CARE TRANSFORMATION COLLABORATIVE RHODE ISLAND

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ADVANCING INTEGRATED HEALTHCARE

Addressing Adult & Pediatric Asthma Guidelines: Creative Solutions and Latest Guidelines

Care Transformation Collaborative of Rhode Island

Pano Yeracaris, MD, MPH, CTC-RI Chief Clinical Strategist
Patricia Flanagan, MD, Hasbro Children's Hospital, & Brown Univ. Pediatrics Professor
Mansi James, DO, Board Certified Allergist, Immunologist, Providence Community Health Center (PCHC)
Lillian Nieves, PharmD, Director of Clinical Pharmacy Services, PCHC
Garry Bliss, Program Director, Medicaid AI, Prospect CharterCARE
Elizabeth McQuaid, PhD, Director of Child Psychology, Hasbro; Director of the Division of Clinical Psychology in the Department of Psychiatry and Human Behavior, Brown University

Breakfast of Champions | Friday March 11, 2022

CTC-RI Conflict of Interest Statement

All relevant financial relationships of those on the session planning committee and of panelists have been disclosed and all material has been reviewed to ensure that no bias is present in panelist's presentations.

Information on panelist conflicts of interest can be found here: link to statement

Agenda

Presenter(s)	Time
Welcome & Introductions – *Pano Yeracaris, MD MPH CTC-RI Chief Clinical Strategist & Patricia Flanagan, MD, Hasbro Children's Hospital, & Brown Univ. Pediatrics Professor*	5 mins
Presentation & Discussion *Dr. Mansi James, DO*, *Board Certified Allergist, Immunologist, Providence Community Health Center (PCHC)*	30 mins
Presentation – Lillian Nieves, PharmD, *Director of Clinical Pharmacy Services, PCHC*	10 mins
Presentation – Garry Bliss, *Program Director, Medicaid AI, Prospect CharterCARE*	10 mins
Presentation – Elizabeth McQuaid, PhD, *Director of Child Psychology, Hasbro; Director of the Division of Clinical Psychology in the Department of Psychiatry and Human Behavior, Brown University*	10 mins
Panel & Discussion ***Moderator:*** *Patricia Flanagan, MD, Hasbro Children's Hospital, & Brown Univ. Pediatrics Professor*	20 mins
Wrap-Up & Next Steps –Breakfast of Champions Survey and CME Credits Link	5 mins

Objectives

- Practical considerations from the most recent adult and pediatric asthma guidelines
- Engage with a panel to learn about specific projects to improve asthma care in children and families focused on:
  - a practice-based Pharmacy led intervention
  - school-based training efforts
  - a collaborative effort to integrate clinical support and also impact upstream causes in a targeted zip code to reduce ED utilization in pediatric patients

CME Credits
(currently available for MDs, PAs, RNs and NPs)

- CME Credits – Please request session credits when filling out the evaluation at the end of the meeting.

- Evaluation/Credit Request Form: https://forms.office.com/r/wzmaJhrPxV

The AAFP has reviewed 'Advancing Comprehensive Primary Care Through Improving Care Delivery Design and Community Health,' and deemed it acceptable for AAFP credit. Term of approval is from 03/12/2021 to 03/11/2022. Physicians should claim only the credit commensurate with the extent of their participation in the activity. NPs and RNs can also receive credit through AAFP's partnership with the American Nurses Credentialing Center (ANCC) and the American Academy of Nurse Practitioners Certification Board (AANPCB).

2020 ASTHMA UPDATES

Mansi James, DO
Department of Allergy and Asthma
Providence Community Health Center
3.11.2022

DISCLOSURES

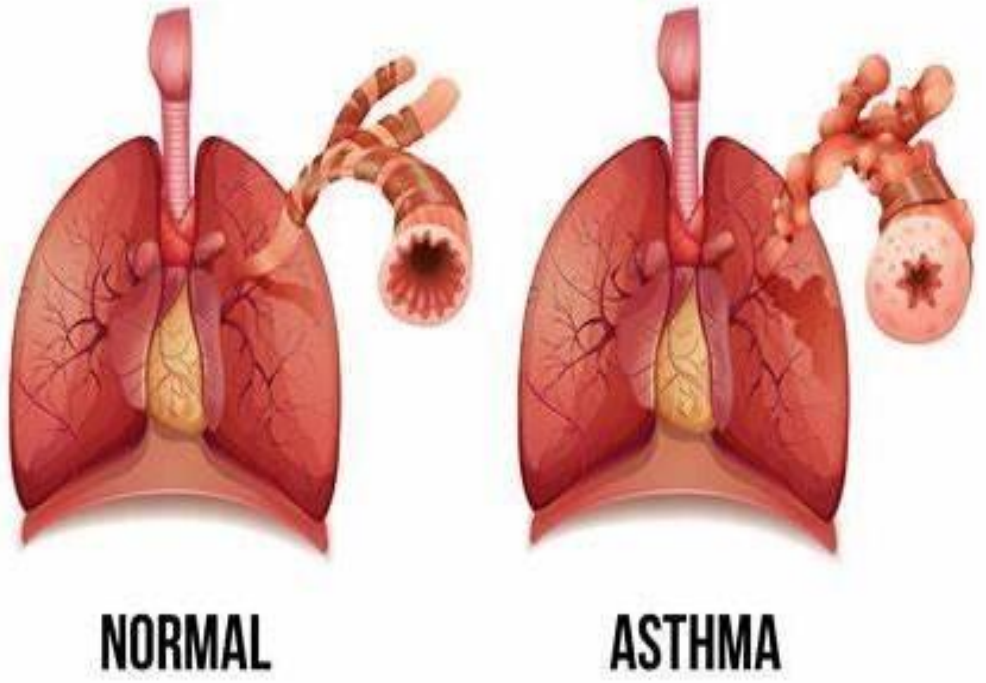
- None

LEARNING OBJECTIVES

- Be able to define asthma and identify high risk patients from early age
- Understand 2020 Focused Updates to the NHLBI Asthma Management Guidelines
- Ensure patients and providers understand and reflect the latest scientific evidence in treatment decisions

DEFINING ASTHMA

- Asthma is the most common chronic non-communicable disease, affecting over 260 million people globally
- A heterogenous disease
  - wheeze, shortness of breath, chest tightness, and cough that vary over time and in intensity, together with variable expiratory airflow limitations
- People with asthma often have periods of worsening symptoms and worsening airway obstruction, aka exacerbations, that can be fatal
- Most of the morbidity and mortality associated with asthma is preventable, particularly with use of inhaled corticosteroids



Global Initiative for Asthma www.ginaasthma.org

THE ASTHMA PREDICTIVE INDEX PREDICTS PERSISTENT ASTHMA

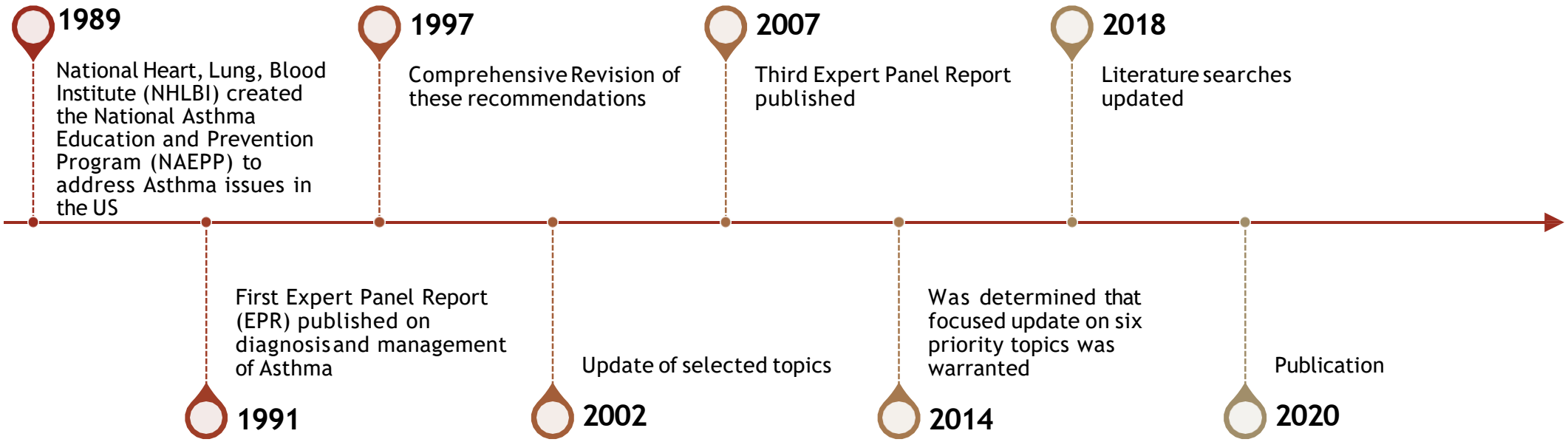
- Use of the Asthma Predictive Index/ modified Asthma Predictive Index can help predict persistent asthma[1,2]
  - 1 major or 2 minor criteria confers increased risk for persistent asthma
  - Sensitization to aeroallergens is the primary risk factor for persistent wheeze[3,4]

Modified Asthma Predictive Index

Children with ≥4 wheezing episodes/year during the first 3 years of life	
Major criteria	• Parent with asthma • Physician diagnosed atopic dermatitis • Sensitization to ≥1 aeroallergen
Minor criteria	• Wheezing unrelated tocolds • Blood eosinophils > 4% • Sensitization to food allergens

1. *Castro-Rodriguez JA, Am. JRCCM 2000;162;1403-06*
2. *Burbank AJ, Curr Opion Allergy Clin Imunol 2017;17:146*
3. *Kusel MM, JACI 2007;119:1105*
4. *Stoltz DJ, Clin Exp Allergy 2013;43:233*

BACKGROUND


1989
National Heart, Lung, Blood Institute (NHLBI) created the National Asthma Education and Prevention Program (NAEPP) to address Asthma issues in the US
1991
First Expert Panel Report (EPR) published on diagnosis and management of Asthma
1997
Comprehensive Revision of these recommendations
2002
Update of selected topics
2007
Third Expert Panel Report published
2014
Was determined that focused update on six priority topics was warranted
2018
Literature searches updated
2020
Publication

PRIORITY TOPICS IN 2020 UPDATE

- Inhaled Corticosteroids
- Fractional exhaled nitric oxide (FeNO) in diagnosis, medication selection and monitoring of treatment response in asthma
- Remediation of indoor allergens (house dust mites/pets) in asthma management
- Long-acting antimuscarinic agents (LAMA) in asthma management as add-ons to inhaled corticosteroids
- Immunotherapy and the management of asthma
- Bronchial thermoplasty (BT) in adult severe asthma

INHALED CORTICOSTEROIDS

Recommendation
0–4 years with **recurrent wheezing** triggered by respiratory tract infections and no wheezing between infections ▪ Conditionally recommends starting a short course of daily ICS at the onset of a respiratory tract infection with as-needed SABA for quick-relief therapy compared to as-needed SABA for quick-relief therapy only.
≥ 4 years with **mild to moderate persistent asthma** who are likely to be adherent to daily ICS treatment ▪ Conditionally recommends against a short-term increase in the ICS dose for increased symptoms or decreased peak flow.
≥ 4 years with **moderate to severe persistent asthma** ▪ Strongly recommends **ICS-formoterol** in a single inhaler used as both daily controller and reliever therapy "SMART" (compared to Higher-dose ICS as daily controller therapy and SABA for quick-relief therapy, or Same-dose ICS-LABA as daily controller therapy and SABA for quick-relief therapy)
≥12 years with **mild persistent asthma** ▪ Conditionally recommends either daily low-dose ICS and as-needed SABA for quick-relief therapy or as-needed ICS and SABA used concomitantly.
≥12 years with **moderate to severe persistent asthma** ▪ Conditionally recommends **ICS-formoterol** in a single inhaler used as both daily controller and reliever therapy (compared to higher-dose ICS-LABA as daily controller therapy and SABA for quick-relief therapy)

COMBINATION BUDESONIDE-FORMOTEROL AS NEEDED IN MILD ASTHMA (O'BYRNE ET AL., 2018)

- 2018 NEJM study:
  - Patients ≥ 12 years.
  - On short acting bronchodilators or leukotriene inhibitor or low dose inhaled glucocorticoids.
- Compared terbutaline, budesonide-formoterol as needed, and budesonide maintenance.
- Budesonide-formoterol was superior to terbutaline for asthma symptom control and reducing risk of asthma exacerbation.
- Budesonide-formoterol was inferior to budesonide alone in maintaining asthma control but similar in reducing risk of asthma exacerbation.

