Indian Health Service

Asthma Control in Tribal Communities (ACT) Informatics Response

LCDR JULIA OLSON, PHARMD, BCPS
CLINICAL INFORMATICIST
TOHONO O'ODHAM NATION HEALTH CARE
AUGUST 2023

Panel Speakers

Dr Matthew Clark, MD, FAAP, FACP
Chief Medical Officer, AANHS
Chair of IHS NPTC
ACT initiative Operations Team Lead

CAPT John Lester, PharmD, MAS
Clinical Informatics Consultant
Phoenix Area Office, IHS

CAPT Kendall Van Tyle, PharmD
Pharmacy Informaticist
Phoenix Area Office, IHS

CAPT Weston Thompson, PharmD, MBA, BCPS
National Supply Service Center Supervisor
Oklahoma Area Office, IHS

LCDR LaDonna Lock, PharmD, BCACP
Clinical Informaticist
Cass Lake Hospital, IHS

LCDR Francisco (Frank) Antigua, PharmD
Clinical Informaticist
Catawba Service Unit, IHS

Brandon Bui, PharmD
Pharmacy Informaticist
Fort Huma Health Center, IHS

LCDR Pritesh Patel, PharmD, BCACP
Clinical Pharmacist & Pharmacy Informaticist
Tohono O'odham Nation Health Care

LT Christianna Colón (Tran), PharmD
Chief Pharmacist
Lower Brule Indian Health Center, IHS

LT Madeline Wright, PharmD
Clinical Pharmacist
Cherokee Indian Hospital Authority

Learning Objectives

By the end of this presentation, learners will be able to:

- Recall the goals of the Asthma Control in Tribal Communities (ACT) informatics response
- Identify informatics-based solutions that can help improve outcomes for patients with asthma
- Recognize how various informatics-based solutions can be used to improve outcomes for patients with asthma
- Describe how informatics-based solutions are being utilized across Indian Country to outcomes for patients with asthma
- Evaluate the potential benefit of informatics-based solutions for implementation at individual healthcare facilities

IHS ACT INITIATIVE
INTRODUCTION

MATTHEW A. CLARK, MD, FAAP, FACP
CHIEF MEDICAL OFFICER, ALASKA AREA NATIVE HEALTH SERVICE, IHS
CHAIR, IHS NATIONAL PHARMACY & THERAPEUTICS COMMITTEE
OPERATIONS TEAM LEAD, IHS ACT INITIATIVE

Health Disparities

- Prevalence of asthma among AI/AN population
- Asthma-related morbidity & mortality in tribal communities
- Genetic/Immune Factors
- Disproportionate external factors
  - Environmental factors
  - Social determinants of health (Socioeconomic factors)
  - Historical trauma
  - Geographic isolation and access barriers
  - Under-representation in clinical & epidemiologic studies (including racial misclassification)
- Opportunities
  - Cultural strengths
  - Resilience

IHS System of Care

- Federal, Tribal, and Urban Indian Organizations
- Comprehensive System of Health, Public Health & Environmental Health
- Collaboration with Tribal Communities and Organizations
- Holistic Approach- Multidisciplinary Teams
- Access & Quality
- National-level Formulary Management Expertise/Guidance
- Cross-pollination

IHS Strategic Initiative

- Asthma Control in Tribal communities (ACT)
- Announced April 4, 2023 by IHS Chief Medical Officer
- Elements
  - ACT to increase asthma awareness,
  - ACT to recognize and diagnose asthma,
  - ACT to support asthma control, and
  - ACT to improve asthma-related outcomes.

ACT to Increase Asthma Awareness

- Communication (I/T/U System)
  - Pro-active Engagement & Education (IHS programs/staff)
- Partnership with Tribal Communities & Organizations
  - Collaboration with tribal leaders and trusted community messengers (e.g., elders)
  - Support culturally competent care
  - Promote trust and equity
- Public Health Outreach & Education
  - Collaboration with State, Local, & Tribal Health Departments
- Resources and Tools
- Local Approach

ACT to Recognize & Diagnose Asthma

- Clinic, Community & Home-based Assessment & Intervention
- Provider Awareness
- Screening
- System-based Strategies
- Clinical Decision Support

ACT to Support Asthma Control

- Multi-Disciplinary (Clinical, Public Health, Environmental Health)
- Patient-Centered Chronic Care Model
  - Routine incorporation of Asthma Action Plans
- Evidence-based Practice (Guidelines)
- Formulary Management
  - Four pillars: Access, Quality, Value, Equity
  - Pharmacovigilance: Promotion of safe and appropriate medication use.
- Tobacco Cessation & Mitigation of Environmental Risk Factors

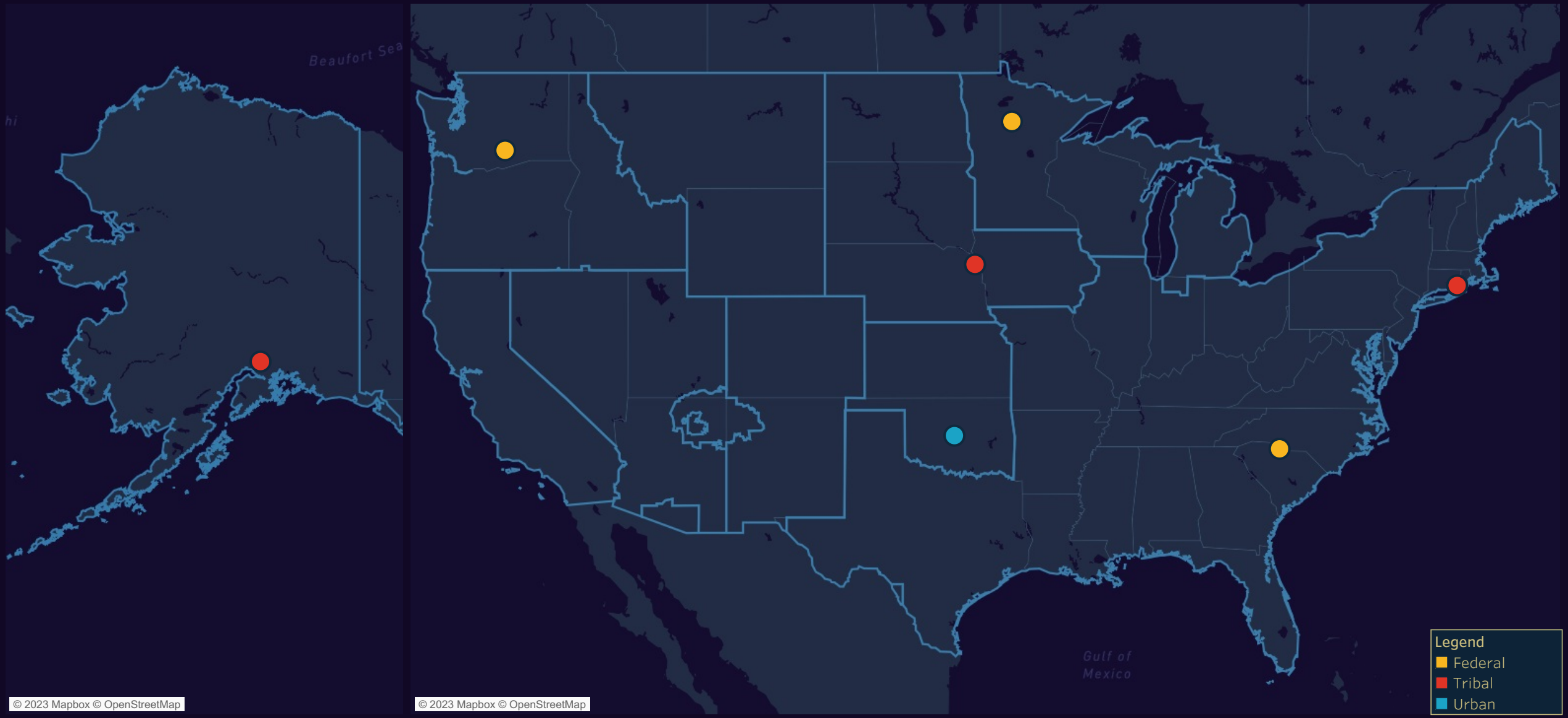
ACT to Improve Asthma-Related Outcomes

- Engagement- Federal, Academic, Professional Organizations
- Support Effort and Innovation
- Identify Champions
- Cross-Pollination- Best Practices & Lessons Learned
- Measurement

ACT Ambassadors Pilot Program

- Actively seeking ACT Ambassadors in tribal communities
- Federal direct care, tribal, and Urban Indian Organization programs
- Clinical, public health, and environmental health professionals
- Brief program application submitted to ihsmedsafety@ihs.gov
    1. Name and professional discipline(s) of the applicant ACT Ambassador (individual and/or team).
    2. Location and tribal community/communities served.
    3. Brief narrative (200 words or less) describing your asthma-related project and objectives
- Letter of Designation as an Indian Health Service Act Ambassador

ACT Ambassador Sites



Current Activities

- Innovative Strategies
- Federal & Tribal Sites
- Multiple Areas
- Multi-disciplinary
  - Pharmacy
  - Home Health
  - Community Health

ACT Goals

- Prioritize Asthma Control in Tribal communities
- Promote effective clinical, public health, and environmental health strategies across the IHS system of care.
- Reduce the impact of asthma-related morbidity and mortality in Indian Country
- Enhance quality of life for AI/AN people with asthma

ACT Initiative Webpage- Resources

- IHS National Pharmacy and Therapeutics Committee
- Strategic Initiatives tab
  - Initiative details
  - ACT Ambassadors Pilot Program
  - Resource Toolbox
  - Best Practices

https://www.ihs.gov/nptc/strategic-initiatives/

Summary of Informatics Response Efforts

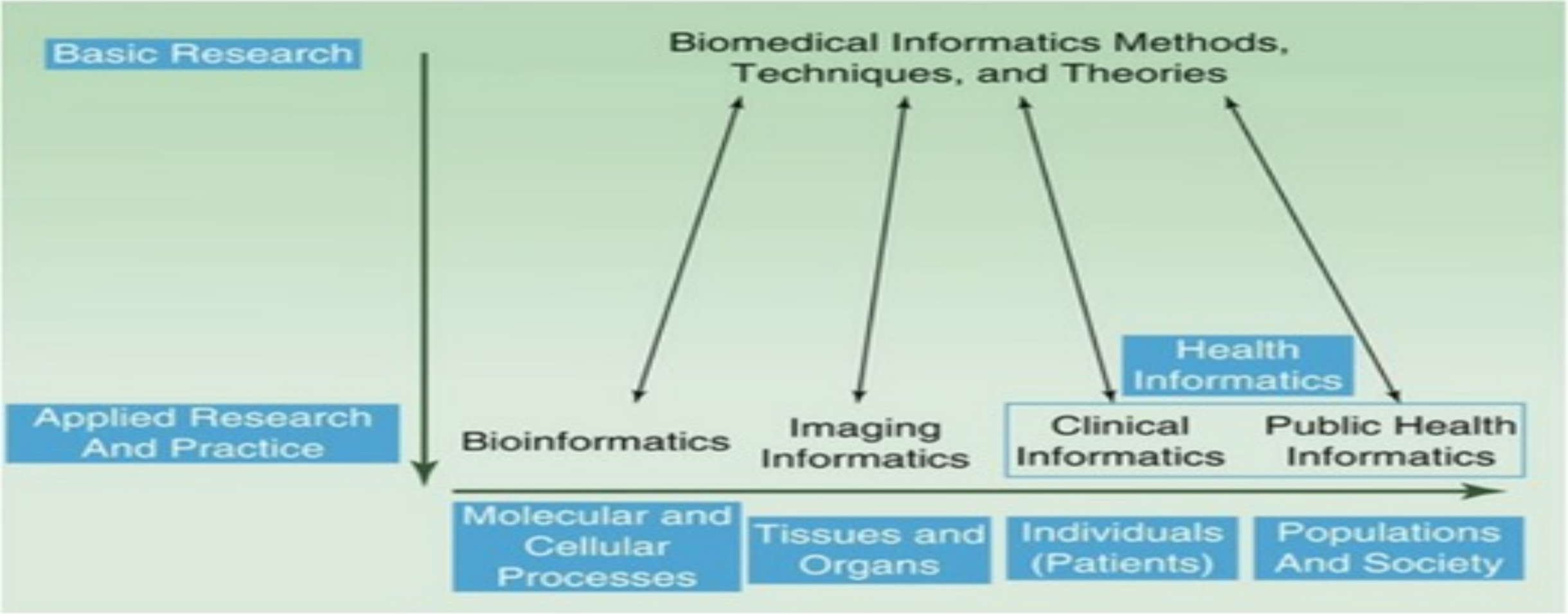
CAPT JOHN LESTER

CLINICAL INFORMATICS CONSULTANT

PHOENIX AREA OFFICE, IHS

PHOENIX, AZ

Informatics Concepts



Asthma Control in Tribal Communities (ACT) RPMS Clinical Decision Support (CDS) Tools

