmacy

Patient Friendly Education

Pool noodle/cardboard picture - Catherine Bauchmann, Pharmacist, Yakama

Student Involvement

Assist with scheduling patients in clinic → **Shadow during patient visits** → **Lead patient visits**
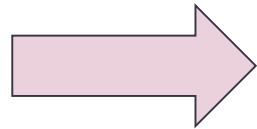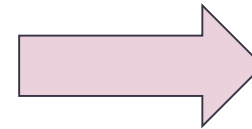
Key Take Aways

American Indian/Alaska Natives (AI/AN) have the highest prevalence of asthma than any racial group in the United States.

Pharmacists have a role in asthma management, whether it is by providing education or adjusting medication regimens.

The GINA guidelines recommend the use of SMART inhaler use to reduce asthma exacerbations and improve outcomes.

References

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