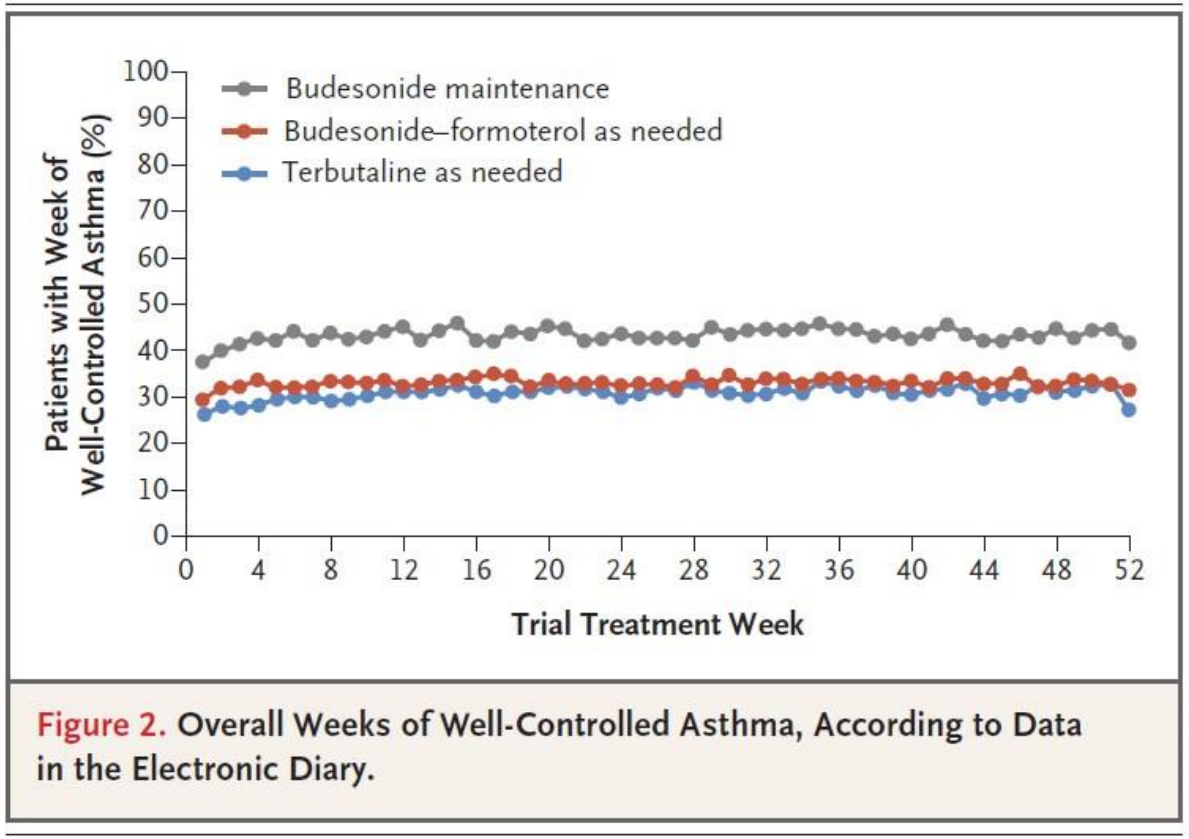


Figure 2. Overall Weeks of Well-Controlled Asthma, According to Data in the Electronic Diary.

O'Byrne, P.M., FitzGerald, J.M., Bateman, E. D., Barnes, P.J., Zhong, N., Keen, C., . . . Reddel, H. K. (2018). Inhaled Combined Budesonide-Formoterol as Needed in Mild Asthma. *N Engl JMed, 378*(20), 1865-1876. doi:10.1056/NEJMoa1715274

Q&A

Why is this preferred?

Because using low dose ICS-formoterol as reliever reduces the risk of severe exacerbations compared with regimens with SABA as reliever, with similar symptom control

How is it used?

- ICS-formoterol should be administered as maintenance therapy with 1-2 puffs once or twice daily and 1-2 puffs as needed for asthma symptoms
- Maximum number of puffs per day is 8 (36mcg formoterol) for kids 4-11 years, and 12 puffs (54mcg formoterol) in those greater than 12 years

When should it not be used?

ICS-formoterol should not be used as the reliever in patients prescribed a different ICS-LABAfor their controller therapy

THE ARGUMENT

- ICS are highly effective in mild asthma, but patients are often poorly adherent
- Even occasional short courses of OCS are associated with increased risk
  - Osteoporosis, diabetes, cataract etc (Price, JAsthma Allergy 2018)
- Phenotyping is not needed for treatment with as-needed ICS-formoterol
  - No significant difference in treatment effect compared with as-needed SABA or daily ICS with high vs low baseline eosinophils or FeNO (Beasley NEJMed 2019; Hardy Lancet 2019
- Severe exacerbations can occur in mild asthma and are often unpredictable
  - Viral infections, allergen exposure, air pollution, stress

FRACTIONAL EXHALED NITRIC OXIDE (FENO)

Recommendation
≥5 years, diagnosis of asthma uncertain (hx, clinical findings, clinical course, spirometry) ▪ addition of FeNO measurement conditionally recommended as adjunct to evaluation process
≥5 years and w/ persistent allergic asthma, uncertainty in choosing, monitoring or adjusting anti-inflammatory therapies (based on hx, clinical findings, spirometry) ▪ addition of FeNO measurement conditionally recommended as part of ongoing asthma monitoring and management
≥5 years with asthma ▪ strongly recommends against use of FeNO measurements in isolation to assess asthma control, predict future exacerbations or assess severity ▪ if used should be as part of ongoing monitoring and management strategy
0-4 years with recurrent wheeze ▪ strongly recommends against FeNO measurement to predict future development of asthma

ALLERGEN MITIGATION

Recommendation
In those with asthma who do not have sensitization to specific indoor allergens or who do not have symptoms related to exposure to specific indoor allergens ▪ Conditionally recommends against allergen mitigation interventions as part of routine asthma management
In those with asthma who have symptoms related to exposure to identified indoor allergens, confirmed by hx or allergy testing ▪ Conditionally recommends multicomponent allergen specific mitigation intervention
In those with asthma who have sensitization or symptoms related to exposure to pests (cockroach/rodent) ▪ Conditionally recommends use of integrated pest management alone or as part of multicomponent allergen-specific mitigation intervention
In those with asthma who have sensitization or symptoms related to exposure to dust mites ▪ Conditionally recommends impermeable pillow/mattress covers only as part of multicomponent allergen mitigation intervention, not as single component intervention

LONG ACTING MUSCARINIC ANTAGONIST (LAMA)

Recommendation
≥12 years with uncontrolled persistent asthma ▪ Conditionally recommends against adding LAMA to ICS compared to adding LABA to ICS.
≥12 years with uncontrolled persistent asthma and no current LABA ▪ Conditionally recommends adding LAMA to ICS controller therapy compared to continuing the same dose of ICS alone
≥ 12 years with uncontrolled persistent asthma ▪ Conditonally recommends adding LAMA to ICS-LABA compared to continuing the same dose of ICS-LABA.

IMMUNOTHERAPY

Recommendation
≥ 5 years with mild to moderate allergic asthma ▪ conditionally recommends the use of subcutaneous immunotherapy (SCIT) as an adjunct treatment to standard pharmacotherapy in those individuals whose asthma is controlled at the initiation, build up, and maintenance phases of immunotherapy.
In individuals with persistent allergic asthma ▪ conditionally recommends against the use of sublingual immunotherapy in asthma treatment.

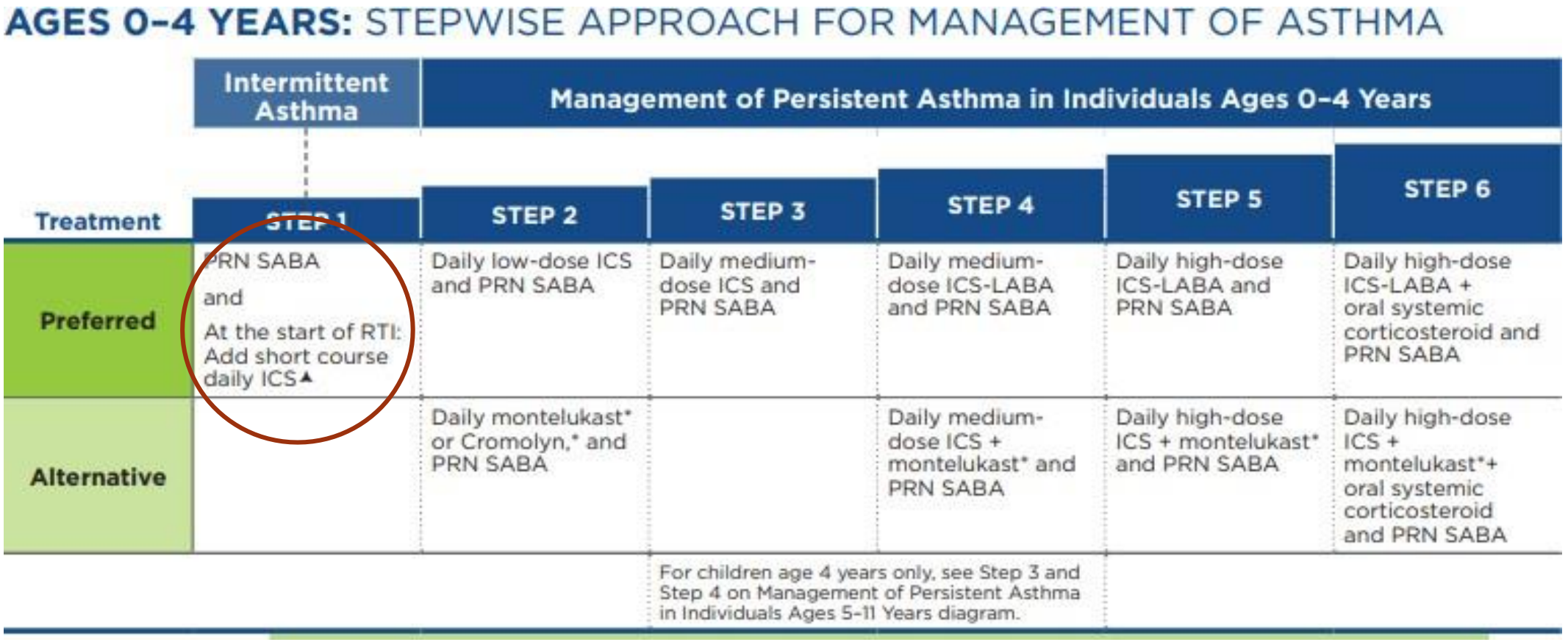
BRONCHIAL THERMOPLASTY

Recommendation
In individuals ages 18 years and older with persistent asthma, the Expert Panel conditionally recommends against bronchial thermoplasty. • Benefits are small, risks are moderate, long term outcomes are uncertain
Individuals ages 18 years and older with persistent asthma may be willing to accept risks of bronchial thermoplasty and might choose intervention after shared decision making

