

Healthy Homes Asthma Management Program

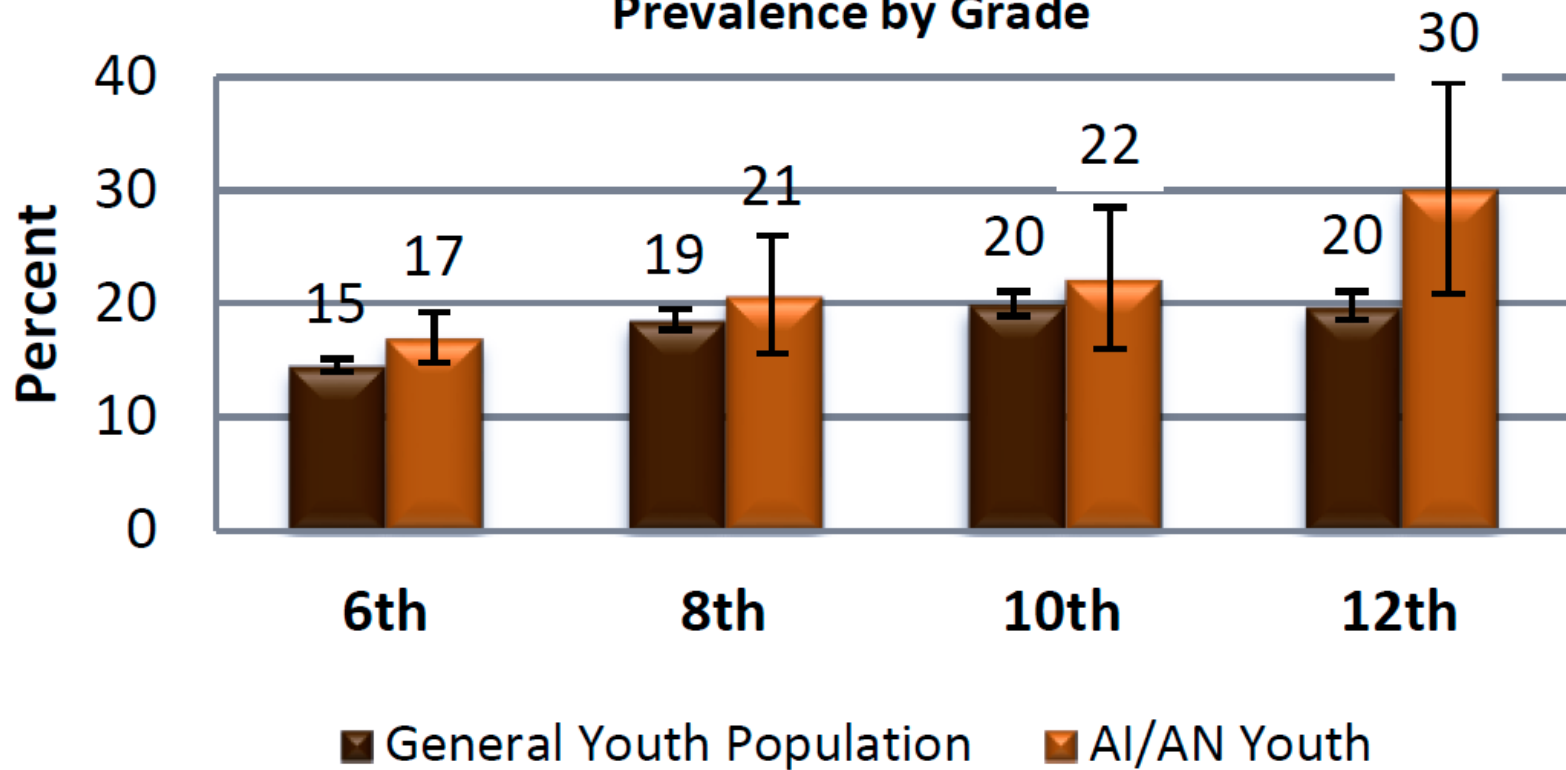
Indian Health Service
Yakama Ambulatory Medical Clinic
And Environmental Health Program