- Asthma Action Plan & Asthma Care Plan Health Summaries
- Asthma Component
- Taxonomies (e.g. controllers & rescue inhalers)
- Vital Measurements
- Integrated Problem List (IPL)
- IHS 4 Directions Data Migration
- PAMPI (Problems-Allergies-Medications-Procedures-Immunizations)
- Health Factors
- Family History
- Asthma Education
- Reports
- iCare

Asthma Control in Tribal Communities (ACT) RPMS EHR Configuration

- GUI Vitals
- Templates
- Reminder Dialogs

Asthma Control in Tribal Communities (ACT) RPMS EHR Standardization

CHIT 2015 (Certified Health Information Technology)

HL7 Data Transmission

COVID-19 Vaccine CDC-IHS Data Management

21st Century Cures Act (21 CCA – Cures Bundle)

RPMS Optimization & Workflow

RPMS Stabilization

EHR Modernization – WRAP Sessions

EHR Modernization – Demonstrations – February 2023

https://www.ihs.gov/hit/

IHS OIT FY 2023 Initiatives and Priorities

21st Century Cures Act

- Implementation of Sept 2022 Released Criteria
- Continued development to meet – Electronic Health Information (EHI)
- 4 Directions HUB

Appropriate Use of Radiology

COVID & Monkey Pox Pandemic Response

Immunization Information System (IIS)

Social Security Number Removal – Phase 3

EHR Standardization Benefits

Reduces resources dedicated to operations & maintenance

Simplifies training, error identification & remediation

Realizes Economies of Scale for processes

Enhances clinical decision support pathways

Enhances ability to inter-operate with different systems & organizations

Enhances reliability of quality and performance reporting

Enhances patient centricity & enhances continuity of care

Enhances ability to span episodes of care between organizations

Asthma Overview

LT CHRISTIANNA COLON, PHARMD
CHIEF PHARMACIST
LOWER BRULE SERVICE UNIT
LOWER BRULE, SD

Definition of Asthma

Global Initiative for Asthma 2023 Guidelines (GINA)

- "A heterogeneous disease usually characterized by chronic airway inflammation"

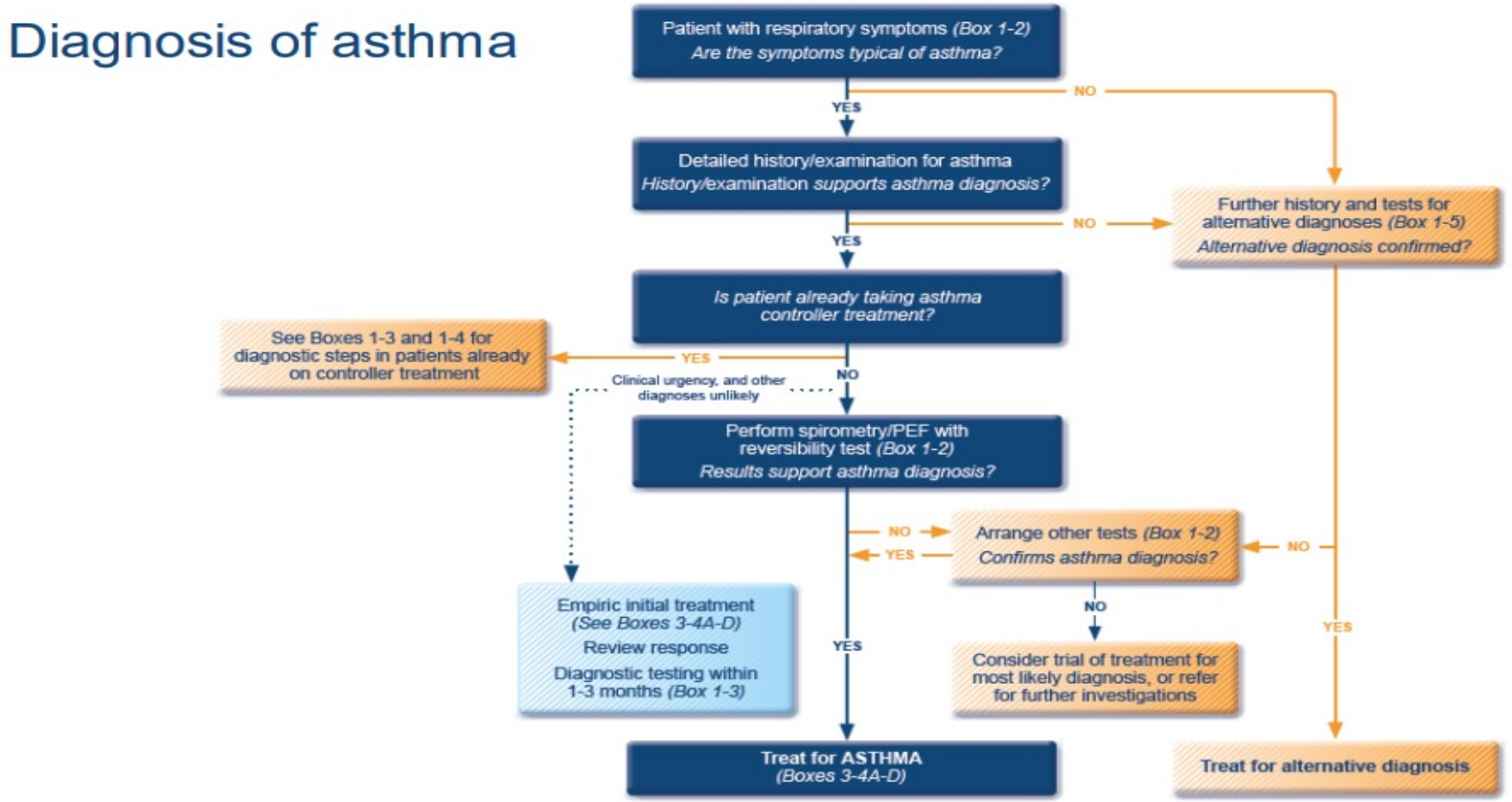
Defined by:

- Respiratory symptoms (wheeze, shortness of breath, cough) +
- Variable expiratory airflow limitation
- Both vary over time and in intensity

Asthma Guidelines

- Global Strategy for Asthma Management and Prevention 2022 (GINA)
- National Heart, Lung, and Blood Institute (NHLBI) Asthma Management Guidelines 2020

Diagnosis of Asthma



Respiratory Symptoms

Respiratory symptoms- wheeze, shortness of breath, cough, chest tightness

Higher probability of asthma diagnosis	Lower probability of asthma diagnosis
Experiencing more than one of the symptoms	Isolated cough with no other respiratory symptoms
Worse at night or early morning	Chronic production of sputum
Vary over time and intensity	Shortness of breath along with dizziness, light-headedness, or paresthesia
Triggered by viral infections, exercise, allergies, changes in weather, or irritants	Chest pain
	Exercise-induced dyspnea with noisy inspiration

Spirometry for Diagnosis

Documented excessive variability in lung function tests (one or more of the following):	**Findings:**
Positive bronchodilator responsiveness	Increase in forced expiratory volume (FEV1) of >12%
Excessive variability in twice daily peak expiratory flow (PEF) over 2 weeks	Average daily PEF variability >10% for adults, >13% in children
Increase in lung function after 4 weeks of treatment	Increase in FEV1 by >12% from baseline after 4 weeks of ICS treatment
Positive exercise challenge test	Fall of FEV1 from baseline >10%
Excessive variation in lung function between visits	Variation in FEV1 of >12% between visits
AND documented expiratory airflow limitation	**Findings: When FEV1 is reduced, confirm that FEV1/FVC is also reduced (>0.75-0.8 in adults)**

Diagnostic Pearls

- Important to confirm diagnosis to avoid unnecessary treatment and avoid overlooking other diagnoses
- Family history of asthma increases probability that respiratory symptoms are linked to asthma
- Specific recommendations to confirm asthma diagnosis in those receiving maintenance therapy

Assessment of Asthma

- Asthma **severity** is based on retrospective assessment via treatment needed to control symptoms and exacerbations
- Asthma **control** is assessed via symptom control and risk of adverse outcomes
  - Could use Asthma Control Test (**ACT**), Asthma Control Questionnaire (**ACQ**), or ->

Box 2-2. GINA assessment of asthma control in adults, adolescents and children 6–11 years

A. Asthma symptom control				
In the past 4 weeks, has the patient had:		**Well controlled**	**Partly controlled**	**Uncontrolled**
• Daytime asthma symptoms more than twice/week?	Yes☐ No☐	None of these	1–2 of these	3–4 of these
• Any night waking due to asthma?	Yes☐ No☐			
• SABA* reliever for symptoms more than twice/week?	Yes☐ No☐			
• Any activity limitation due to asthma?	Yes☐ No☐			
B. Risk factors for poor asthma outcomes				
Assess risk factors at diagnosis and periodically, particularly for patients experiencing exacerbations.				
Measure FEV_1 at start of treatment, after 3–6 months of ICS-containing treatment to record the patient's personal best lung function, then periodically for ongoing risk assessment.				

Assessment Pearls

- Important to distinguish between “severe asthma” (refractory to conventional treatment) and uncontrolled asthma due to modifiable factors (inhaler technique/ adherence)
- GINA suggests the term “mild asthma” should be avoided because patients with infrequent symptoms are still at risk for fatal exacerbations

Treatment – Nonpharmacologic

- Assess nonintentional and intentional nonadherence
- Ensure proper inhaler technique
- Utilize spacers
- Address physical barriers (i.e., arthritis) limiting use of inhalers
- Reduce exposure to triggers, including smoking cessation
- Encourage physical activity for cardiopulmonary benefit
- Address other comorbidities
- Utilize breathing exercises

Treatment – Patient Education

Asthma Self-Management Education (ASME)

- Self monitor symptoms and peak expiratory flow (PEF)
- Review Asthma Action Plan

Discuss health literacy

Treatment - Medications

Reduce risk factors for exacerbations

- High short-acting beta-agonist (SABA) use
  - i.e. albuterol, levalbuterol HCL
- Inadequate inhaled corticosteroids (ICS) use
  - i.e. fluticasone, mometasone, budesonide

Avoid medications that may worsen asthma

- Non-selective beta-blockers
- Aspirin and non-steroidal anti-inflammatory drugs (NSAID) containing products