EPR-3 Classifying Asthma Severity by Age

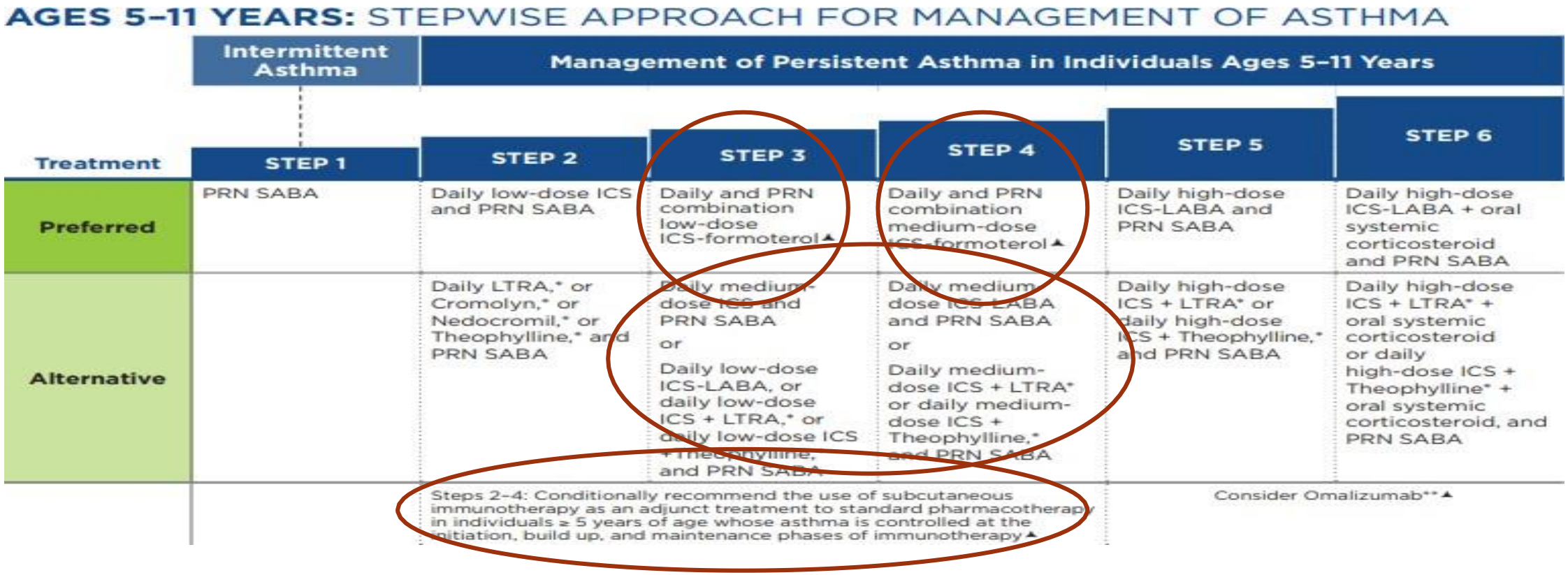
Components of Severity			Intermittent			Persistent								
						Mild			Moderate			Severe		
Age in years			0-4	5-11	≥12	0-4	5-11	≥12	0-4	5-11	≥12	0-4	5-11	≥12
Impairment	Daytime symptoms		≤2 days/week			≥2 days/week but not daily			daily			Throughout the day		
	Nocturnal symptoms		0	≤2 x/mo		1-2x/mo	3-4x/mo		3-4x/mo	≥1 x/wk		≥2x/wk	Often, 7x/wk	
	SABA use		≤2 days/wk			≥2 days/wk			daily			Several times/day		
	Interferes with normal activity		none			minor			some			extremely		
	PFTs	FEV_1		>80%			>80%			60-80%			<60%	
		FEV_1/FVC	n/a	>85%	Nl	n/a	> 80%	Nl	n/a	75-80%	↓ by 5%	n/a	<75%	↓ by >5%
Risk	Exacerbations requiring systemic steroids		0-1x/yr			≥2 x/6 mos **or** 4x/yr **+** Risk factors	>2x/yr							
Recommended Step			Step 1			Step 2			Step 3	Step 3 Medium dose	Step 3	Step 3	Step 3 (medium dose	Step 4