Managing Asthma through Medicine and Healthy Living Environments

Asthma

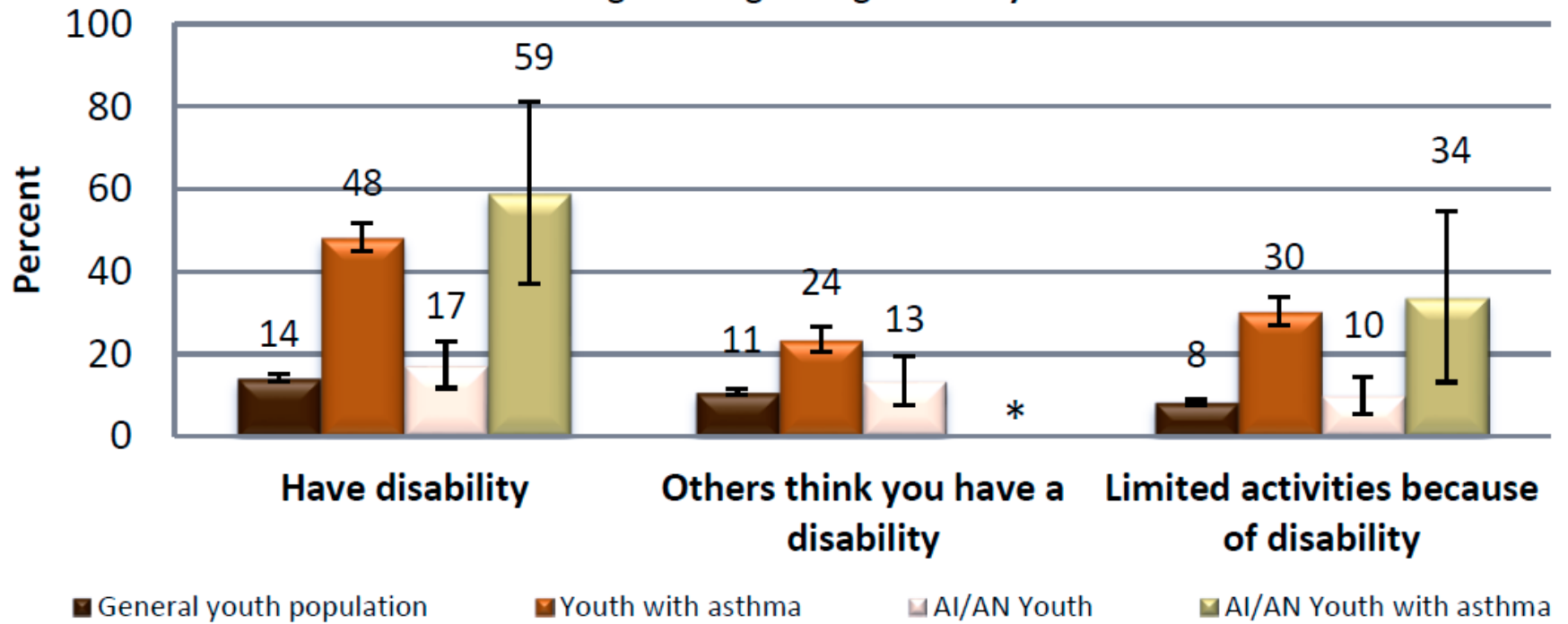
- Washington Department of Health reports that American Indians/Alaska Natives have a higher prevalence of asthma than the general population in the State of Washington.
- IHS Yakama Service Unit made an organized, multi-disciplined effort to prevent and control asthma in the population it serves by integrating primary medical care and environmental public health in 2015.