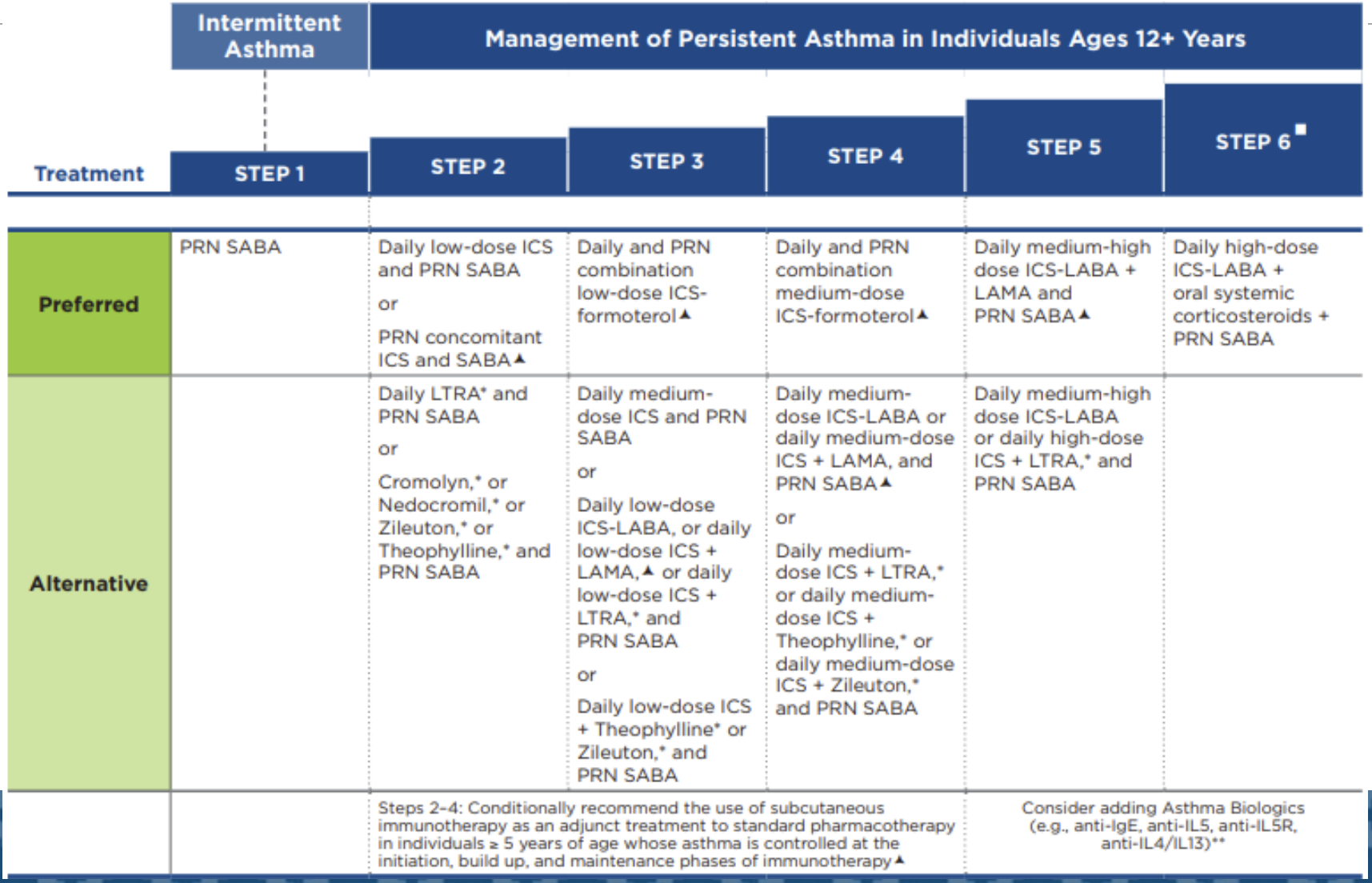
NHLBI Guidelines – Children 0 - 4 Years

	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 0–4 Years				
Treatment	**STEP 1**	**STEP 2**	**STEP 3**	**STEP 4**	**STEP 5**	**STEP 6**
Preferred	PRN SABA and At the start of RTI: Add short course daily ICS▲	Daily low-dose ICS and PRN SABA	Daily medium-dose ICS and PRN SABA	Daily medium-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA
Alternative		Daily montelukast* or Cromolyn,* and PRN SABA		Daily medium-dose ICS + montelukast* and PRN SABA	Daily high-dose ICS + montelukast* and PRN SABA	Daily high-dose ICS + montelukast*+ oral systemic corticosteroid and PRN SABA
			For children age 4 years only, see Step 3 and Step 4 on Management of Persistent Asthma in Individuals Ages 5–11 Years diagram.			

NHLBI Guidelines – Children 5 - 11 Years

	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 5–11 Years				
Treatment	**STEP 1**	**STEP 2**	**STEP 3**	**STEP 4**	**STEP 5**	**STEP 6**
Preferred	PRN SABA	Daily low-dose ICS and PRN SABA	Daily and PRN combination low-dose ICS-formoterol▲	Daily and PRN combination medium-dose ICS-formoterol▲	Daily high-dose ICS-LABA and PRN SABA	Daily high-dose ICS-LABA + oral systemic corticosteroid and PRN SABA
Alternative		Daily LTRA,* or Cromolyn,* or Nedocromil,* or Theophylline,* and PRN SABA	Daily medium-dose ICS and PRN SABA or Daily low-dose ICS-LABA, or daily low-dose ICS + LTRA,* or daily low-dose ICS +Theophylline,* and PRN SABA	Daily medium-dose ICS-LABA and PRN SABA or Daily medium-dose ICS + LTRA* or daily medium-dose ICS + Theophylline,* and PRN SABA	Daily high-dose ICS + LTRA* or daily high-dose ICS + Theophylline,* and PRN SABA	Daily high-dose ICS + LTRA* + oral systemic corticosteroid or daily high-dose ICS + Theophylline* + oral systemic corticosteroid, and PRN SABA
		Steps 2–4: Conditionally recommend the use of subcutaneous immunotherapy as an adjunct treatment to standard pharmacotherapy in individuals ≥ 5 years of age whose asthma is controlled at the initiation, build up, and maintenance phases of immunotherapy▲			Consider Omalizumab**▲	

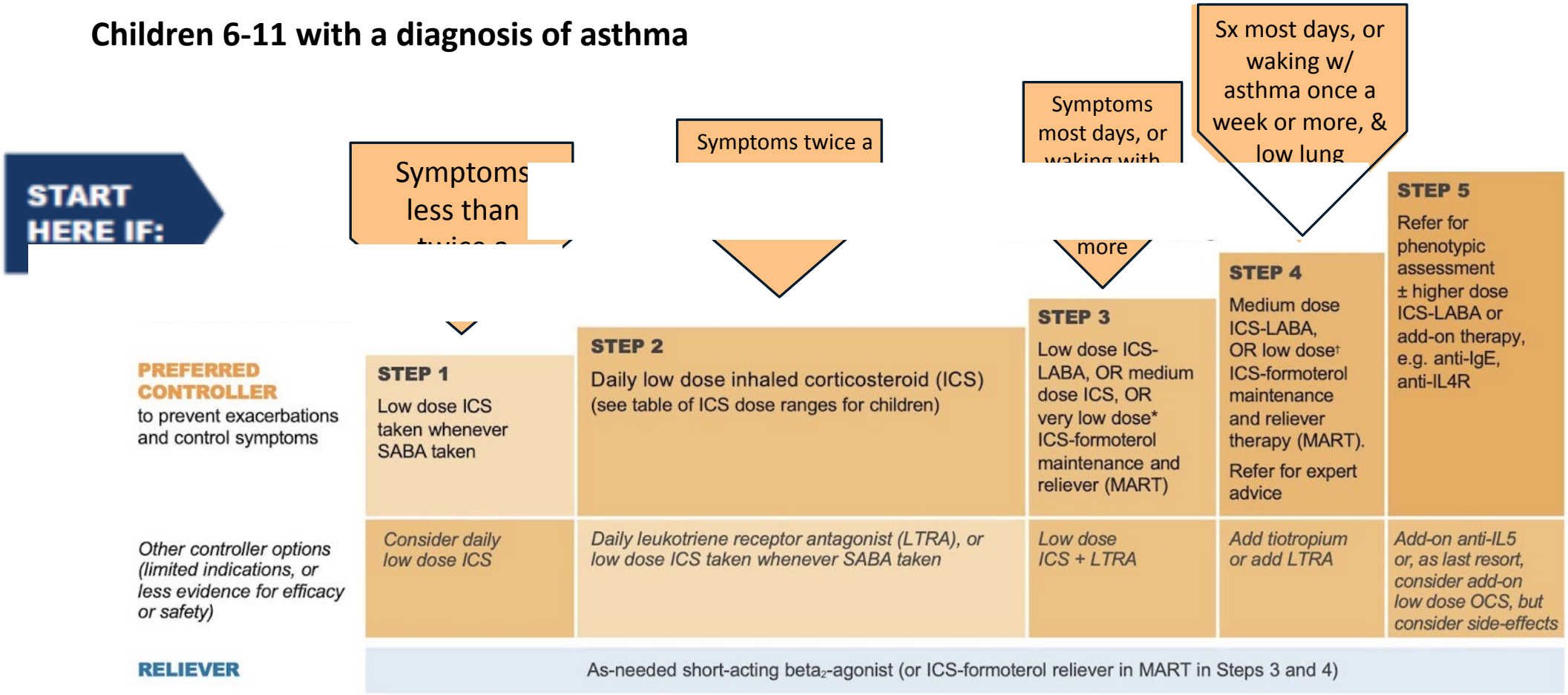
NHLBI Guidelines – Ages 12 Years & Older



	Intermittent Asthma	Management of Persistent Asthma in Individuals Ages 12+ Years				
Treatment	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6 ■
Preferred	PRN SABA	Daily low-dose ICS and PRN SABA or PRN concomitant ICS and SABA▲	Daily and PRN combination low-dose ICS-formoterol▲	Daily and PRN combination medium-dose ICS-formoterol▲	Daily medium-high dose ICS-LABA + LAMA and PRN SABA▲	Daily high-dose ICS-LABA + oral systemic corticosteroids + PRN SABA
Alternative		Daily LTRA* and PRN SABA or Cromolyn,* or Nedocromil,* or Zileuton,* or Theophylline,* and PRN SABA	Daily medium-dose ICS and PRN SABA or Daily low-dose ICS-LABA, or daily low-dose ICS + LAMA,▲ or daily low-dose ICS + LTRA,* and PRN SABA or Daily low-dose ICS + Theophylline* or Zileuton,* and PRN SABA	Daily medium-dose ICS-LABA or daily medium-dose ICS + LAMA, and PRN SABA▲ or Daily medium-dose ICS + LTRA,* or daily medium-dose ICS + Theophylline,* or daily medium-dose ICS + Zileuton,* and PRN SABA	Daily medium-high dose ICS-LABA or daily high-dose ICS + LTRA,* and PRN SABA	
		Steps 2–4: Conditionally recommend the use of subcutaneous immunotherapy as an adjunct treatment to standard pharmacotherapy in individuals ≥ 5 years of age whose asthma is controlled at the initiation, build up, and maintenance phases of immunotherapy▲			Consider adding Asthma Biologics (e.g., anti-IgE, anti-IL5, anti-IL5R, anti-IL4/IL13)**	