0-4 YEARS



Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

5-11 YEARS

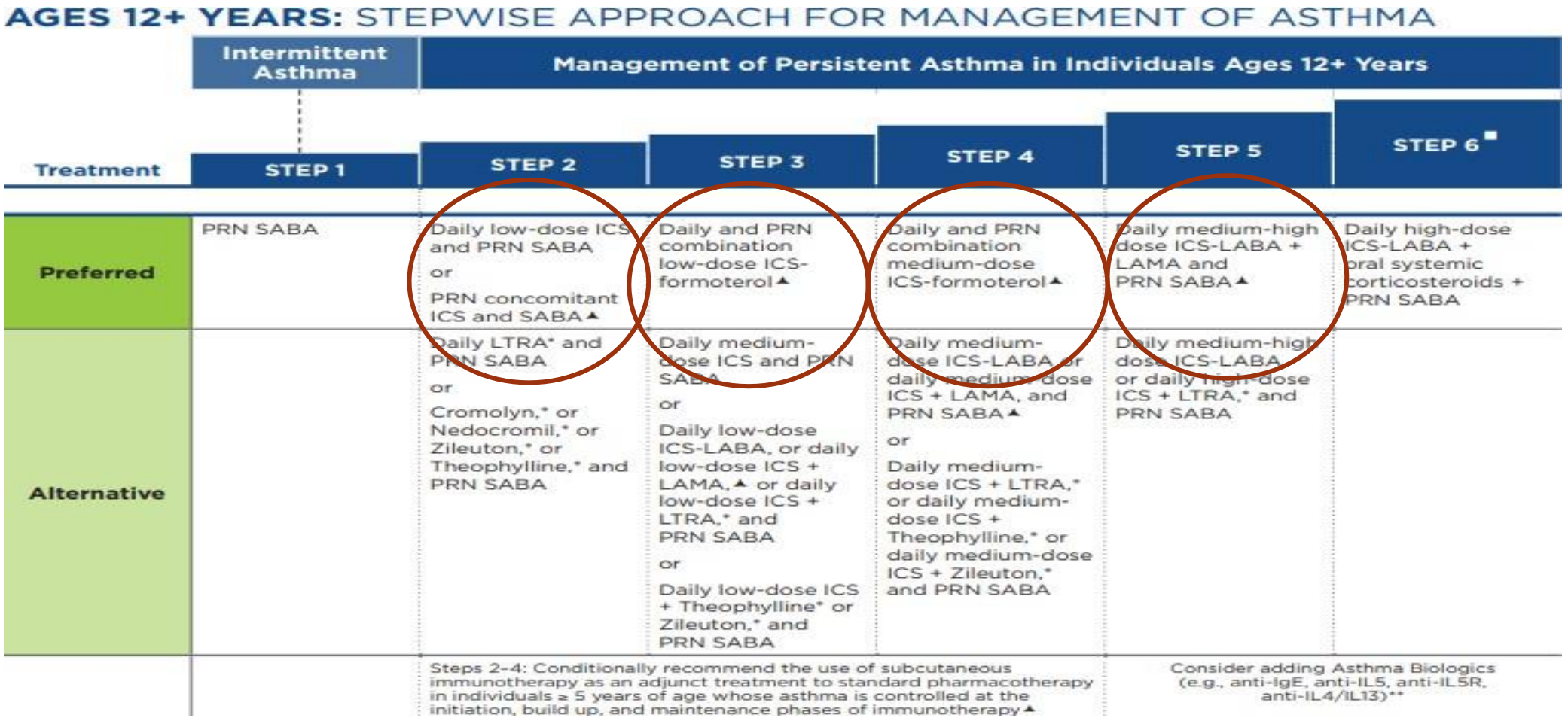


AGES 5–11 YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

	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**▲	

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

≥12 YEARS

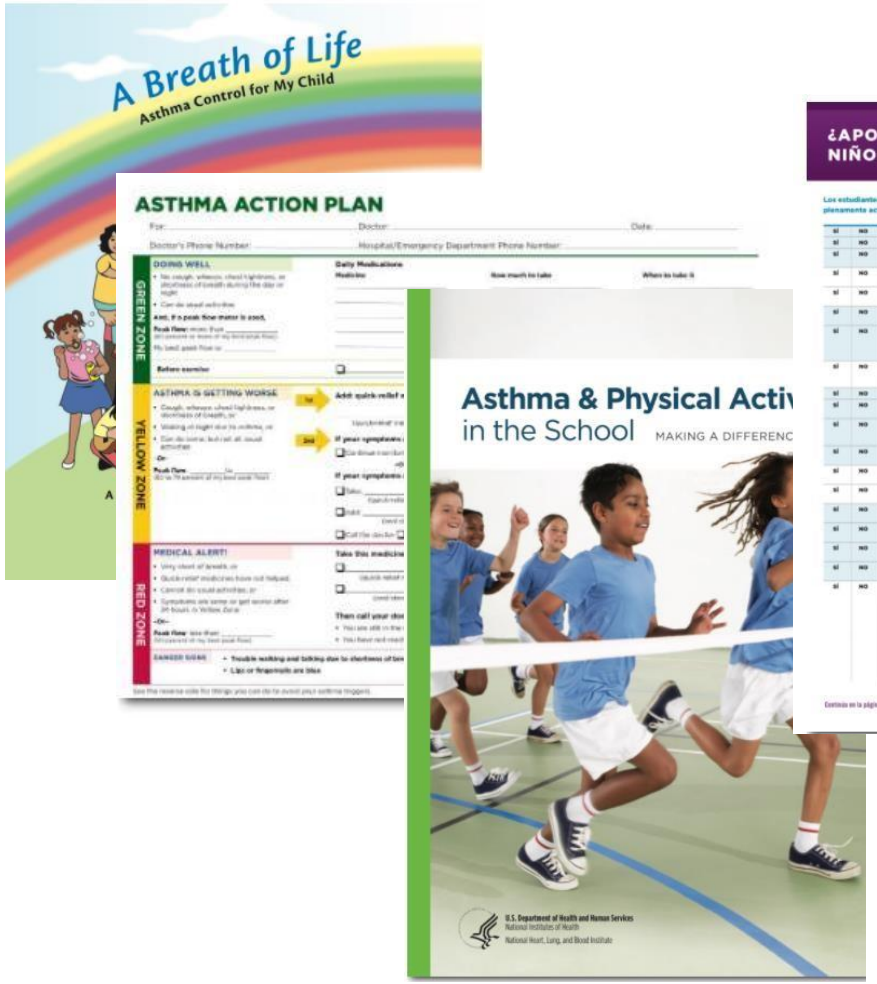


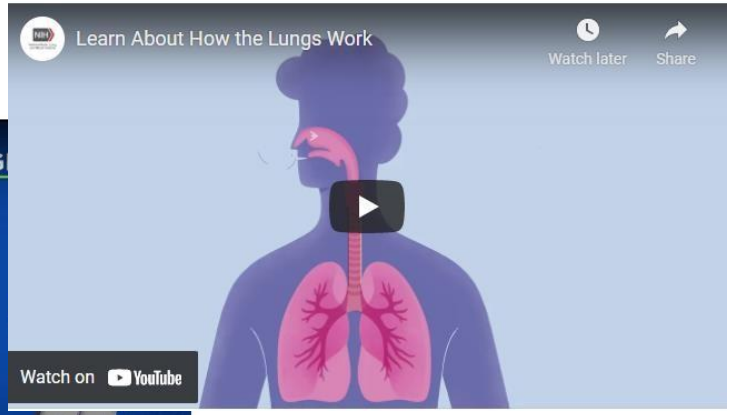
AGES 12+ YEARS: STEPWISE APPROACH FOR MANAGEMENT OF ASTHMA

	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)**	

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

PARENT/CAREGIVER RESOURCES





- Downloadable Printables
- Educational videos
- Social media

NHLBI.NIH.GOV/BREATHEBETTER

REFERENCES

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FOR MORE INFORMATION ABOUT THE 2020 ASTHMA GUIDELINES VISIT nhlbi.nih.gov/AsthmaGuidelines

PCHC
PROVIDENCE COMMUNITY
HEALTH CENTERS

CTC Asthma
Initial Parent Survey Assessment

Lillian T. Nieves, PharmD
CTC Breakfast of Champions
March 11, 2022

Objectives

- To review parent telephonic survey
  - Target population: pediatric patients suffering from mild to moderate asthma who had 2 or more emergency room visits in the past 6 months

- Demonstrate how data analysis served to initially guide the workflow process and helped narrow down pharmacist focus to address targeted interventions

Delivery & Workload

Totals

62 patients on our list, 50 surveys completed

Pharmacy Techs' Outreach

81% successful over a period of 66 days

Efficiency

99 total phone calls, 2 per patient

02

ED Visit Questions

ED Visit Questions

Having a doctor/Ped

100% among those surveyed in this study (N=50) ; 22 docs were identified, none had more than 12% of patients

Asthma Specialists

Only 17.65% of the patients surveyed had asthma specialists (n=12)

Reason(s) for going to the ED

ED Visit Questions

- Sent by PCP/PCHC (28%, n=14)
- Sx - did not call PCP/PCHC (18% , n=9)
- No same day appt available (18%, n=9)
- Limited PCHC hours (12%, n=6)
- Closer to home/easier to get to (6%, n=3)
- Other 6%, n=3)
- Unknown (12%, n=6)

Transportation Barriers

94% of those surveyed did not have difficulties with transportation

Parent Preferences

Asked ED preference vs PCP

98% did not prefer the ED over their pediatrician

Health Literacy

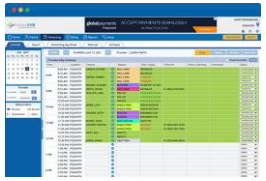
Cause of Asthma Attack

34% referred to symptoms/cough as being the cause, and 26% suggested that recent illness caused the attack

Sick Day Plan

- 66% of the patients mentioned that they have a Sick Day/ Asthma action plan (n=33)
- Among that group:
- 30.30% stated that they always use the plan
- 33.33% stated that they sometimes use the plan
- 24.24% state that they never use the plan
- And 12% stated that they just got a plan or have been fully adherent since going to the ER

What Could Help?

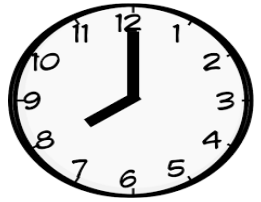


More Appointments

22%

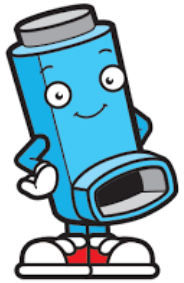
Faster way to reach RN/Doc

10%



Later Hours/Same Day

8%



Medication Related Questions

Prescribed Meds

84% of the sampled population had prescribed asthma meds, which were Identified 100% of the time

Missed Doses

Among those with medications, 18% of those surveyed noted that their child had missed one or more doses of their prescribed medication

Getting Medication

94% of those surveyed did not have any difficulties getting medications - the other 6% did not answer the question

03

Asthma Control Test

Have your child complete these questions.

		SCORE
1.	How is your asthma today?  Very bad (0) · Bad (1) · Good (2) · Very good (3)	☐
2.	How much of a problem is your asthma when you run, exercise or play sports?  It's a big problem, I can't do what I want to do. (0) · It's a problem and I don't like it. (1) · It's a little problem, but it's okay. (2) · It's not a problem. (3)	☐
3.	Do you cough because of your asthma?  Yes, all of the time. (0) · Yes, most of the time. (1) · Yes, some of the time. (2) · No, none of the time. (3)	☐
4.	Do you wake up during the night because of your asthma?  Yes, all of the time. (0) · Yes, most of the time. (1) · Yes, some of the time. (2) · No, none of the time. (3)	☐

Please complete the following questions on your own

5.	During the *last 4 weeks*, how many days did your child have any daytime asthma symptoms?	(5) Not at all	(4) 1-3 days	(3) 4-10 days	(2) 11-18 days	(1) 19-24 days	(0) Everyday	☐
6.	During the *last 4 weeks*, how many days did your child wheeze during the day because of asthma?	(5) Not at all	(4) 1-3 days	(3) 4-10 days	(2) 11-18 days	(1) 19-24 days	(0) Everyday	☐
7.	During the *last 4 weeks*, how many days did your child wake up during the night because of asthma?	(5) Not at all	(4) 1-3 days	(3) 4-10 days	(2) 11-18 days	(1) 19-24 days	(0) Everyday	☐
						TOTAL		☐

ACT Screening Results

4-11 y/o

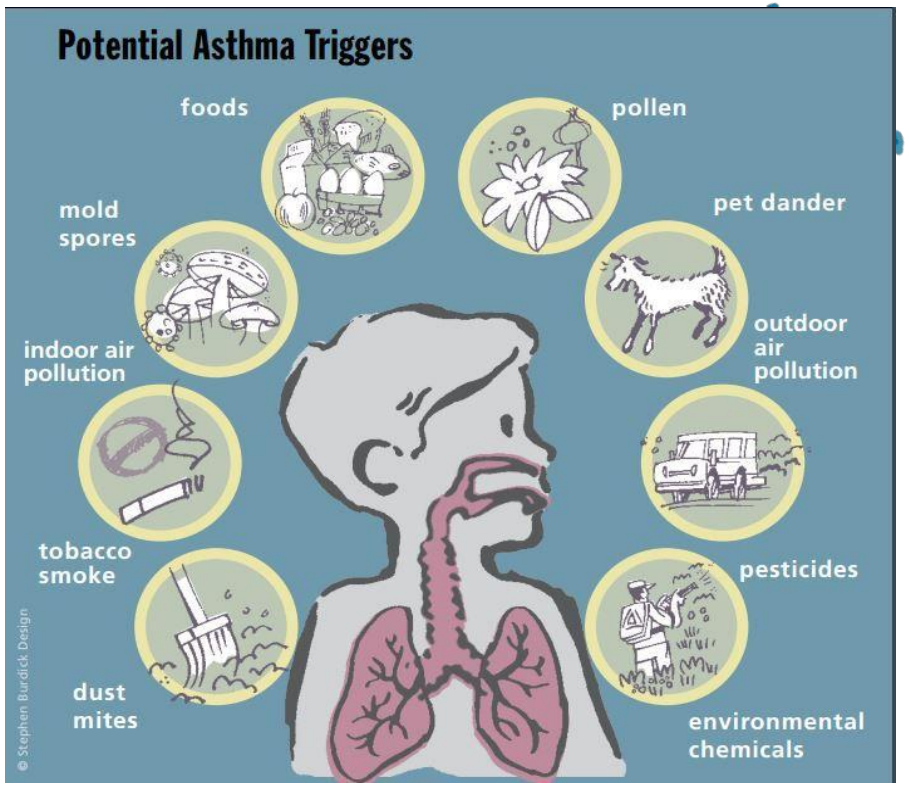
- Avg age: 6 y/0 (n=46)
- Avg ACT= 22.60

≥12 y/o

- Avg age= 14 y/o (n=4)
- Avg ACT= 22.75

04

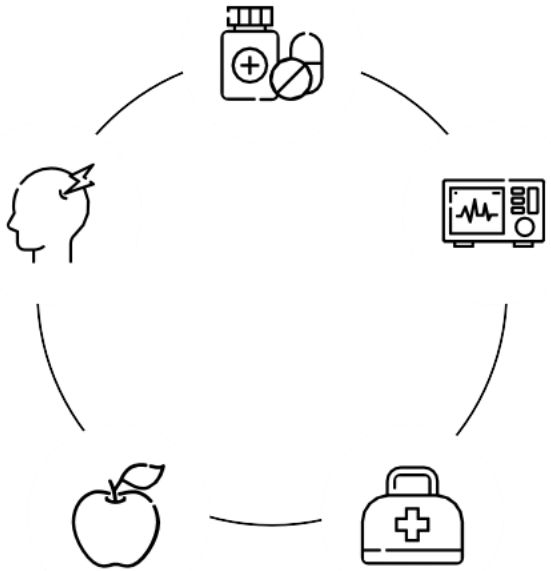
Asthma Triggers



Environmental Triggers

Living Conditions

4% (n=2) stated it as a trigger



Asthma Dx

28% had Mild Int Asthma, or Acute Exacerbation - no sev

Pests

2% noted having pests be triggers

Mold

0% presence

Pets

12% had pets, 83% of which had dogs

Conclusions

Delivery & Workload

- 2 patient outreach calls
- 20 minutes to complete
- High completion rate (81%)