**Figure 19. Lifetime Asthma Among Washington Youth
Prevalence by Grade**



Washington Healthy Youth Survey, 2008 and 2010. Year standardized estimate

Figure 23. Prevalence of Disability and Limited Activities Among Washington High School youth



*Estimate unreliable due to small sample size

Washington Healthy Youth Survey, 2008


Healthy People 2020:

Eight national asthma objectives



REDUCE

1. asthma deaths
2. hospitalizations for asthma
3. emergency department (ED) visits for asthma
4. activity limitations among persons with asthma
5. Proportion who miss school or work days due to asthma

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6. proportion who receive formal patient education
 7. proportion who receive appropriate asthma care
 8. number of States...with a comprehensive asthma surveillance system for tracking asthma cases, illnesses, and disability at the state level



INCREASE

Healthy Homes Asthma Management Program

Indian Health Service

Yakama Ambulatory Medical Clinic and Environmental Health Program

- Focus on patients w/ moderate to severe asthma not controlled with prescription medications.
- Referred by IHS pharmacy or provider for home assessment.
- Home assessment includes some intervention materials: mattress & pillow covers, low VOC cleaning supplies, and patient education- how to mitigate identified triggers.
- Report of findings to IHS clinical provider, report is placed into EHR.
- Liaison with Tribal Programs for remediation or correction of structural deficiencies; i.e. leaking roof, pipes, poor ventilation, etc.; if the home qualifies for assistance.
- Currently IHS and NPAIHB are completing an NIH Childhood Asthma Management study.



Methods

- Patients with moderate to severe asthma who are not obtaining adequate control with prescription therapy.
- Referred through EHR by provider or pharmacist.
- Home assessment by environmental health officer.
- Findings and health education provided to patient at each visit; report of environmental findings placed in EHR for **provider signature**. Provider must sign off that they saw the report.

- Environmental assessment addresses home, work, hobbies, lifestyle, and medication usage.
- Opportunity to participate in expanded program with 2 additional visits consisting of continued counseling in medication, lifestyle change, and environmental modifications.
- Incentive materials of proven interventions, i.e. mattress and pillow encapsulation supplies, low odor green cleaning supplies, etc. for control of common triggers.
- Surveillance of implementation of environmental recommendations and asthma control diagnosis after home assessments; total of 3 home visits.

Health-Environment-Housing Referral Network



EHR Template for Home Visits

Template: Asthma [Pharmacy]

-----SERVICE REQUESTED-----

Patient referred to * Pharmacy Asthma Clinic Asthma Home Evaluation
for New Established diagnosis of Asthma.

PROVIDE DETAILS: SEE TODAY'S CHART NOTE

ASTHMA CLASSIFICATION:


LEVEL OF CONTROL:

Results from 2015

- 17 out of 27 referrals accepted services
- 25 home visits were completed including 2nd and 3rd visits.
- 24 green cleaning supply kits were given out
- 13 out of 18 patients made environmental or habit modifications to their residences
- 8 patients showed a decrease in asthma rescue medication usage

Highlights

- Good response from Yakama Nation Housing Authority in addressing deficiencies in YN owned homes.
- 3 family relocations to better housing.
- 1 removal of all carpeting and cleaning of ductwork by Yakama Nation Housing Authority.
- YNHA Weatherization Plus Health Grant partnership to address home deficiencies.

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- Identification of unique insect infestation as asthma trigger, patient allergic to carpet beetles.
 - 1 hospital admission avoided.
 - Increased integration between clinic & environmental health.
 - Partnership with EPA Healthy Homes.
 - Access to EHR allowed streamlined processing.
 - Increased access to healthcare.
 - Lead to NIH grant for the NPAIHB.



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RESEARCH

Evaluation of a pharmacist-managed asthma clinic in an Indian Health Service clinic

Ryan G. Pett*, Shane Nye

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ABSTRACT

Objectives: To observe whether American Indian and Alaskan Native (AI/AN) patients at the Yakama Indian Health Service seen at the pharmacist-managed asthma clinic improved asthma outcomes.

Design: Retrospective chart review, single group, preintervention and postintervention.

Setting: Pharmacist-managed asthma clinic at an Indian Health Service ambulatory care clinic.

Patients: Sixty-one AI/AN patients who were seen at least once in the asthma clinic from 2010 to 2014.

Intervention: Pharmacist-provided asthma education and medication management.

Main outcome measures: Asthma-related hospitalizations and emergency department or urgent care (ED) visits.

Results: The total number of asthma-related hospitalizations and ED visits between the 12-month periods preceding and following the initial asthma clinic visit were 11 versus 2 hospitalizations ($P = 0.02$) and 43 versus 25 ED visits ($P = 0.02$), respectively. Over the same period, asthma-related oral corticosteroid use showed a nonsignificant decrease in the number of prescriptions filled ($n = 59$, $P = 0.08$). In contrast, inhaled corticosteroid prescription fills significantly increased ($n = 42$, $P = 0.01$).