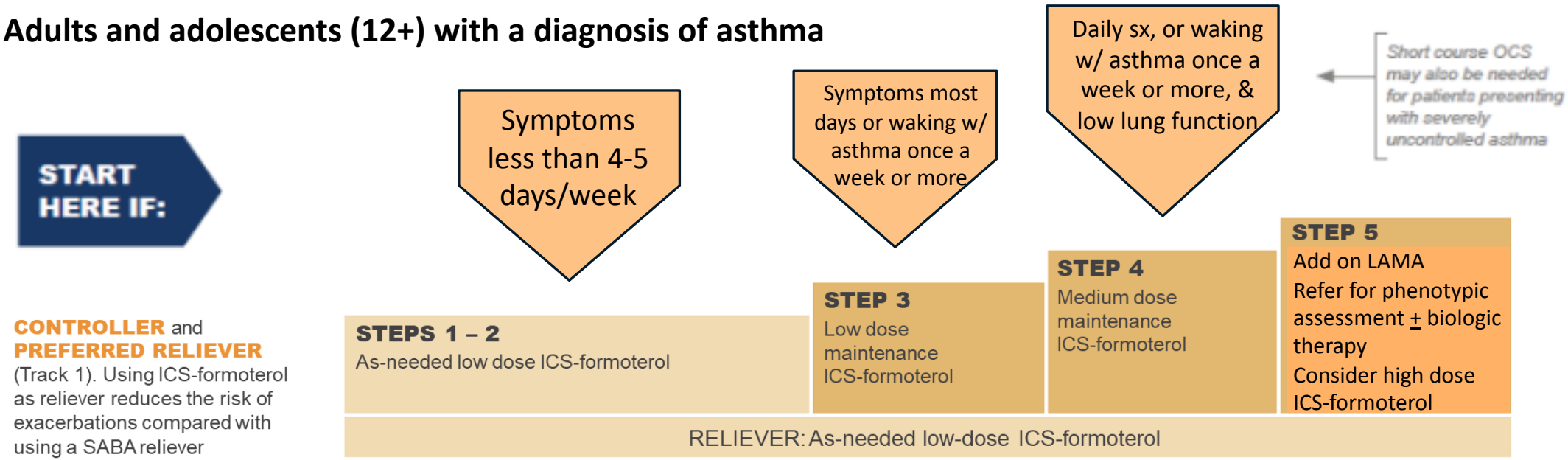
GINA Guidelines – Starting Treatment

Children 6-11 with a diagnosis of asthma



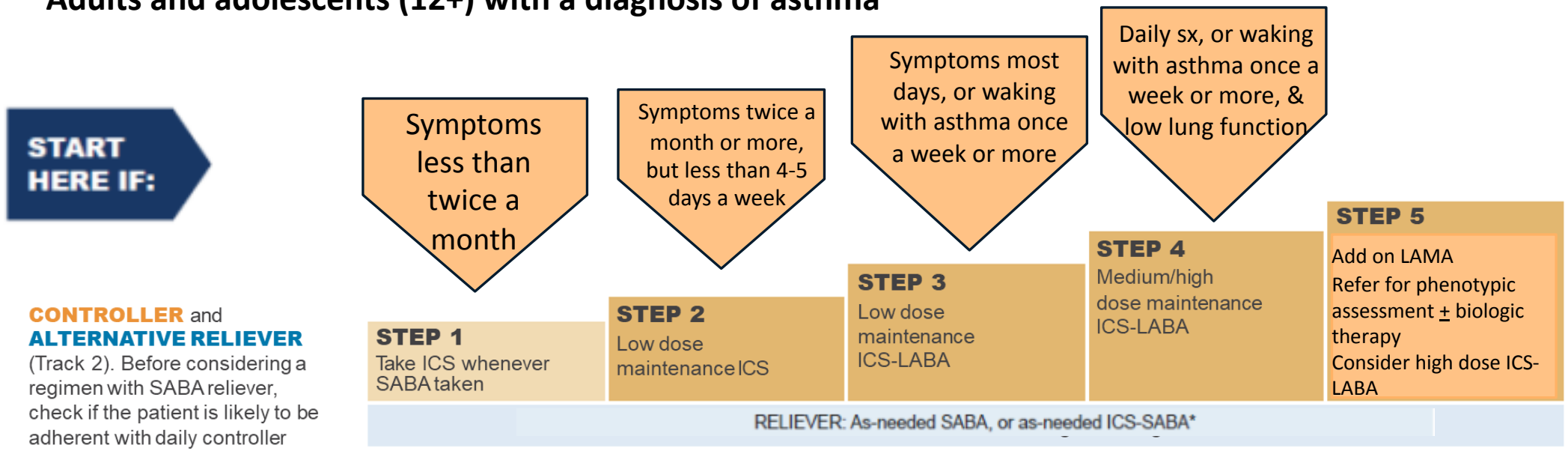
GINA Guidelines – Starting Treatment

Adults and adolescents (12+) with a diagnosis of asthma



GINA Guidelines – Starting Treatment

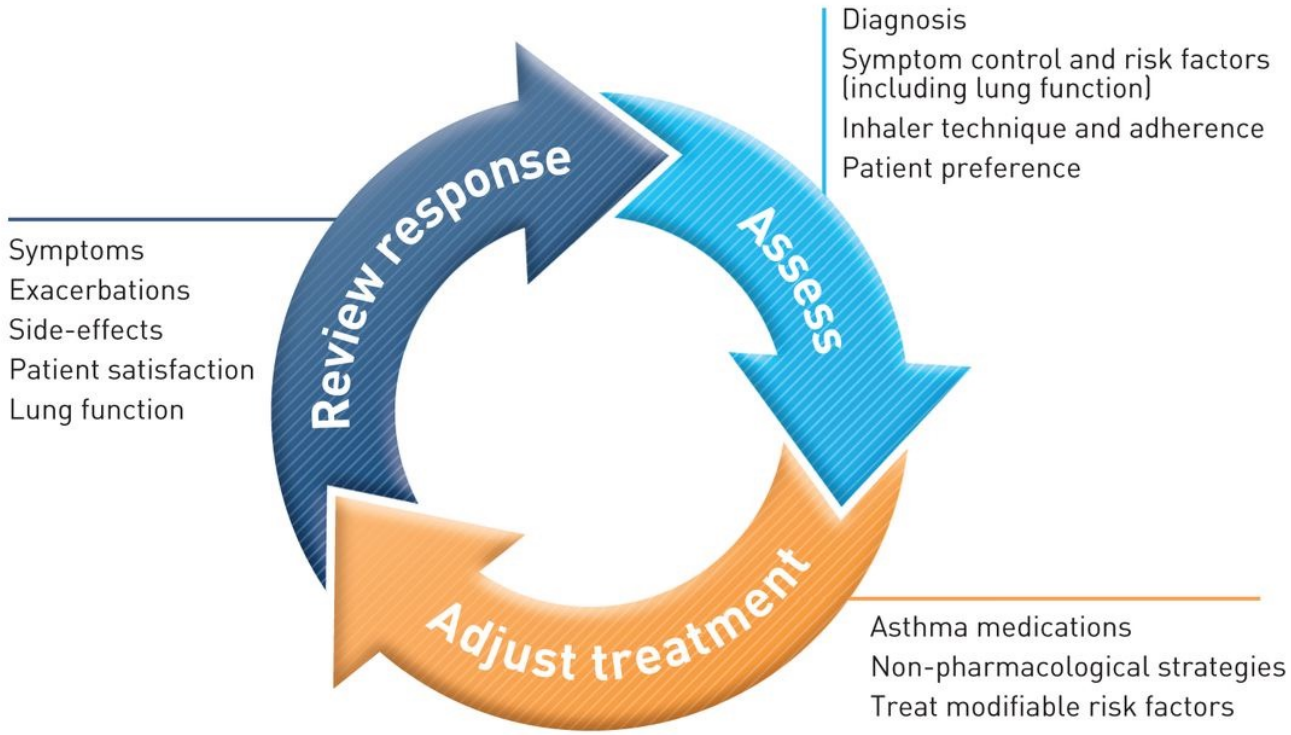
Adults and adolescents (12+) with a diagnosis of asthma



CONTROLLER and **ALTERNATIVE RELIEVER** (Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller

Follow Up – Personalize Asthma Management

The GINA cycle of asthma care



Follow-Up

The GINA cycle of asthma care

Good communication is essential – establish a partnership with the patient

- Consider health literacy, personal goals and fears, and cultural issues

Treatment choices

- *Population-level decisions:* efficacy, effectiveness, safety, cost, regulations
- *Patient-level decisions for tailoring treatment:* also discuss patient characteristics (phenotype) that predict response or risk; patient preference; practical issues inhaler technique, adherence, and cost; treat modifiable risk factors; use non-pharmacological strategies where appropriate

Stepwise medication adjustment

- *Consider stepping up* if uncontrolled symptoms, exacerbations or risks, but check diagnosis, inhaler technique, adherence and modifiable risk factors first
- *Consider stepping down* if symptoms controlled for 3 months and low risk for exacerbations. For adults, ceasing ICS is not advised.

Written asthma action plan for all patients

Outcomes

Primary

- Reduction in exacerbations, ER visits, or hospitalizations
- Improvement in Asthma Control Test (ACT) score
- Improvement in asthma control questionnaire score

Secondary

- Immunizations
- Tobacco Cessation
- Medication adjustments

Implementing Informatics Solutions: Where to start?

LCDR PRITESH PATEL, PHARMD, BCACP
PHARMACIST & CLINICAL INFORMATICIST
TOHONO O'ODHAM NATION HEALTH CARE
SELLS, AZ

Step 1: Identify Opportunities

There are many opportunities to implement informatics-based solutions to improve asthma outcomes:

- Create guideline-based order menus to guide clinical decision making
- Create guideline-based note templates to improve documentation
- Create informatics-based tools that are automatically triggered when a specific event occurs
- Utilize tools that integrate with EHR, such as iCare
- Create alarm-clock reminders that prompt clinicians to complete guideline-based interventions
  - Immunizations
  - Annual Screening

Step 2: Create Your Team

A successful quality-improvement team may include

- Students or pharmacy residents
  - May be able to focus their time specifically on the project
  - Quality improvement projects are excellent learning opportunities for students & residents
- Quality Improvement Department
- Project Manager
- Interdisciplinary Team of Stakeholders

Step 3: Choose your Improvement Model

The Plan-Do-Study-Act Cycle is a common improvement model

Step 1: Plan

- Plan the test or observation, including a plan for collecting data

Step 2: Do

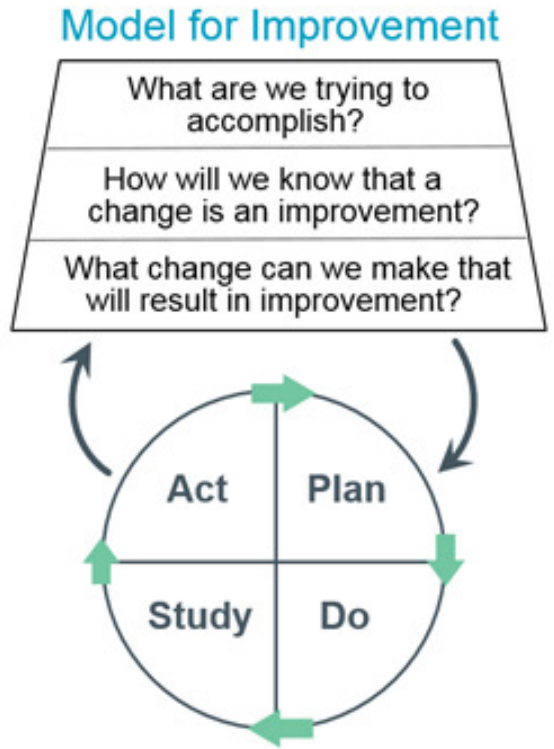
- Try out the test on a small scale

Step 3: Study

- Set aside time to analyze the data and study the results

Step 4: Act

- Refine the change, based on what was learned from the test



Case Study in Excellence

Longitudinal Pharmacy Residency Informatics Rotation

CAPT KENDALL VAN TYLE, PHARMD, BCPS

AREA PHARMACY INFORMATICIST

IHS NATIONAL PHARMACY RESIDENCY COORDINATOR

PHOENIX AREA OFFICE, IHS

IHS Residency Programs

- 25 Post-Graduate Year 1 (PGY1) programs with 28 positions
- 4 Post-Graduate Year 2 (PGY2) programs with 4 positions
  - Specialty practice areas such as
    - Ambulatory Care
    - Medication Use & Safety
- 1 Combined PGY1-PGY2 program with 1 position
  - 2 year program
  - Health-System Pharmacy Administration & Leadership
- Agency-Wide
  - 11 IHS Areas
  - Both federal and tribal facilities

IHS Residents – drivers for improvement

- 2000 to 2023
  - 434/464 (93.5%) completed residency
  - 56% stay at the training site for at least one additional year
  - 80% stay with the IHS (federal or tribal) for at least one additional year
  - 85% stay with the IHS or other government agency for at least one additional year
- Residents are drivers of advanced clinical practice & quality improvement
  - Collaborative practice and patient care
  - Informatics
  - Major projects locally; nationally
- Residents often progress to leadership roles

Case Study in Excellence

Advancing Pharmacy Practice Committee's Efforts to Improve Asthma Outcomes

CAPT WESTON THOMPSON, PHARMD, MBA, BCPS

PHARMACY SUPPORT BRANCH SUPERVISOR

NATIONAL SUPPLY SERVICE CENTER

OKLAHOMA CITY, OK

Advancing Pharmacy Practice Committee (APPC)

- APPC resides within the National Pharmacy Council for the Indian Health Service
  - Purpose - Advancing clinical pharmacy practice within the IHS, by providing access to pharmacy mentorship, resource guides, and advanced clinical certificate programs
  - Goals - Build partnerships with other stakeholders across IHS to impact and improve patient outcomes.
- Subcommittees:
  - Mentorship
  - Resource Information
  - Credentialing Program

Advancing Pharmacy Practice Committee

The NPC Advancing Pharmacy Practice Committee is excited to share the following resources to support your efforts in the Indian Health Service Strategic Initiative: Asthma Control in Tribal Communities (ACT).

We have asthma subject matter experts ready to assist as well as CPA and note template resources in the Advancing Pharmacy Practice: Resource Toolkit.