ED Questions

- Recent respiratory illness triggered asthma attack-60%
- Most parents prefer to see pediatrician (n=12 specialist)
- Transportation was not a barrier (6% ED-closer to home)
- **<u>Lack of same day access</u>**
  - Most patients were sent to the ED by PCP- 28%
    - no in clinic sick visits due to COVID
  - PCHC did not have same day appt available- 18%
  - Limited hours of operation- 12%
- Most parents did not call pediatrician prior to ED visit - 18%
  - Predictive past behavior pattern

Conclusions

Pharmacy Intervention Opportunities

1. Collaborate with providers to consider asthma therapy initiation and optimization

2. Collaborate with prescribers to formulate individualized asthma action plans (ACP)

3. Educate parents/guardians/patients about the importance of medication adherence with controller medications and staying on tract with ACP

“When my red pump is not working, I feel like a fish out of water, trying to find water to catch my next breath”. Anonymous

02907 Healthy Equity Zone and Rhode to Equity Initiatives

westelmwood HOUSING DEVELOPMENT CORPORATION

PROSPECT HEALTH SERVICES RI, INC.
Quality Service–Quality Care

PCHC
PROVIDENCE COMMUNITY HEALTH CENTERS

St. Joseph HEALTH CENTER

United Healthcare

RHODE ISLAND DEPARTMENT OF HEALTH

HousingWorksRI at Roger Williams University

Green & Healthy Homes Initiative®

APP Community Action Partnership of Providence County

FSRI Family Service OF RHODE ISLAND

westelmwood HOUSING DEVELOPMENT CORPORATION

P

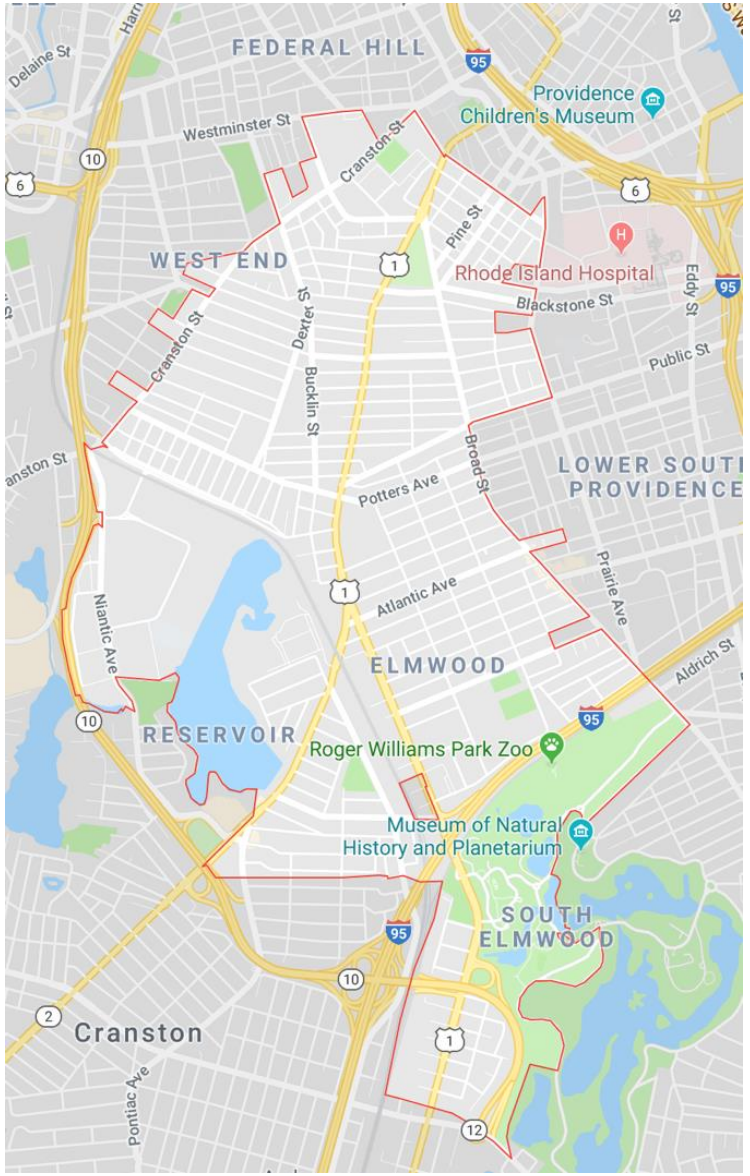
What is a HEZ

A Health Equity Zone is a place-based, collective impact approach to build healthy, resilient communities across Rhode Island by addressing those issues which have the greatest impact on health outcomes.

Up to 80% of health outcomes are driven by issues like housing security, housing quality, access to food, education, economic opportunity, and safe neighborhoods.

The 02907 HEZ

A mobilized community, creating vibrant and resilient neighborhoods where families have the opportunities and resources needed to live healthy, prosperous, and fulfilling lives.



02907 HEZ Initiatives

COVID 19 Support and Resilience

Opioid Overdose Prevention

Asthma Reduction

Hypertension

About 02907

West End, Elmwood, South Elmwood, Reservoir, and Upper South Side (Western Portion)

Some Key Statistics

26,961 Residents

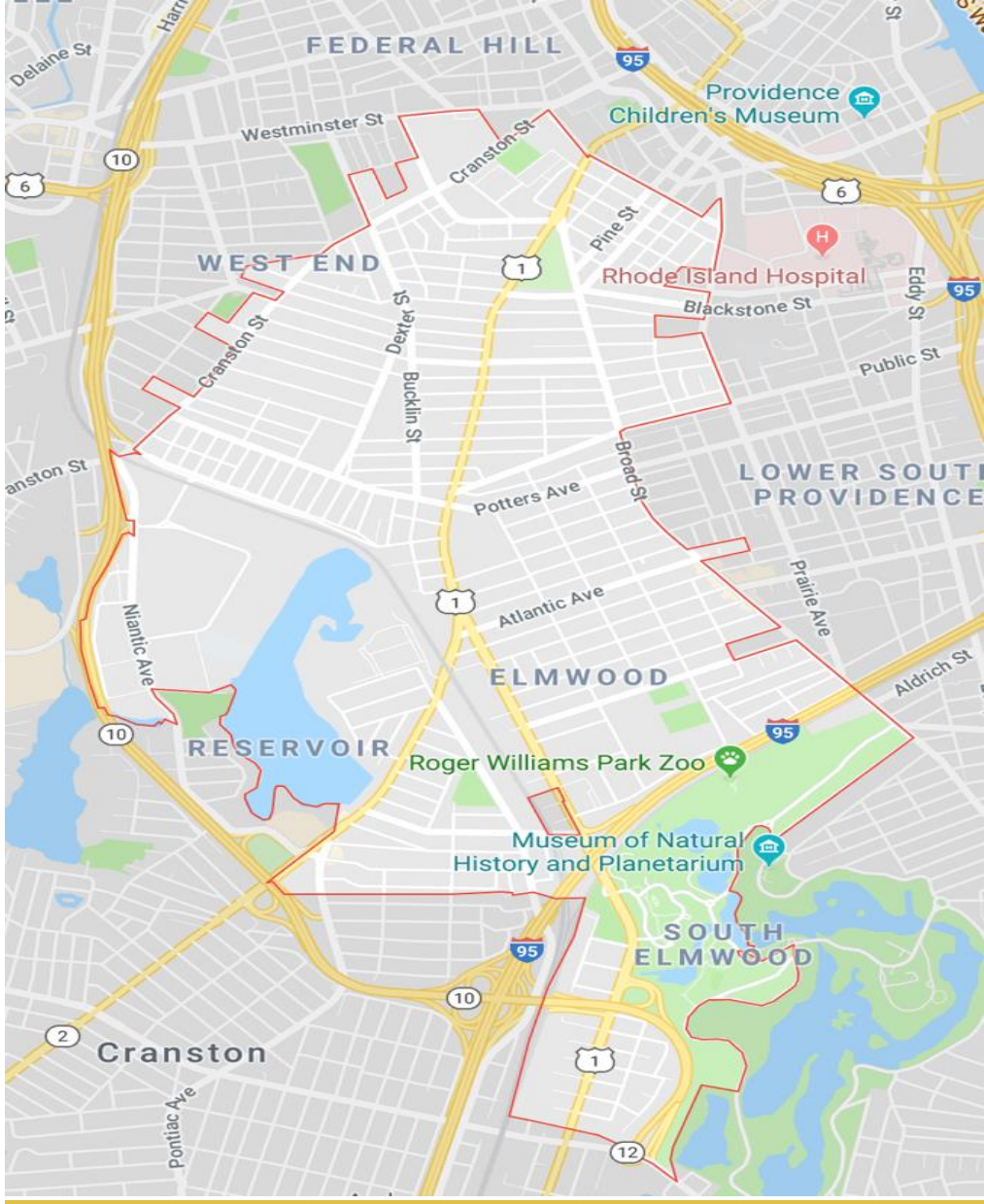
8,538 Households

62% Latinx

45.29% Foreign Born

69% Renters

31% Homeowners



"One of the things that I've always loved about this neighborhood and this part of town is how beautifully diverse it is." – 02907 Resident

Rhode to Equity

Funded by RI EOHHS, as part of the Health Systems Transformation Project, and the Rhode Island Department of Health

- Enhance **place-based teams** of **local partners** and **community residents** funded to improve population health with an **equity lens**.