Conclusion: A reduction of asthma-related hospitalizations and ED visits were observed during the course of the intervention. Increased access to formal asthma education and appropriate asthma care benefit the Yakama AI/AN people. A controlled trial is needed to confirm that the intervention causes the intended effect.

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Childhood Asthma Program

NIH Grant

- Started 2019
- 31 child patients enrolled
- 9 referrals pending
- 46 total home assessments/visits completed
- Pharmacy schedules home visit appointments
- EHO does not use EHR, documents funnel through pharmacy for entry into patient's chart
- 2 additional tribes part of the NIH asthma grant

Example Educational Materials

PEAK FLOW METER PATIENT EDUCATION HANDOUT

A peak flow meter is a tool that can help you, your caregiver, and your health care provider manage your asthma. They are often very useful in helping people if they are unsure if they are having problems with their asthma. Make sure to ask your health care provider to assist you if you are having problems using your peak flow meter.

HOW TO USE YOUR PEAK FLOW METER:

1. Turn the peak flow meter so the number side is up and slide the red arrow to the bottom of the scale. This step is very important and must be done each time before using the peak flow meter
2. Stand up if possible
3. Hold the meter in your hand making sure not to block the end or the arrow on the top side
4. Breathe in a comfortable breath
5. Breathe out comfortably and hold your breath for a few seconds
6. Breathe in a full deep breath
7. Immediately place the mouthpiece of the peak flow meter into your mouth and seal your lips around the mouthpiece. Do not place your tongue in front of the opening of the mouthpiece
8. Keep the peak flow meter level and blow out as hard and fast as you can
9. Record the number
10. Breathe normally for a few minutes and repeat steps 2-9 two more times. Record the highest number in your asthma symptom diary, asthma action plan, or on a calendar.

HOW TO FIND YOUR PERSONAL BEST PEAK FLOW READING

Write down your peak flow number each day in the morning before using any of your asthma medications and again early in the afternoon before taking any of your nighttime asthma medications. Track these numbers in your diary or action plan with the date, time and any asthma symptoms you are having such as coughing, and/or wheezing. Also write down if asthma symptoms woke you up the night before and if you are having difficulty doing any of your normal daily activities.

The highest number that you have recorded over a period of 2-3 weeks when your asthma is in the best control is your personal best peak flow. This number may change over time so ask your health care provider if and when to find a new personal best.

CALL THE CLINIC RIGHT AWAY IF...

- » **You are having trouble breathing:** if you start wheezing, coughing or have shortness of breath and have had no improvement with the use of your medications.
- » **Your peak flow number is dropping:** if you notice a drop in your peak flow number that does not improve after use of your rescue medication.
- » **You cannot continue your normal activities:** if you have trouble walking, talking or are not able to do your normal daily activities without having to stop a lot.

SEEK EMERGENCY MEDICAL CARE IF...

- » **You are struggling to breathe:** if at any time you are struggling to breathe, or your lips and nail beds turn a bluish color, you should **immediately seek emergency care!** Do not drive yourself. Call a neighbor or 911 for assistance.

LONG ACTING BRONCHODILATORS

VS.

RESCUE INHALER

- 1 They do not reduce or prevent the swelling in your airways.
- 2 They help to stop the symptoms or feelings of an asthma attack by opening up airways.
- 3 These medicines can relieve symptoms or feelings within minutes.

- » Used with inhaled steroids to prevent symptoms (not treat).
- 2 They help decrease the number of asthma attacks that happen.
- 4 They work slowly and are not to be used for acute attacks.

HOW TO TAKE MEDICINE

Step 1. Open your inhaler. Hold the inhaler in one hand and with your other hand on the grip lower the mouthpiece cover from top to bottom.

Step 2. Push down the lever. Hold the inhaler in the vertical position. Push the yellow lever down to the end of the purple arrows (you may hear a click).

Step 3. Inhale your medicine.