ASTHMA/COPD

Subject Matter Expert	Location	Area	Phone	Email
CAPT Dana Springer	Gallup Indian Medical Center, Gallup, NM	Navajo	505-722-1476	Dana.Springer@ihs.gov
CDR Kevin McDermott ***(Asthma only)***	Northern Navajo Medical Center, Shiprock, NM	Navajo	505-368-7246	Kevin.McDermott@ihs.gov
CDR Tana Triepke	Spirit Lake Health Center, Fort Totten, ND	Great Plains	701-766-1612	Tana.Triepke@ihs.gov
LCDR Christopher Chong	Benteh Nuutah Valley Native Primary Care Center, Southcentral Foundation, Wasilla, AK	Alaska	907-631-7316	CChong@southcentralfoundation.com
LCDR Katherine Vodovoz ***(Asthma only)***	Northern Navajo Medical Center, Shiprock, NM	Navajo	505-368-7227	Katherine.Vodovoz@ihs.gov
Melanie Claborn ***(Pediatric asthma)***	Oklahoma City Indian Clinic, Oklahoma City, OK	Oklahoma City	405-948-4900, ext. 494	Melanie.C@okcic.com

Case Study in Excellence

Pharmacy Office Hours with the Pharmacy Professional Support Group

LCDR FRANCISCO (FRANK) ANTIGUA, PHARMD, BCPS

PHARMACY CLINICAL INFORMATICIST

CATAWBA SERVICE UNIT

ROCK HILL, SC

Pharmacy Professional Specialty Group (PSG)

Goals/Purpose

- To identify, define, prioritize & advocate for the information resource management & technology needs of pharmacists in Indian Health Service Federal, Tribal, and Urban (I/T/U) facilities (Obj. 3.3)
- To establish a central system to coordinate issues dealing with pharmacy computer software (Obj. 3.3)

Pharmacy Professional Specialty Group (PSG)

Accomplishments

- Active committee with the IHS Health Information Technology Modernization efforts (Obj 1.3)
- Developed and presented the 2022 EHR Clinical Informatics Webinar Series – Pharmacy Informaticist in collaboration with (OIT, NCI, APC, and Area Clinical Informaticists) (Obj 1.3)
  - Over 20 unique presentations during the week of Aug 15-19 with more than 19 SME and 40+ attendees each day
  - Recordings and course material available via the RPMS Training Library (available after remediation)
- Hosted Pharmacy Package Office Hours every month (Jan 2022 – Present) (Obj 1.2)

Pharmacy Professional Specialty Group (PSG)

Accomplishments

- Added e-learning component to Pharmacy Package Office hours (Recordings available via the RPMS Training Library) (Obj 1.2)
- Collaborate with OIT to review, evaluate and prioritize enhancement requests (Obj 3.3)
- Alpha and Beta testing pharmacy specific software patches (Obj 3.3)
- Optimized committees' MAX.GOV page to include training in progress and future one (Obj 1.2)

Pharmacy Professional Specialty Group (PSG)

Deliverables

- 2023 EHR Clinical Informatics Webinar Series – Pharmacy Informaticist in collaboration with (OIT, NCI, APC, and Area Clinical Informaticists) (Obj 1.3)
  - Scheduled for 10/2 – 10/6
  - New topics and potential for pharmacist continuing education credits
- Monthly Pharmacy Package Office Hours (Obj. 1.2)
- Remain partners with Office of Information Technology in Alpha and Beta testing of pharmacy package (Obj. 3.3)
- Maximize outreach efforts to share newly developed training material (Obj 1.2)

Case Study in Excellence

Implementing Guideline-Based Order Menus

BRANDON BUI, PHARMD

CLINICAL PHARMACIST & PHARMACY INFORMATICIST

FORT YUMA HEALTH CENTER

WINTERHAVEN, CA

Benefits of Guideline-Based Order Menu

- Encourage providers to order appropriate medications & doses
- Clearly illustrate which medications are formulary-preferred
- Allow providers to order prescriptions more quickly & easily
- Reduce errors in the medication orders

Asthma Step Up Therapy/COPD

Done

Adult Asthma

Step 1: symptoms < 2x per month

Budesonide/Formoterol 80mcg 1 puff PRN (max: 16 puffs per day) #120

Step 2 symptoms > 2 x per month

Mometasone 200 mcg 1 puff QD PRN #120
AND
Albuterol 90 mcg 2puffs Q6H PRN

OR
Budesonide/Formoterol 80 mcg 1 puff PRN (max 16 puffs per day)# 120
OR
Montelukast 10mg po QHS (ages 15 yrs to Adult)

Step 3 symptoms most days of waking with asthma >1x per week

Budesonide/Formoterol 160mcg 2 puffs QD#120
AND
Budesonide/Fomoterol 80mcg 1 puff PRN (max: 16 puffs per day) #120

OR
Budesonide/Formetorol 160 mcg 2 puffs QD #120
AND
Albuterol 90 mcg 2puffs Q6H PRN

OR
Mometasone 200mcg 2puffs BID #120
and
Albuterol 90 mcg 2puffs Q6H PRN

Step 4 Severely uncontrolled asthma or acute exacerbation

Mometasone 200mcg 2puffs BID #120
or
Budesonide/Formoterol 160mcg 2puffs BID

Add on Therapy: asthma not well controlled with ICS LABA

Tiotropium 1.25mcg 2puffs BID (6 years and older)

Pediatric Asthma

Step 1: symptoms <2x per month

Albuterol 90mcg 2puffs Q6H PRN

Step 2 symptoms or need for reliever > 2x per month

Mometasone HFA 100 mcg 1 puff every evening
and
Albuterol 90 mcg 2puffs Q6H PRN

Step 3: symptoms most days or waking with asthma > 1x per week

Budesonide/Formoterol 160mcg 1 PUFF BID
and
Albuterol 90mcg 2puffs Q6H PRN

OR

Mometasone 100 mcg 1 puff BID
and
Albuterol 90 mcg 2puffs Q6H PRN

OR

Mometasone HFA 100 mcg 1 puff every evening
and
Montelukast 5mg Chewable QHS (if 6yo to 14 yo)
Montelukast 4 mg Chewable (if 1yo to 5 yo)
and
Albuterol 90mcg 2puffs Q6H PRN

COPD

Combivent 1 puff po QID
Tiotropium 2.5mcg 2 inhalations Once Daily for COPD

OTHER MEDICATIONS

LEUKOTRIENE RECEPTOR ANTAGONISTS

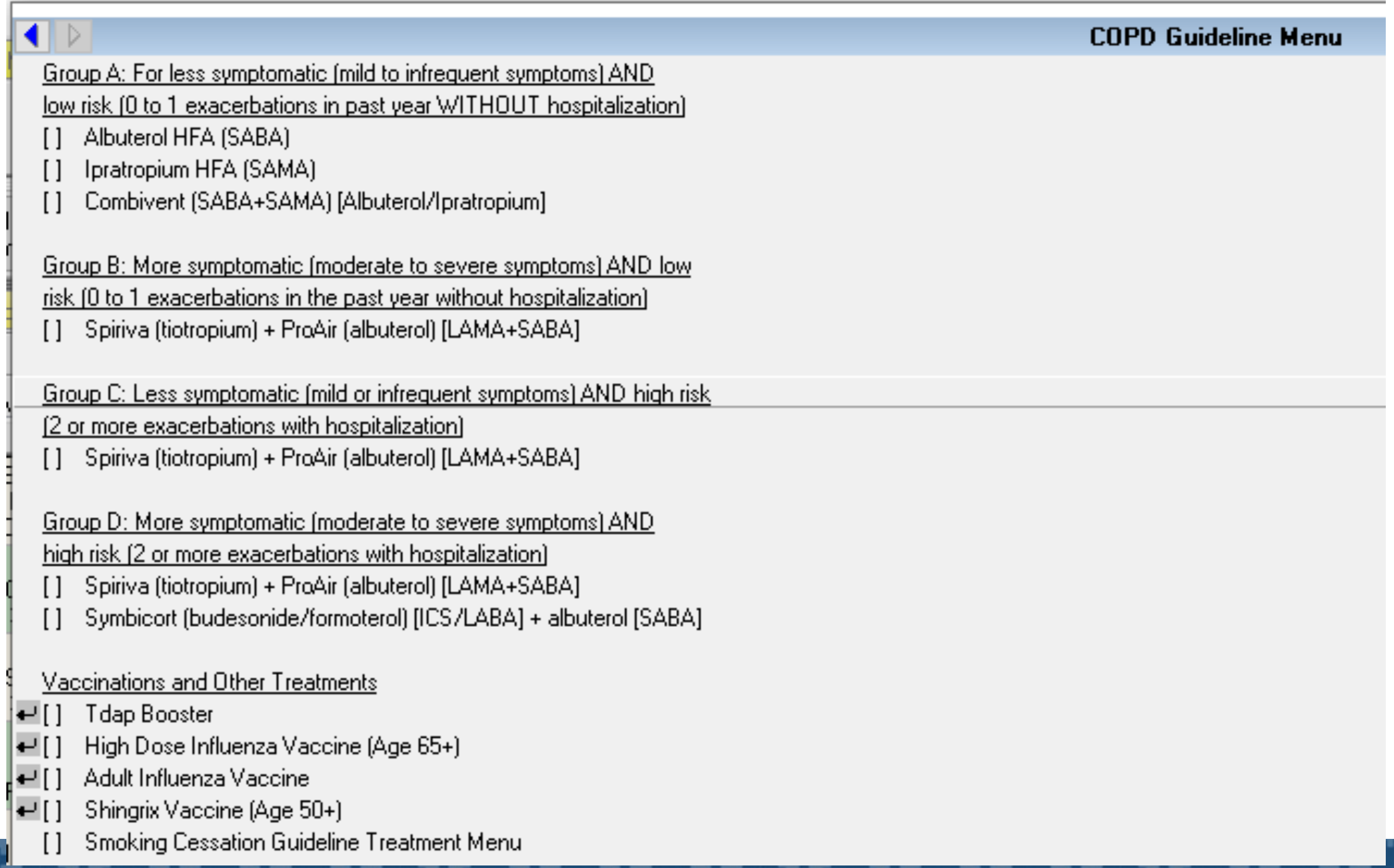
Montelukast 4 mg QHS (if 1 yo to 5yo)
Montelukast 5 mg QHS (if 6yo to 14yo)
Montelukast 10 mg QHS (15 yo through Adult)

STEROIDS

Prednisone 40mg po Daily x 5 days *Short Burst*
Prednisolone 15mg/5ml Once Daily x 5 days
Medrol Dose Pack (Taper)

ASTHMA SUPPLY

Optichamber for adults (NO MASK)
Adult mask for spacer (LARGE)
Optichamber with MEDIUM pediatric mask
Optichamber with SMALL pediatric mask
Peak Flow Meter


COPD Guideline Menu
Group A: For less symptomatic (mild to infrequent symptoms) AND
low risk (0 to 1 exacerbations in past year WITHOUT hospitalization)
[ ] Albuterol HFA (SABA)
[ ] Ipratropium HFA (SAMA)
[ ] Combivent (SABA+SAMA) [Albuterol/Ipratropium]
Group B: More symptomatic (moderate to severe symptoms) AND low
risk (0 to 1 exacerbations in the past year without hospitalization)
[ ] Spiriva (tiotropium) + ProAir (albuterol) [LAMA+SABA]
Group C: Less symptomatic (mild or infrequent symptoms) AND high risk
(2 or more exacerbations with hospitalization)
[ ] Spiriva (tiotropium) + ProAir (albuterol) [LAMA+SABA]
Group D: More symptomatic (moderate to severe symptoms) AND
high risk (2 or more exacerbations with hospitalization)
[ ] Spiriva (tiotropium) + ProAir (albuterol) [LAMA+SABA]
[ ] Symbicort (budesonide/formoterol) [ICS/LABA] + albuterol [SABA]
Vaccinations and Other Treatments
[ ] Tdap Booster
[ ] High Dose Influenza Vaccine (Age 65+)
[ ] Adult Influenza Vaccine
[ ] Shingrix Vaccine (Age 50+)
[ ] Smoking Cessation Guideline Treatment Menu

Case Study in Excellence

Utilizing Pharmacists to Improve Outcomes for Patients with Asthma

LCDR LADONNA LOCK, PHARMD, BCACP

CLINICAL INFORMATICIST

CASS LAKE INDIAN HEALTH SERVICE

CASS LAKE, MINNESOTA

Background

Cass Lake Indian Health Service:

>12,000 American Indian/Alaska Native (AI/AN) individuals in the Leech Lake Band of Ojibwe

- 240 asthma patients (27 mixed asthma-COPD)