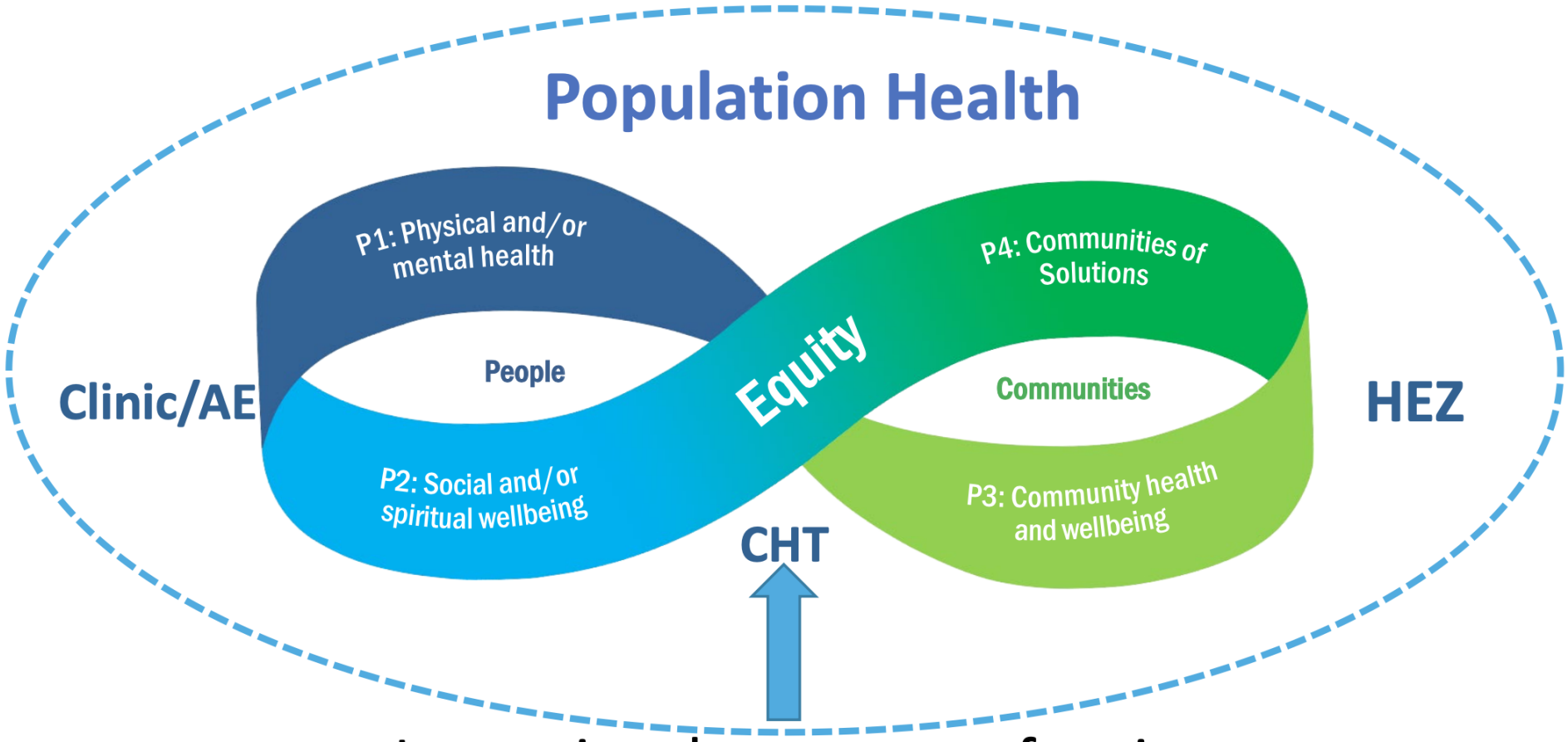
- Apply the evidence-based **Pathways to Population Health** framework to build responsive **community-clinical linkages** that **improve health** and **social outcomes identified by the local team**.

- Use clinical and community data to **identify population health needs within the HEZ**, **test strategies**, and build **sustainable community solutions**

Pathways to Population Health: 4 Interconnected Portfolios of Work

PATHWAYS TO POPULATION HEALTH

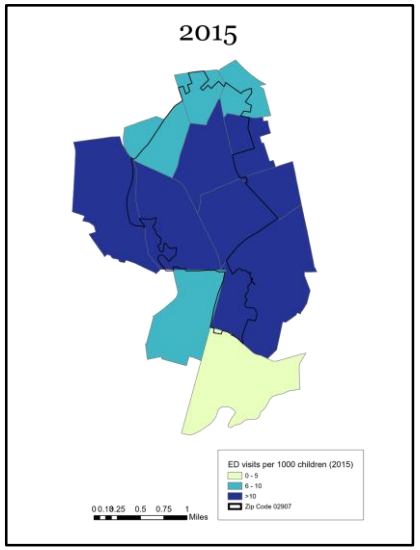
Improving the health and wellbeing of people

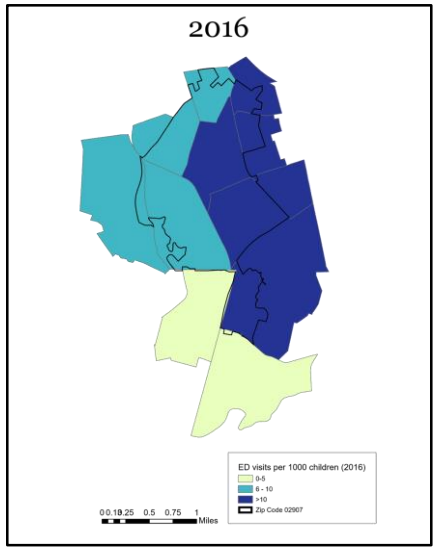


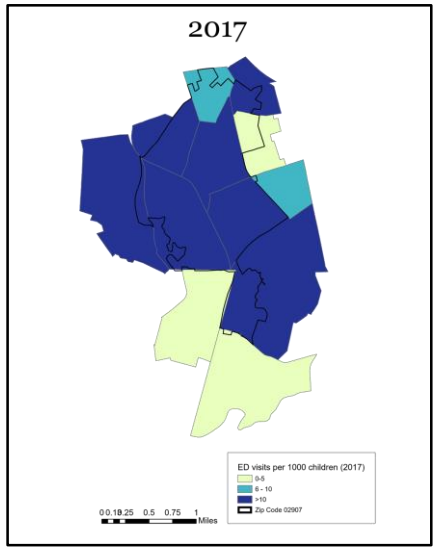
Improving the health and wellbeing of places

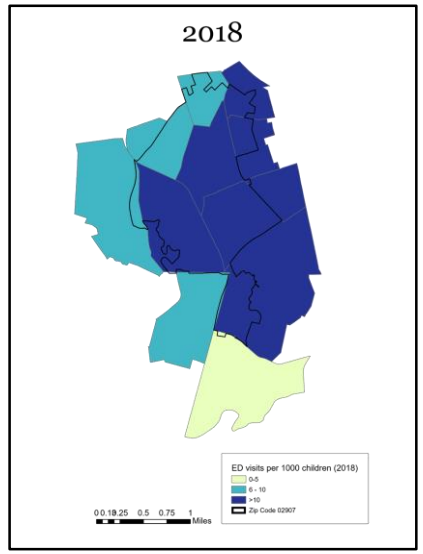
Improving the systems of society

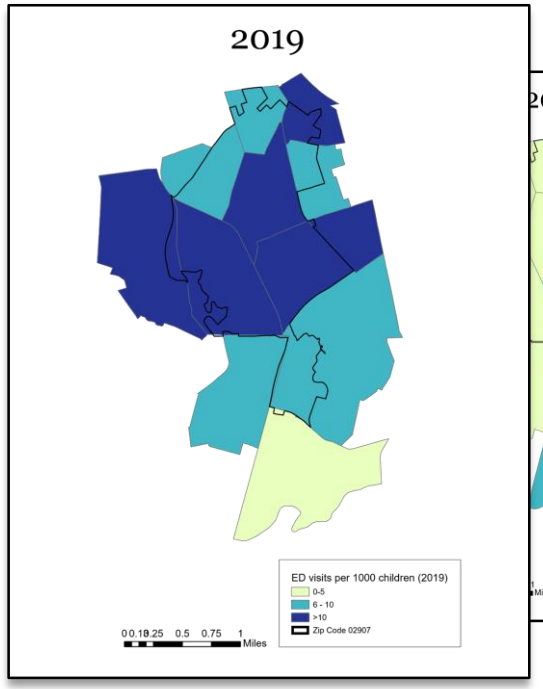
Asthma & 02907: Asthma ED Rates 2015-2020

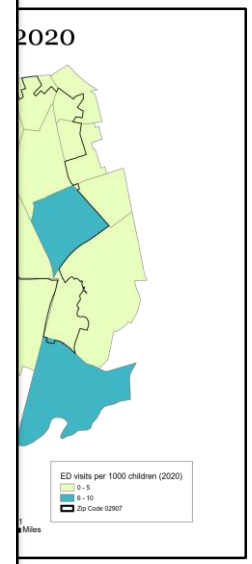












ED Visits & Asthma

The number of emergency department visits among children under the age of 18 where the primary diagnosis is asthma is 14.8x higher in the 02907 zip code than the number of emergency room visits for children living in Providence's more affluent 02906 zip code (Providence's East Side). The Adult rate is 6x higher.

Our Aim

Reduce the number of adult and pediatric asthma-related ED visits/inpatient hospitalizations attributable to community and environmental triggers among 02907 residents by 50% over the next 3 years

Asthma Drivers: 02907 HEZ

Downstream
[Urgent & Immediate]

- Effective Asthma Self-Management Education
- Access: Inconsistent Communication, Irregular Follow-Up with Providers
- Behavioral Health: Lack of Services Impeding Asthma Management

Midstream
[Social Needs]

- In-Home Asthma Triggers: Mold, Rodents, Insects, Dust
- Household Members Smoking/Vaping
- Lack of Reliable Transportation for Appointments

Upstream
[Community Conditions]

- Environmental Air Quality
  - I-95
  - Port of Providence
  - Lack of Tree Canopy

Groundwater
[Root Causes, Policies, Systems]

School-Based Triggers | Land Use/Zoning | Socio-Economic Status | Homeownership

Driver-Based 12-Month Goals: 02907 HEZ

Downstream [Urgent & Immediate]	Midstream [Social Needs]	Upstream [Community Conditions]
• CHWs/CHAs Certified Asthma Educators • All High-Risk Patients connect to a CHW/CHA • No Asthma ED or Inpatient for lack of RX • Completed Asthma Action Plans – All Patients • All Patients with Anxiety/Depression Referred to Services	• CHWs/CHAs Educate Patients re Legal Options • Implement Process for Effective Housing Code Violation Reporting • Complete 8 Healthy Home/Weatherization Rehab (Funding from United Healthcare) • Address SDOH Needs via Unite Us Platform • Close Transportation Gaps	• Partner with American Lung Association to Advance New Healthy Air Rhode Island Campaign. • Outreach to South Providence Green Justice Zone. • Partner with current Asthma Initiatives working in PPSD.

Groundwater
[Root Causes, Policies, Systems]

Currently Under Review & Planning

Timely News…

The New York Times

How Air Pollution Across America Reflects Racist Policy From the 1930s

A new study shows how redlining, a Depression-era housing policy, contributed to inequalities that persist decades late cities.