- 1 Before you breathe in your dose from the inhaler, breathe out (exhale) as long as you can while you hold the inhaler away from your mouth. Do not breathe into the mouthpiece.

- 2 Put the mouthpiece to your lips. Breathe in quickly and deeply through the inhaler. Do not breathe in through your nose.

- 3 Remove the inhaler from your mouth and hold your breath for about 10 seconds, or for as long as is comfortable for you.

- 4 Breathe out slowly for as long as you can. The inhaler delivers your dose of medicine as a very fine powder that you may taste or feel.

Step 4. Close the inhaler. Push the mouthpiece cover up to the closed position. This will automatically return the yellow lever to the start position. Make sure the inhaler is shut and you cannot see the mouthpiece.

Step 5. Rinse your mouth with water after breathing in the medicine. Spit out the water. Do not swallow the water.

How Do I Use it?

Important: Before taking medicine, please follow instructions (included with inhaler) on how to prime your inhaler.

Notes:

If you use more than one medication, use them in the order and dose prescribed by your doctor.

HOW TO TAKE MEDICINE

Step 1. Remove cap on inhaler.

Step 2. Shake inhaler for 5 seconds. Put the inhaler mouth piece to your mouth.

Step 3. Breathe out. Seal your lips around the mouth piece.

Step 4. Breathe in slowly and deeply through your mouth and press down on the inhaler.

Step 5. Hold breath for 5 to 10 seconds, and then breathe out.

Step 6. Repeat steps 2 to 6 as instructed by your doctor.

Step 7. Wait one minute between puffs.

IF USING WITH A SPACER

Step 1. Remove cap on inhaler.

Step 2. Shake inhaler for 5 seconds. Put the inhaler mouth piece to your mouth.

Step 3. Breathe out. Seal your lips around the spacer and mouth piece.

Step 4. Spray one puff from inhaler into the spacer.

Step 5. Breathe in slowly and deeply through your mouth. If spacer whistles, you are breathing in too fast.

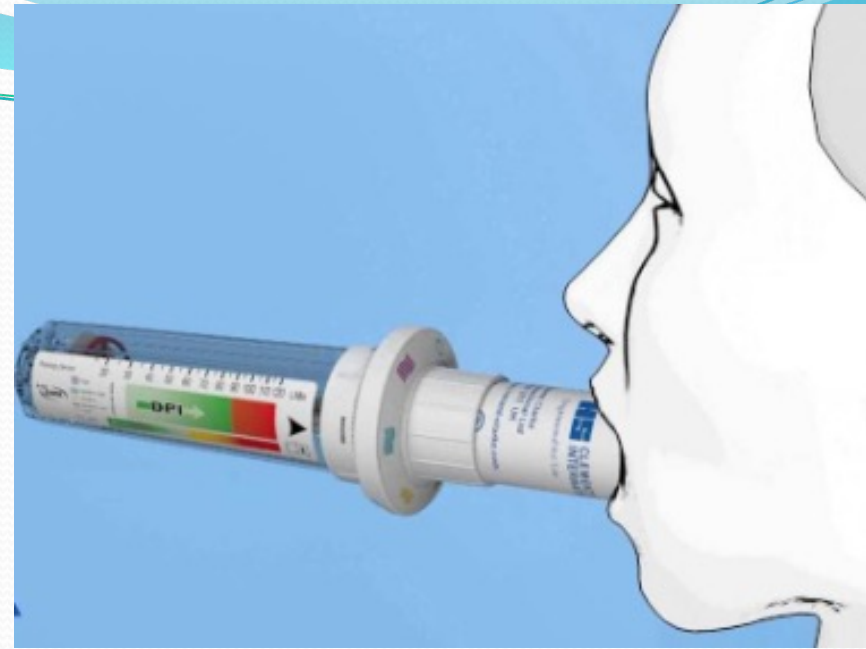
Step 6. Hold breath for 5 to 10 seconds, and then breathe out.

Step 7. Repeat steps 2 to 6 as instructed by your doctor.

Step 8. Wait one minute between puffs.



Example Tools



Special Thanks

- IHS Medical and Pharmacy Departments
- Yakama Childhood Asthma Program: LCDR Ryan Pett, PharmD; LT Emily Castle, PharmD
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