2020 CDC report (18+ years)[1]:

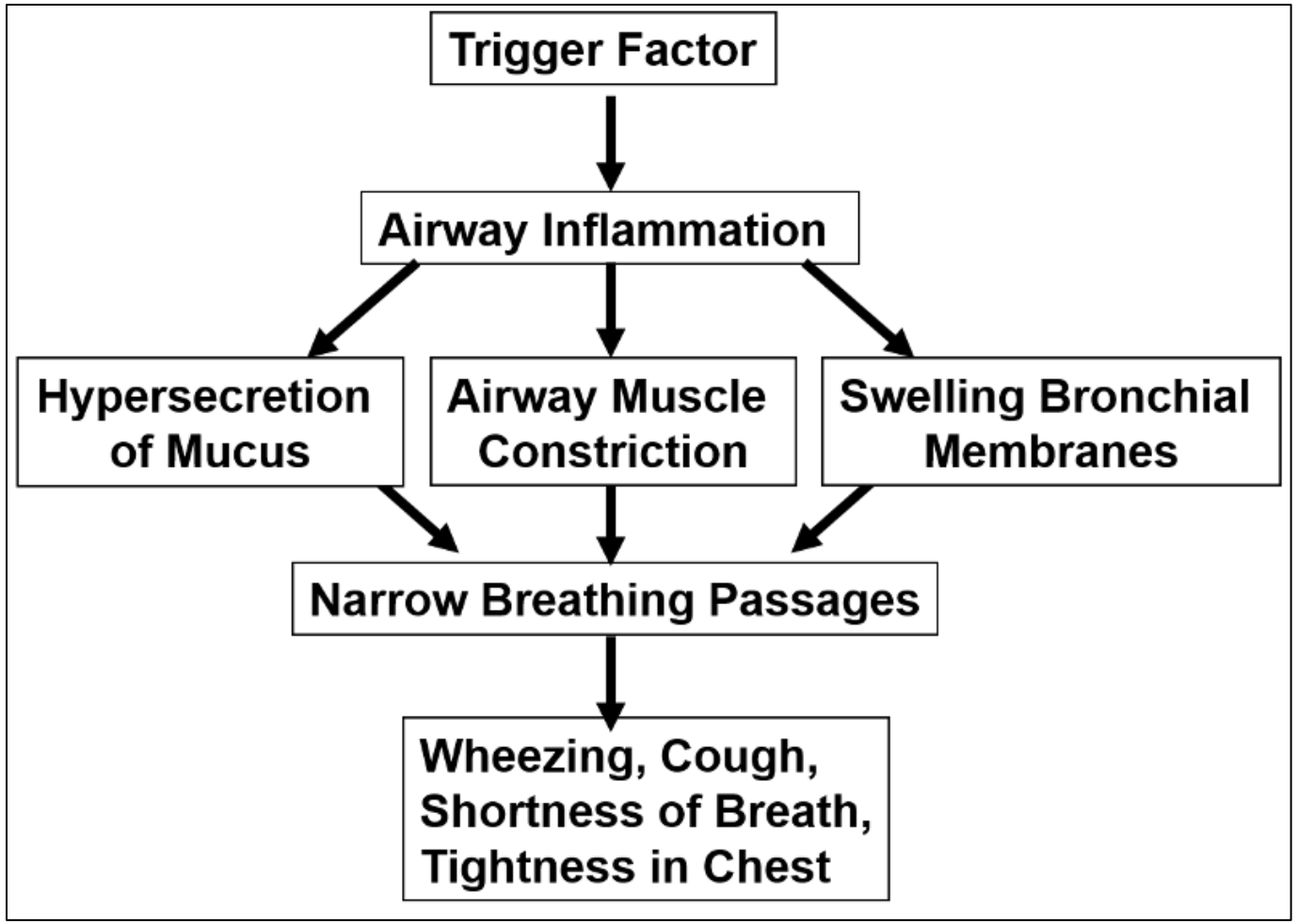
Asthma prevalence

- 21,030,479 (AI/AN: 11.3%)

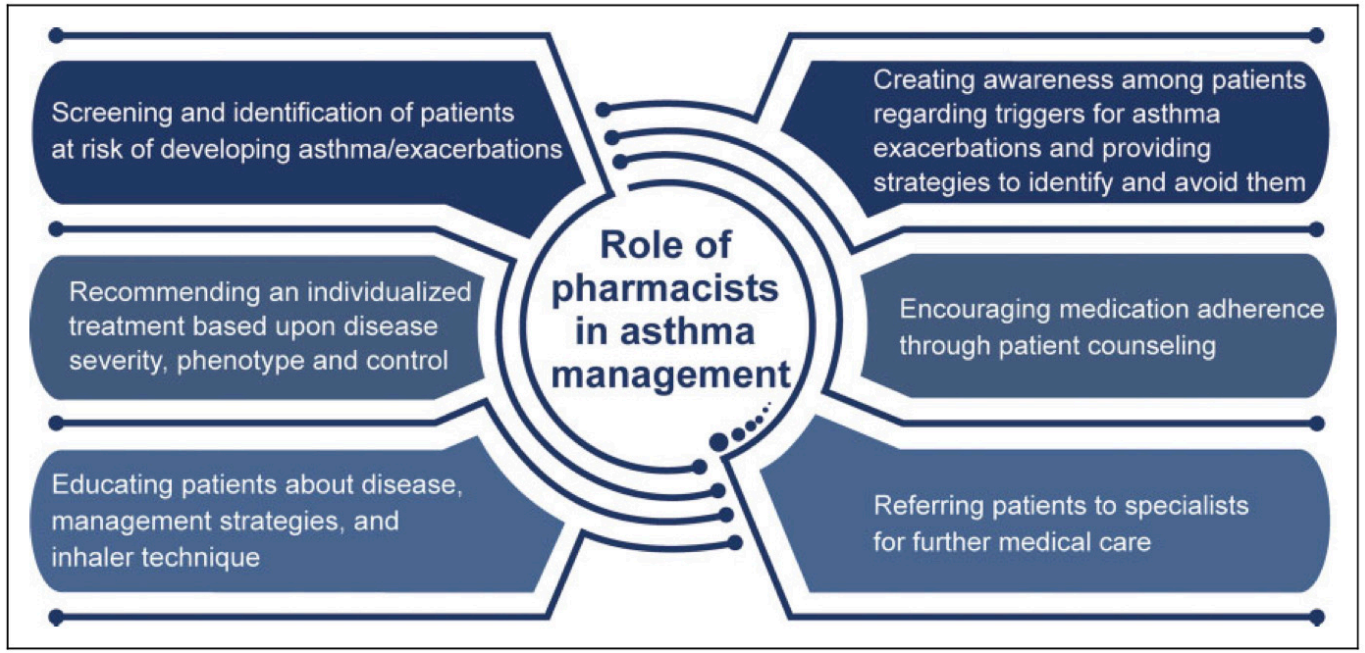
"CDC National Asthma Control Program : America Breathing Easier."

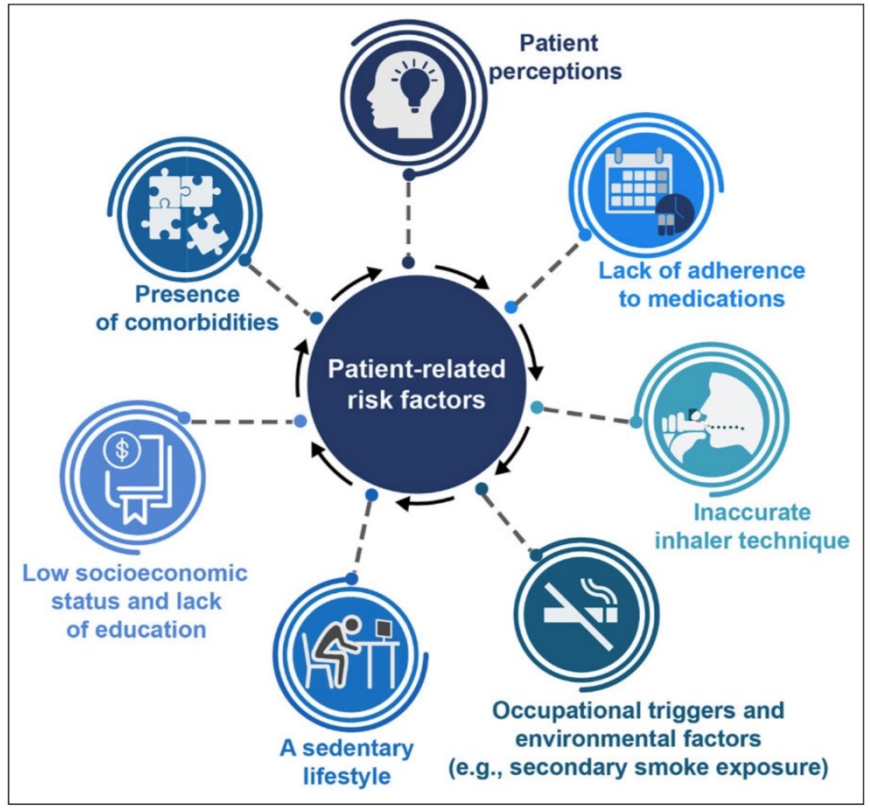
Asthma Pathophysiology

LaMorte, Wayne. “Respiratory Health.” Asthma, Boston University School of Public Health.



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

Primary Outcomes

Primary:

Observed changes in Asthma Control Test (ACT)

Referrals: 11

Attempted Visits:

4 patients declined

24 phone calls (9 patients)

11 no shows (patients)

Initial Visit	Second Visit	Third Visit
15	16	18
15		
11		
6		
16		
18		

Secondary Outcomes
Interventions Made by Pharmacists

Immunizations

1 Tdap

Tobacco cessation

Medication impact

2 discontinuations

2 medication switches

2 restarts

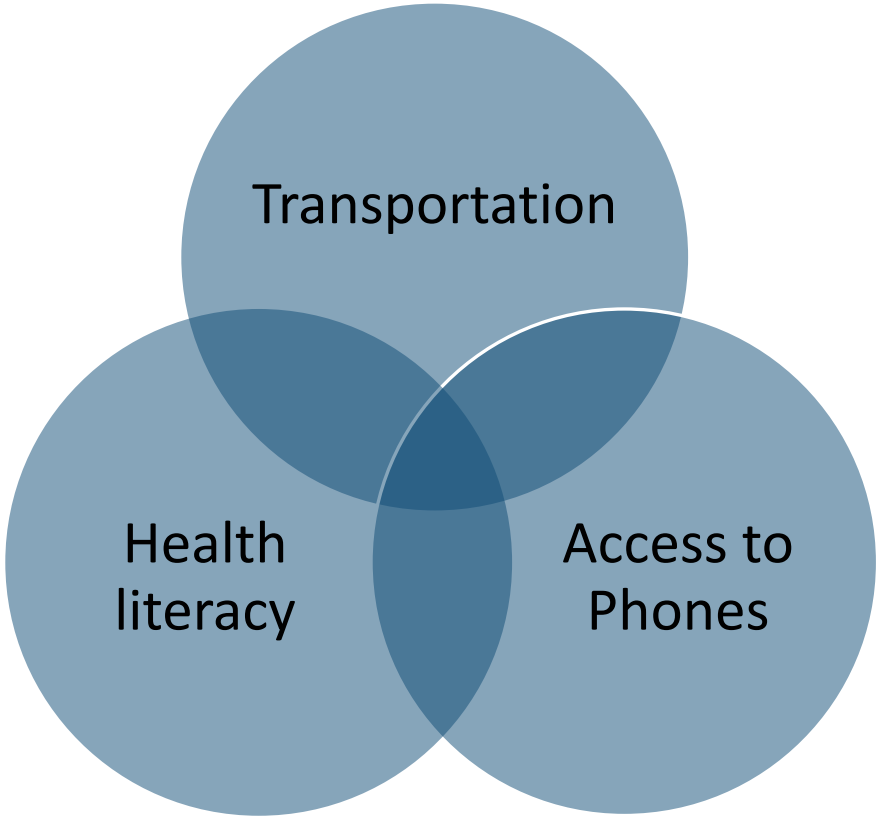
9 new medication starts

Asthma Control Test (ACT)

					SCORE
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?					
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