Sections

Climate & Environment COP26 COP26 FAQ Climate Solutions Invisible project 2C project

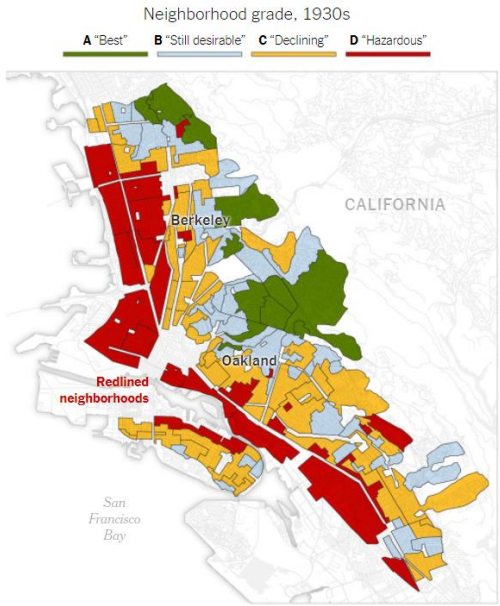
The Washington Post
Democracy Dies in Darkness

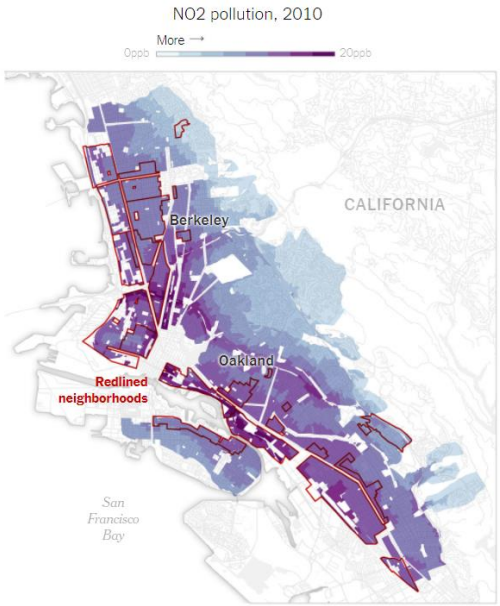
Climate & Environment

Redlining means 45 million Americans are breathing dirtier air, 50 years after it ended

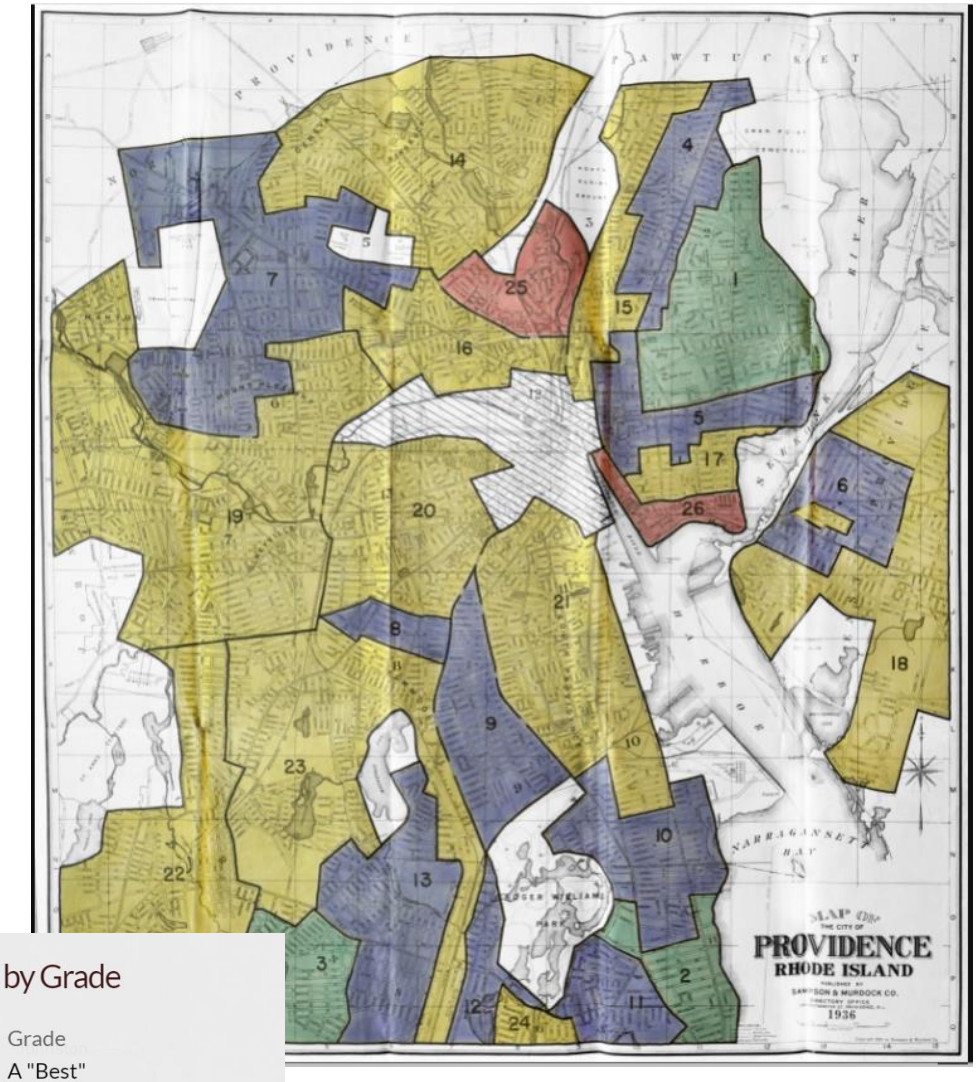
Boyle Heights, a heavily Latino area in L elements,' has one

gled out for its 'detrimental racial scores in California





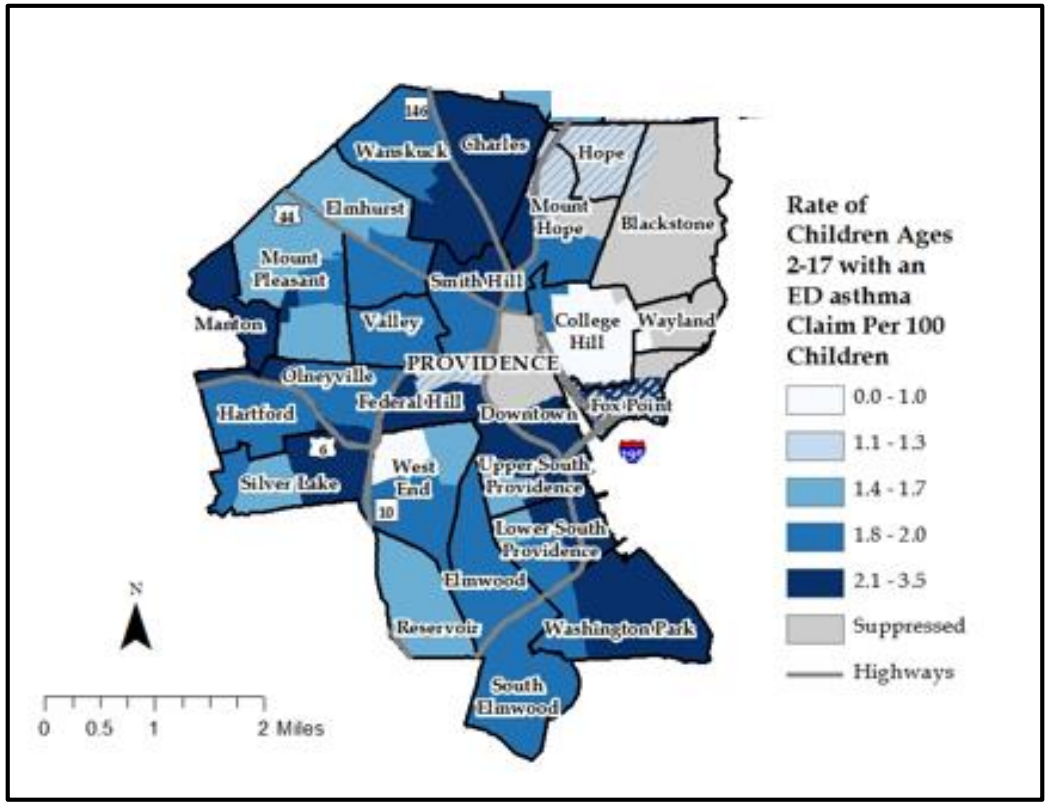
Redlining in Providence: 1935



Areas by Grade

Area	Grade
9%	A "Best"
27%	B "Still Desirable"
62%	C "Definitely Declining"
3%	D "Hazardous"

ED Asthma Rates in Providence Today



RI-AIR Program
(Rhode Island Asthma Integrated Response)

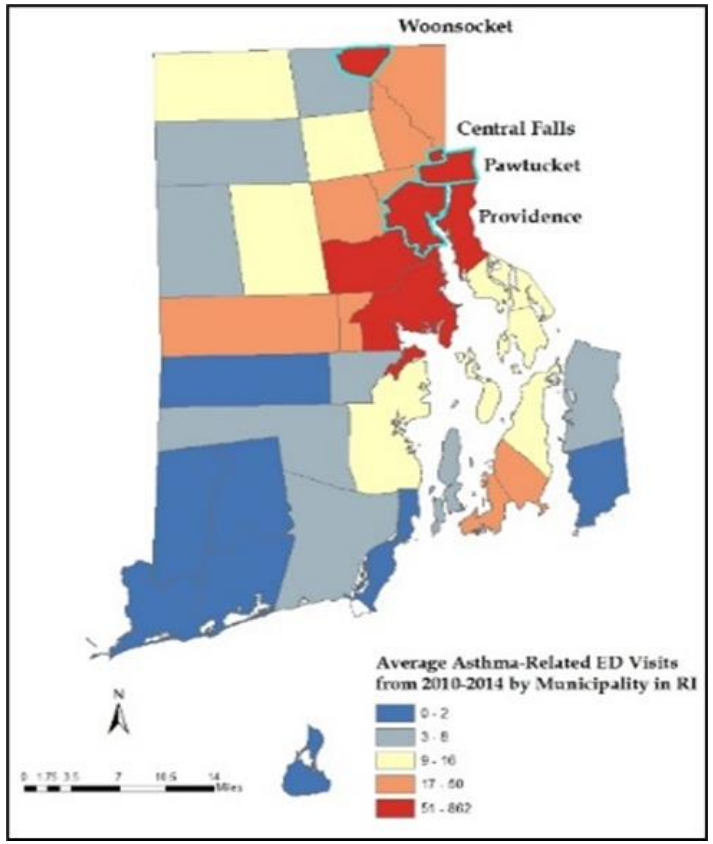
Elizabeth McQuaid, Ph.D., ABPP
Daphne Koinis Mitchell, Ph.D. and the RI-AIR Team

This work was supported by RI Department of Health Asthma Control Program, Hassenfeld Child Health Innovation Institute, Hasbro Children's Hospital, and the NHLBI U01 HL138677 (McQuaid & Koinis Mitchell, PIs)

elizabeth_mcquaid@brown.edu; Twitter @ELMcQuaid

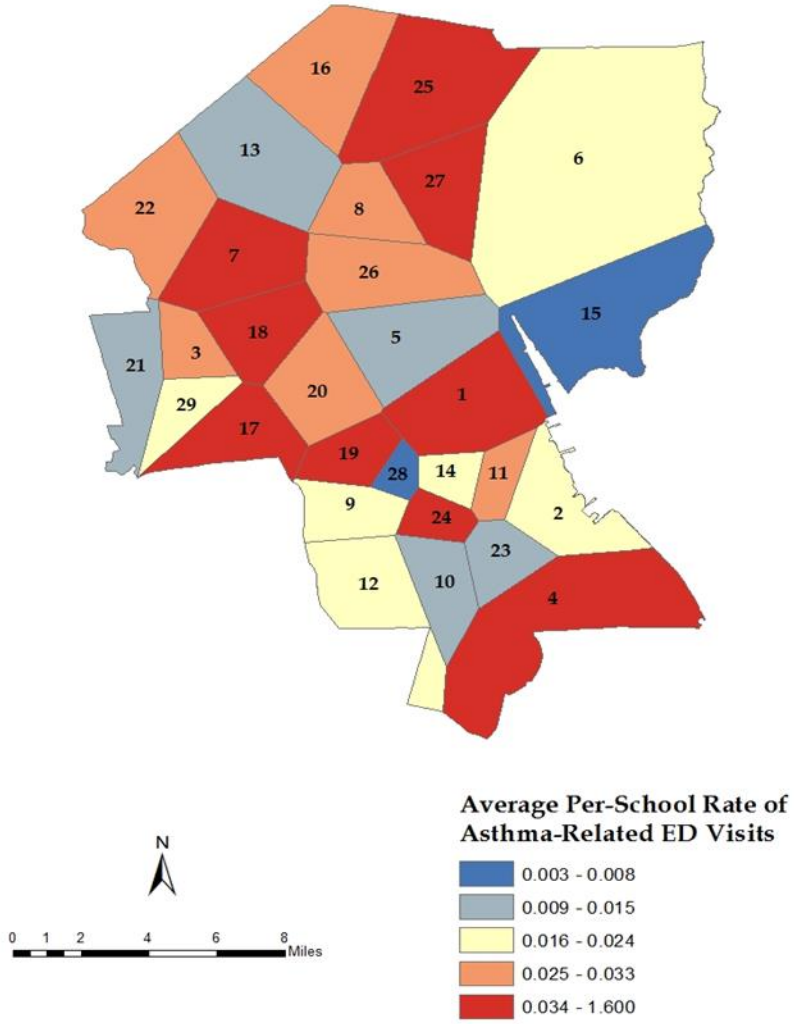
The RI-Asthma Integrated Response (RI-AIR) Program

- Proactive identification of children with asthma at high risk through geospatial mapping
- Study Population:
  - Children ages 2-12 with not-well controlled or poorly controlled asthma, living in identified high-risk areas.
- Referral system to evidence-based school and home programs
  - Controlling Asthma In Schools Effectively (CASE)
  - Home Asthma Response Plan (HARP)
- Hybrid Type II Design, equal focus on effectiveness and implementation



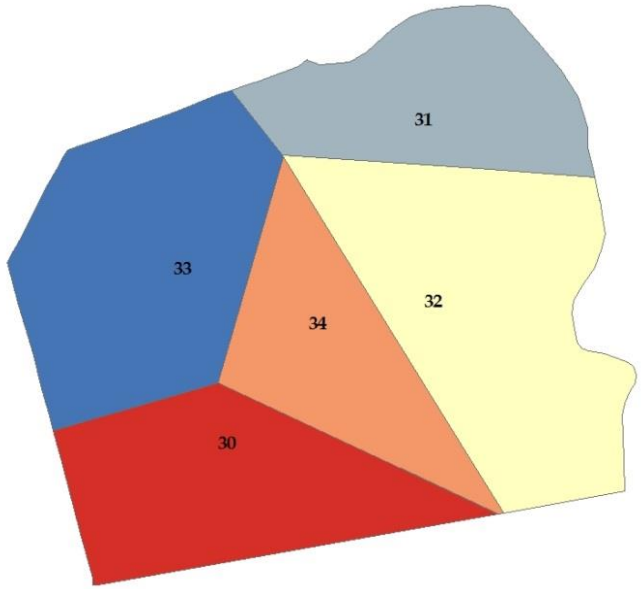
U01 HL 139677 (McQuaid & Koinis Mitchell, PIs)

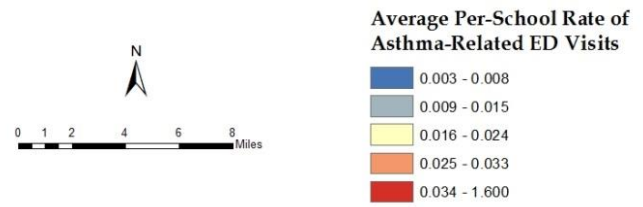
Targeted Communities: Providence



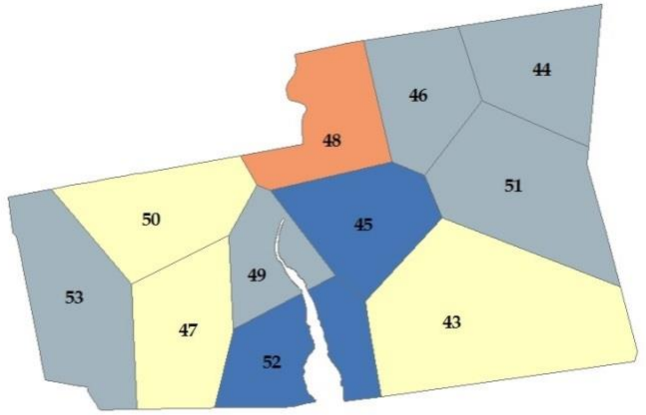
Providence

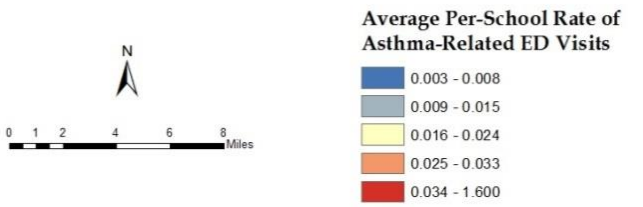
Targeted Communities Central Falls and Pawtucket





Central Falls





Pawtucket

Targeted Interventions through Home and School

Key Partner: Rhode Island Department of Health

Leads: Ashley Fogarty & Deborah Pearlman, PhD

RI-AIR Community Health Workers Serve Many Roles

CHWs work as part of a larger team, providing referrals to address family needs, developing goals for asthma management

CHWs participate in recruitment and outreach events and help coordinate the child's asthma care across the home, school, and medical setting

CHWs deliver two evidence-based programs, a home-visiting program and a school-based program to improve asthma management.

Controlling Asthma in Schools (CASE) Components

- School-based asthma management education to students during school day
  - Managing asthma symptoms, avoiding triggers at school
  - Interactive, game-based format
- After-school asthma management education program to caregivers
  - School staff training
  - Environmental feedback to school administration

Home Asthma Response Plan (HARP) Components

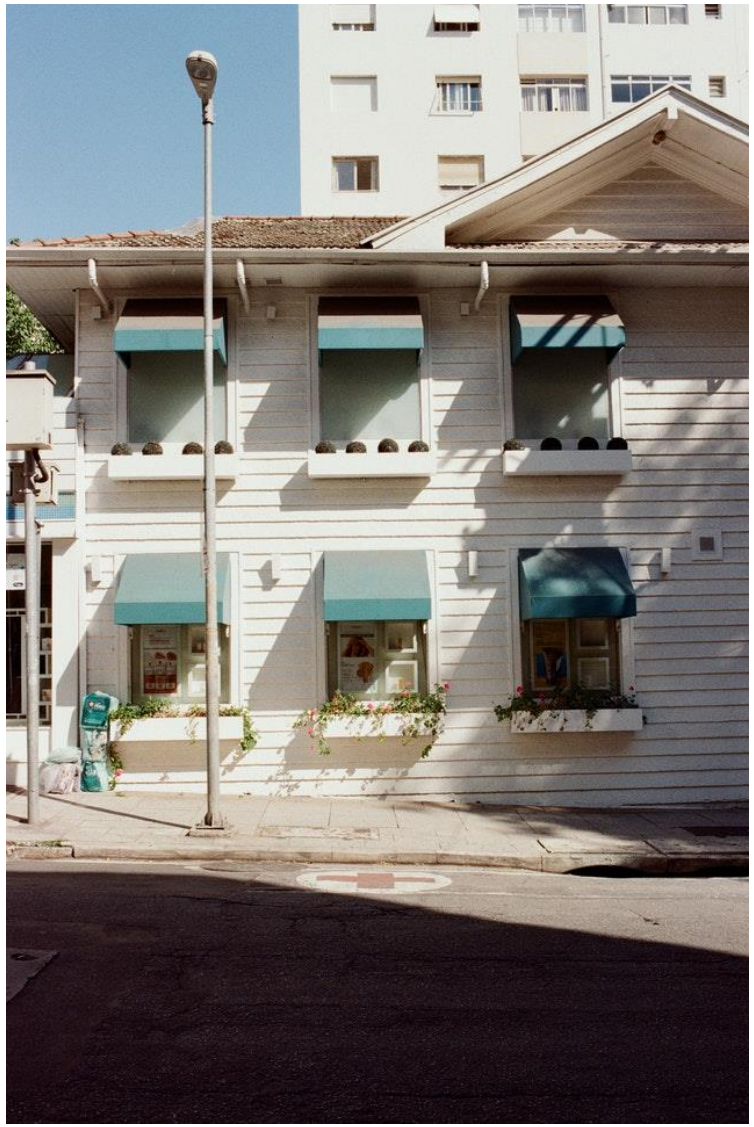
Visit 1: AE-C & CHW	Visit 2: CHW	Visit 3: CHW
Provide asthma education, asthma pathophysiology, symptoms, medications, environmental triggers • Residential walk-through to identify triggers and discuss trigger remediation • Caregiver and child develop goals to improve asthma management	• Review and problem-solving asthma management goals set at first visit • Provide supplies for environmental remediation • Review Asthma Action Plan with family	• Review and problem-solving goals set at Visits 1 and 2 and use of supplies provided • Residential walk-through follow-up

Coordination of Care

- Health Care Providers receive notification regarding program enrollment
- Intervention Staff work to obtain or develop Asthma Action Plan
- Asthma Action Plan is shared with School Nurse, Uploaded to KIDSNet (statewide platform for sharing child health information)
- Health Care Provider receives summary of participation and interventions delivered

Challenges during COVID-19: *Adaptation logistics*

- How to effectively translate in-person home walkthrough to remote setting
- How to determine and adapt to each caregiver's comfort level with technology
- How to replicate effective intervention with stress and demands related to pandemic
- How to maintain safety for staff and caregivers



How to replicate effective intervention with stress and demands related to pandemic

- Strategy: Increased flexibility with families' schedules
- Strategy: Adapting format of intervention to what works best for caregivers (ex. live video is easiest)

How to maintain rapport with families

- Strategy: Staff have more individual contact with participants now, allows them to form relationships even when 100% virtual; Acknowledge stress levels, provide support and referrals

Remote home visiting and school classes: *Unexpected challenges*

- We discovered that the Zoom interface doesn't translate into Spanish
  - Developed a set of slides and screenshots to help Spanish-speaking participants
- Children have changed Zoom names to unexpected things
- No-show rate is high for home Zoom sessions
- Caregivers have taken staff with them while they do other things – go shopping, make dinner, drive their children
  - Encourage caregivers to get to a stopping point before continuing (while keeping them on Zoom when possible)
- Unsure if we always catch all triggers present in the home (ex. unable to smell things like smoke, mold)

Future Question: Will remote home visits and remote school sessions be *as effective* as in-person interventions

- Will be important to compare outcomes from in-person home visiting with outcomes for remote home visiting
- Evaluation of outcomes is complicated by many other factors associated with the pandemic
  - Limited social contact and trigger exposure outside of the home
  - Better infection control due to masking, handwashing
  - Decreased health care utilization for asthma due to families' wish to avoid the physician's office or hospital

Evaluation & CME

- Please provide us your feedback!
- Evaluation/Credit Request Form: https://forms.office.com/r/wzmaJhrPxV
  - Please request CME credits when filling out the evaluation at the end of the meeting.

See you at our next Quarterly Breakfast of Champions:

June 17, 2022