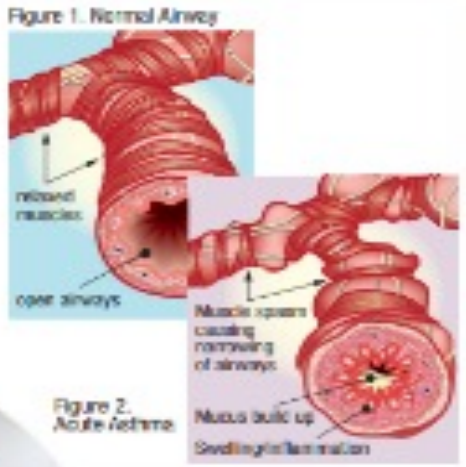


Continuing Education Opportunity

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



HOW TO USE A **NEBULIZER**

HOW TO USE A **METERED-DOSE INHALER**

HOW TO USE A **DRY POWDER INHALER**

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

- LaMorte, Wayne. “Respiratory Health.” Asthma, Boston University School of Public Health, 21 Apr. 2017, https://sphweb.bumc.bu.edu/otlt/MPH-Modules/PH/RespiratoryHealth/RespiratoryHealth6.html.
- “CDC National Asthma Control Program : America Breathing Easier.” Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, https://stacks.cdc.gov/view/cdc/11869.
- Hall, I P. “Encyclopedia of Respiratory Medicine.” ScienceDirect, 2006, https://www.sciencedirect.com/referencework/9780123708793/encyclopedia-of-respiratory-medicine.
- Reddel, Helen K., et al. “A Practical Guide to Implementing SMART in Asthma Management.” The Journal of Allergy and Clinical Immunology: In Practice, vol. 10, no. 1, 16 Oct. 2021, https://doi.org/10.1016/j.jaip.2021.10.011.
- Bridgeman, Mary B., and Lori A. Wilken. “Essential Role of Pharmacists in Asthma Care and Management.” Journal of Pharmacy Practice, vol. 34, no. 1, 2020, pp. 149–162., https://doi.org/10.1177/0897190020927274.
- Steppuhn, Henriette, et al. “Major Comorbid Conditions in Asthma and Association with Asthma-Related Hospitalizations and Emergency Department Admissions in Adults: Results from the German National Health Telephone Interview Survey (GEDA) 2010.” BMC Pulmonary Medicine, vol. 13, no. 1, 2013, https://doi.org/10.1186/1471-2466-13-46.
- GLOBAL STRATEGY for ASTHMA MANAGEMENT and PREVENTION Updated 2022. Global Initiative for Asthma: What’s New GINA 2022. https://ginasthma.org/wp-content/uploads/2022/07/GINA-Main-Report-2022-FINAL-22-07-01-WMS.pdf
- Johnston, S. L, and M. R Edwards. “Mechanisms of Adverse Effects of & B-Agonists in Asthma.” Thorax, vol. 64, no. 9, 2009, pp. 739–741.
- Johnson, DB, and BJ Merrell. Albuterol - StatPearls - NCBI Bookshelf.

Case Study in Excellence

Linking an Asthma-Specific Note template to an Automatic Pharmacy Consult to Improve Outcomes for Patients with Asthma

LT MADELINE WRIGHT, PHARMD

CLINICAL PHARMACIST

CHEROKEE INDIAN HOSPITAL AUTHORITY (CIHA)

CHEROKEE, NORTH CAROLINA

Background

~9.4% of all ED visits at CIHA from 10/1/21 -9/30/22 were adults presenting with a primary purpose of visit related to asthma and/or COPD exacerbation

Appropriate guideline-directed therapy, correct utilization of inhaled medication therapies, and proper adherence can decrease exacerbation rates and lead to less emergency department visits[1,2]

1. Boven, et. al. *Elsevier* 2014;108(1):103-113 2. Bridgeman, et. al. *Sage* 2021;34(1):149-162

Objective of Project

To determine if pharmacist intervention following an exacerbation of either asthma or COPD can prevent future ED visits and improve measurable clinical outcomes

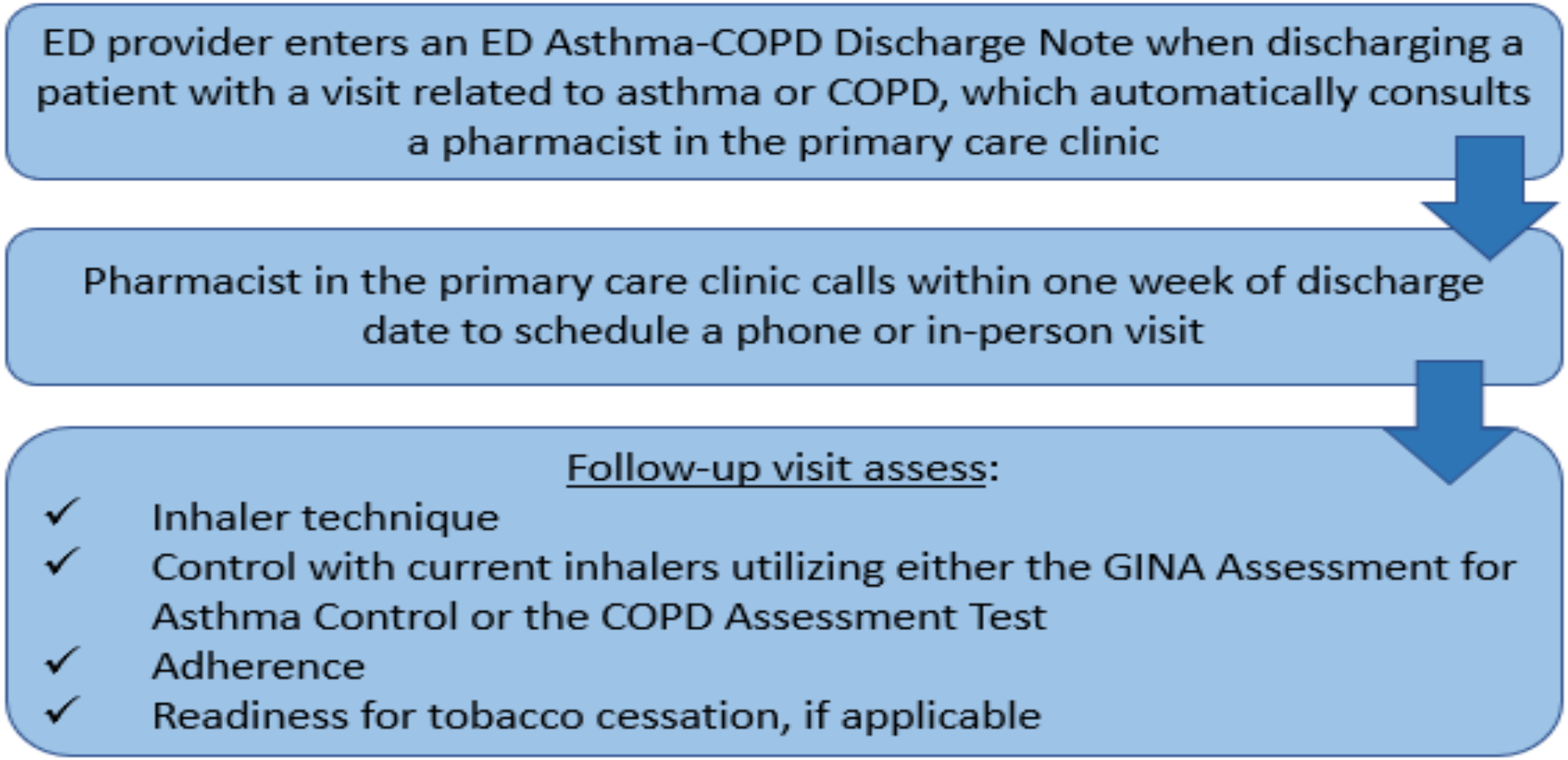
Methods

Implemented at a small, rural comprehensive healthcare facility serving an American Indian and Alaska Native population

Study period from November 1st 2022-April 30th 2023

Inclusion Criteria	Exclusion Criteria
Age >18 years	Heart Failure
Asthma or COPD diagnosis	Cystic Fibrosis
ED visit during study period	Pregnancy
	Lung Cancer

Methods


ED provider enters an ED Asthma-COPD Discharge Note when discharging a patient with a visit related to asthma or COPD, which automatically consults a pharmacist in the primary care clinic
Pharmacist in the primary care clinic calls within one week of discharge date to schedule a phone or in-person visit
Follow-up visit assess:
✓ Inhaler technique
✓ Control with current inhalers utilizing either the GINA Assessment for Asthma Control or the COPD Assessment Test
✓ Adherence
✓ Readiness for tobacco cessation, if applicable

Primary Endpoint Results

Primary endpoint was reduction in ED visits related to asthma and COPD

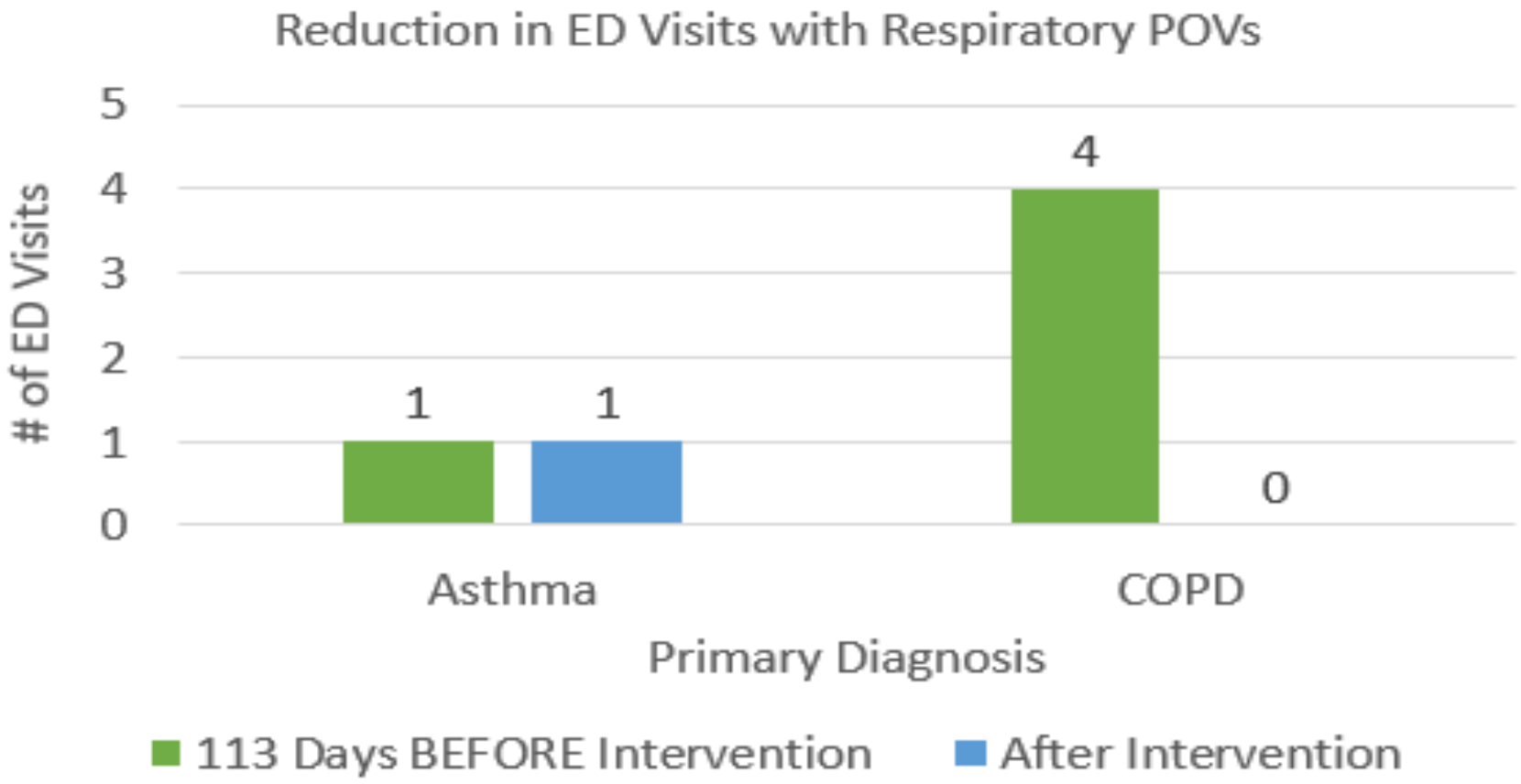
23 consults placed from 11/1/22-4/30/23

8 asthma and 4 COPD qualified for inclusion

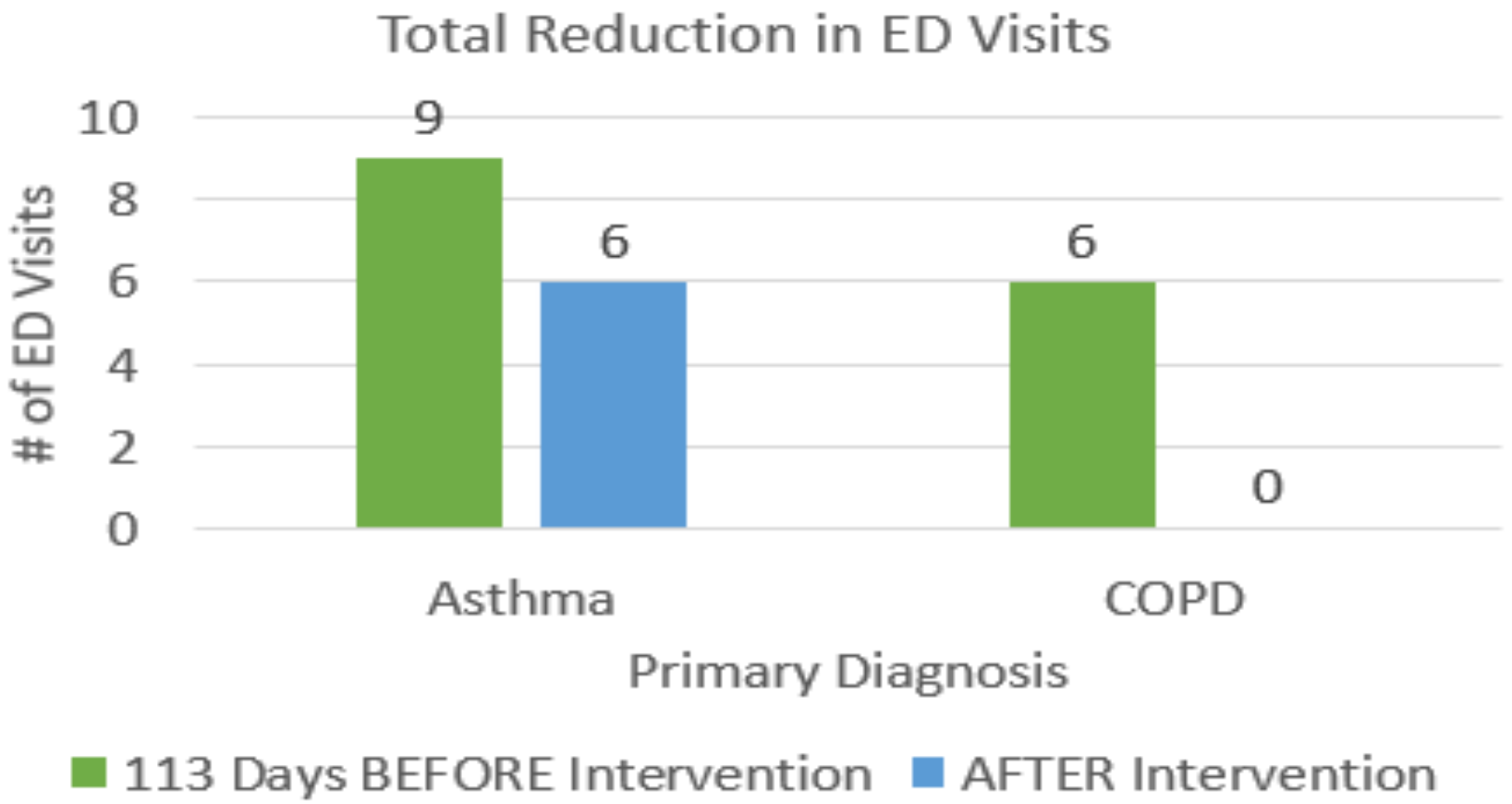
Avg time from intervention to 4/30= 113 days

Did NOT include ED visit triggering intervention in ED visit count

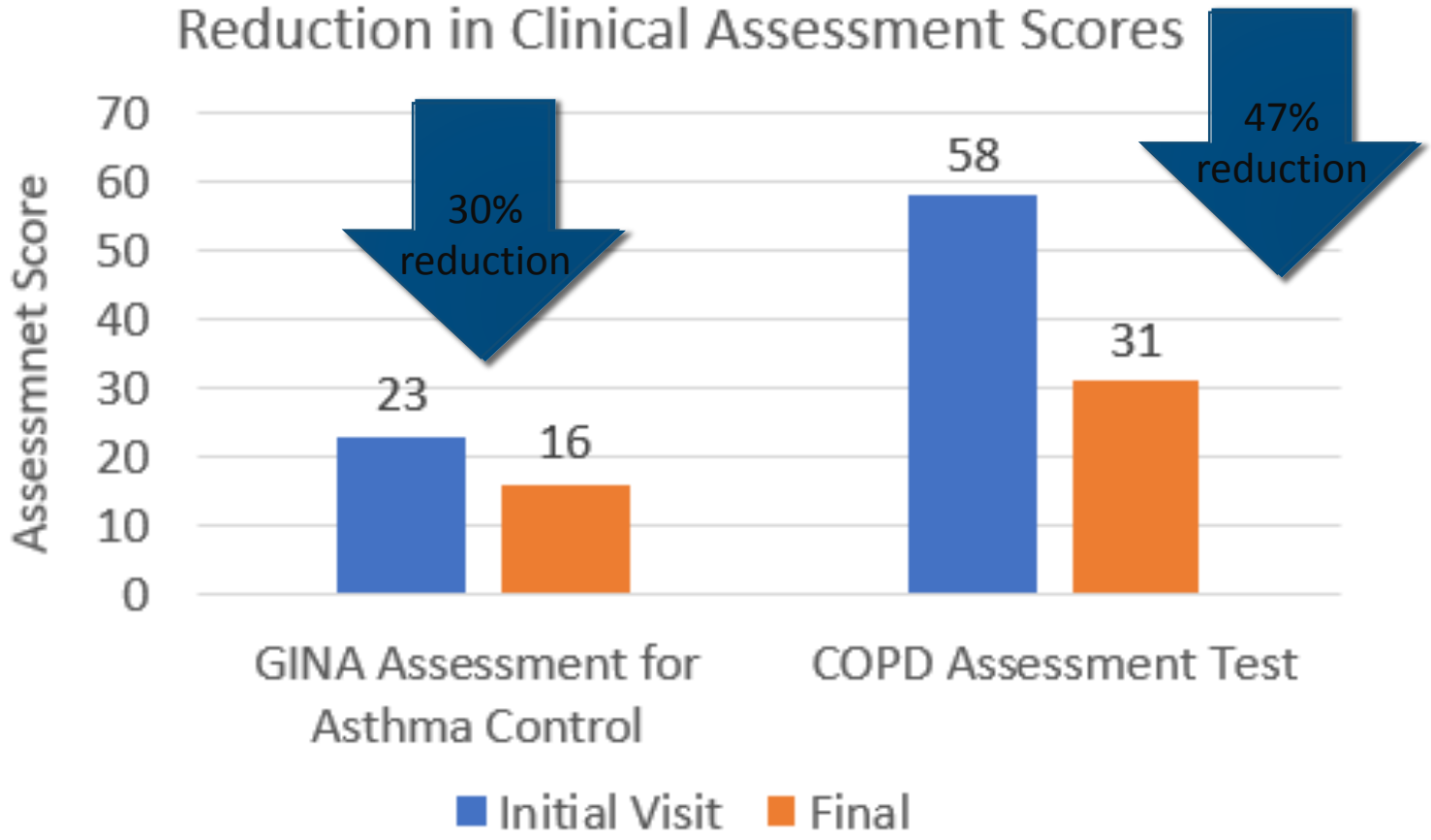
Primary Endpoint Results



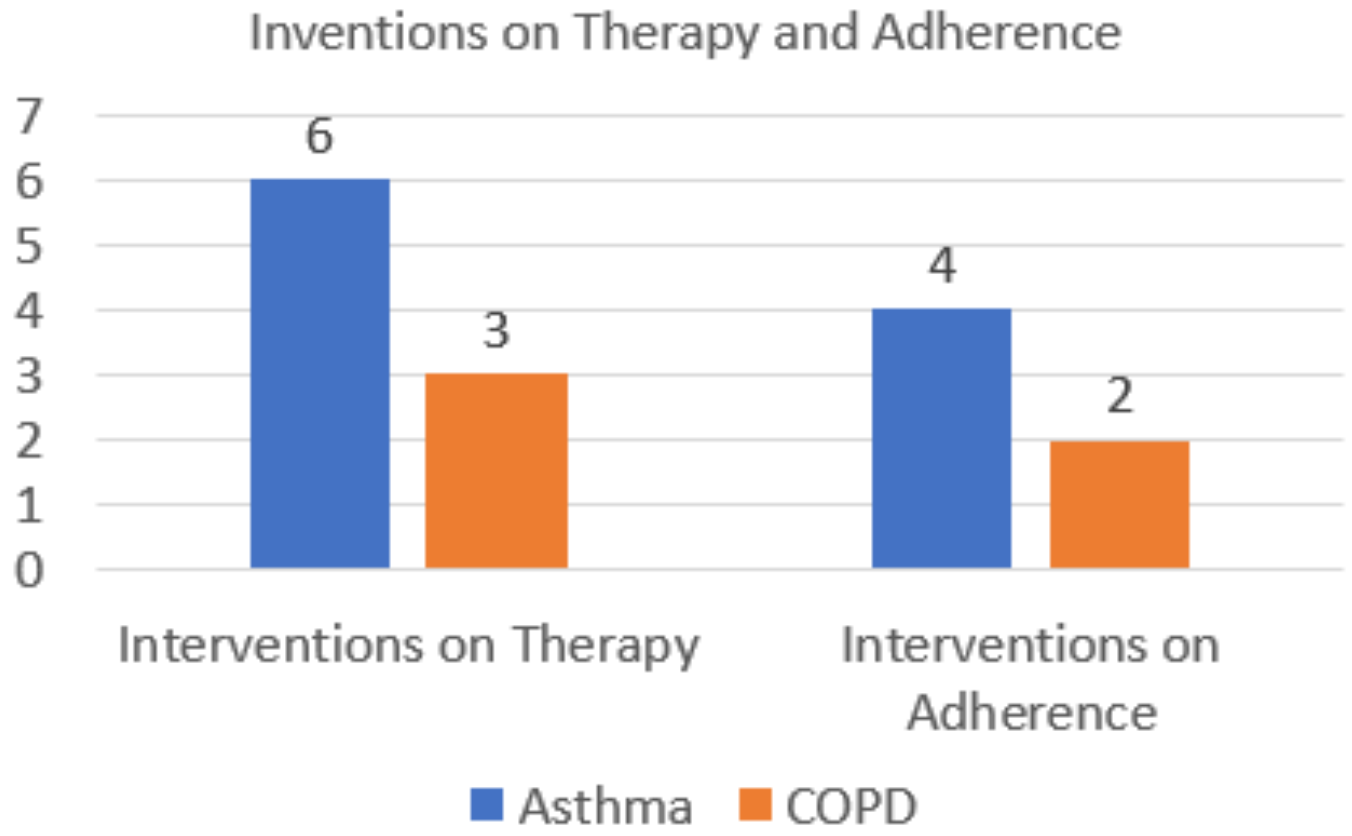
Secondary Endpoint Results (1)



Secondary Endpoint Results (2)



Secondary Endpoint Results (3)



Limitations and Challenges

Small sample size
- Difficulty with ED buy-in

Short study period
- ED visits related to breathing in past year among these 12 patients was 17

3 patients had no follow-up after first visit
- 5 patients were disqualified because they could never be reached

Un-confirmed diagnoses

Conclusion

11/12 patients required an adjustment in either inhaler therapy or adherence counseling

Reduction in clinical assessment scores was greater in those with follow-up after intervention

Overall ED visits were reduced in both asthma and COPD after intervention, but respiratory ED visits were only reduced in COPD patients in the study timeframe

Application to Clinical Practice

ED Respiratory Discharge linked to Primary Care Consult

- Idea now utilized by pediatric providers

Creation of a respiratory ordering menu for providers

Increased utilization of demo inhalers by counseling interns/pharmacists

Increased PFT consults to confirm diagnoses

Questions & Discussion


INDIAN HEALTH SERVICE
PHS · 1955 ·