



Improving Asthma Through Home Visiting

2012 Montana Public Health Association Spring Conference

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Montana Asthma Control Program

Description

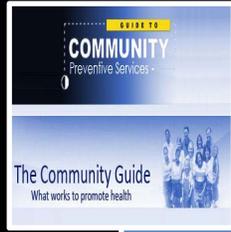
Multi-component, home based intervention to address asthma

Target audience: Children with asthma and their families

Includes both environmental and educational components

Evidence base

Community Guide



- Recommends “home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma”
- Evidence of effectiveness in improving overall quality of life and productivity

NHLBI EPR-3 Guidelines



- “education delivered in the homes of caregivers of young children”
- “multifaceted allergen education and control interventions delivered in the home setting” should be utilized for asthma patients with allergies

Translating research

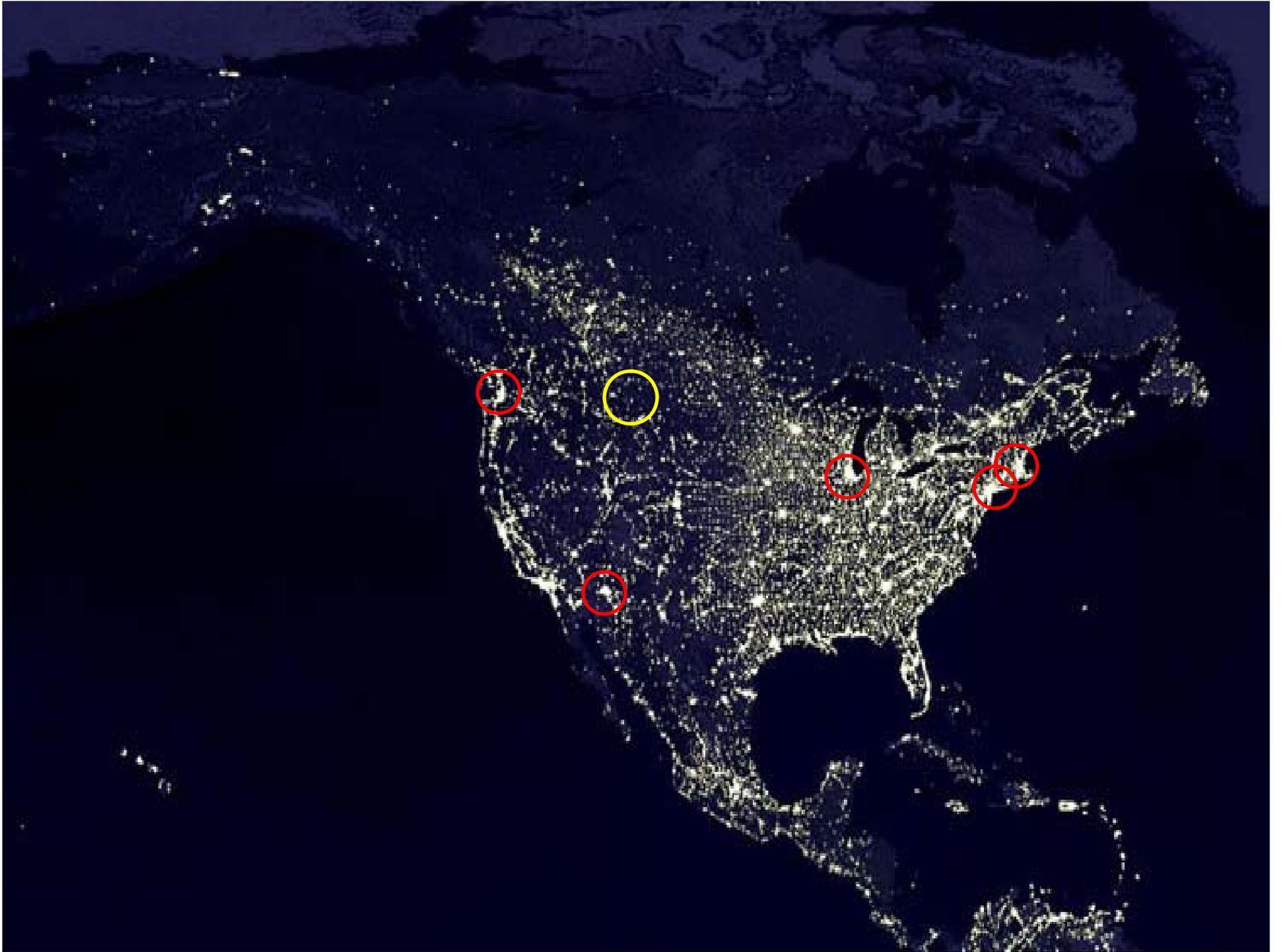
Infrastructure

Unique
characteristics
of Montana

Rural
demographics

Geography

Climate



U.S. Department of the Interior
U.S. Geological Survey

The Geographic Face of the Nation – Elevation



Scale of pixels is approximately 14,000:1

The U.S. Geological Survey (USGS) has synthesized a seamless elevation dataset for the entire United States. The National Elevation Dataset (NED) was produced from more than 17,000 individual digital elevation models. NED elevation values are stored as meters in a geographic map projection with a resolution of 1 arc-second (about 30 meters) for the conterminous United States, Hawaii, and Puerto Rico, and 2 arc-seconds for Alaska. The NED is spatially referenced to incorporate new elevation data.

The NED is provided to the public for a broad range of uses including hydrologic modeling and water mapping. Online documentation, viewing, and access to the NED are available at the USGS web site <http://pubdata.usgs.gov/bed/>.

For more information, contact:

U.S. Geological Survey
ENR/ERDP Data Center
Menlo Park, CA 94025
Telephone: 415-334-6311
Fax: 415-294-6297
E-mail: enr@erdp.usgs.gov

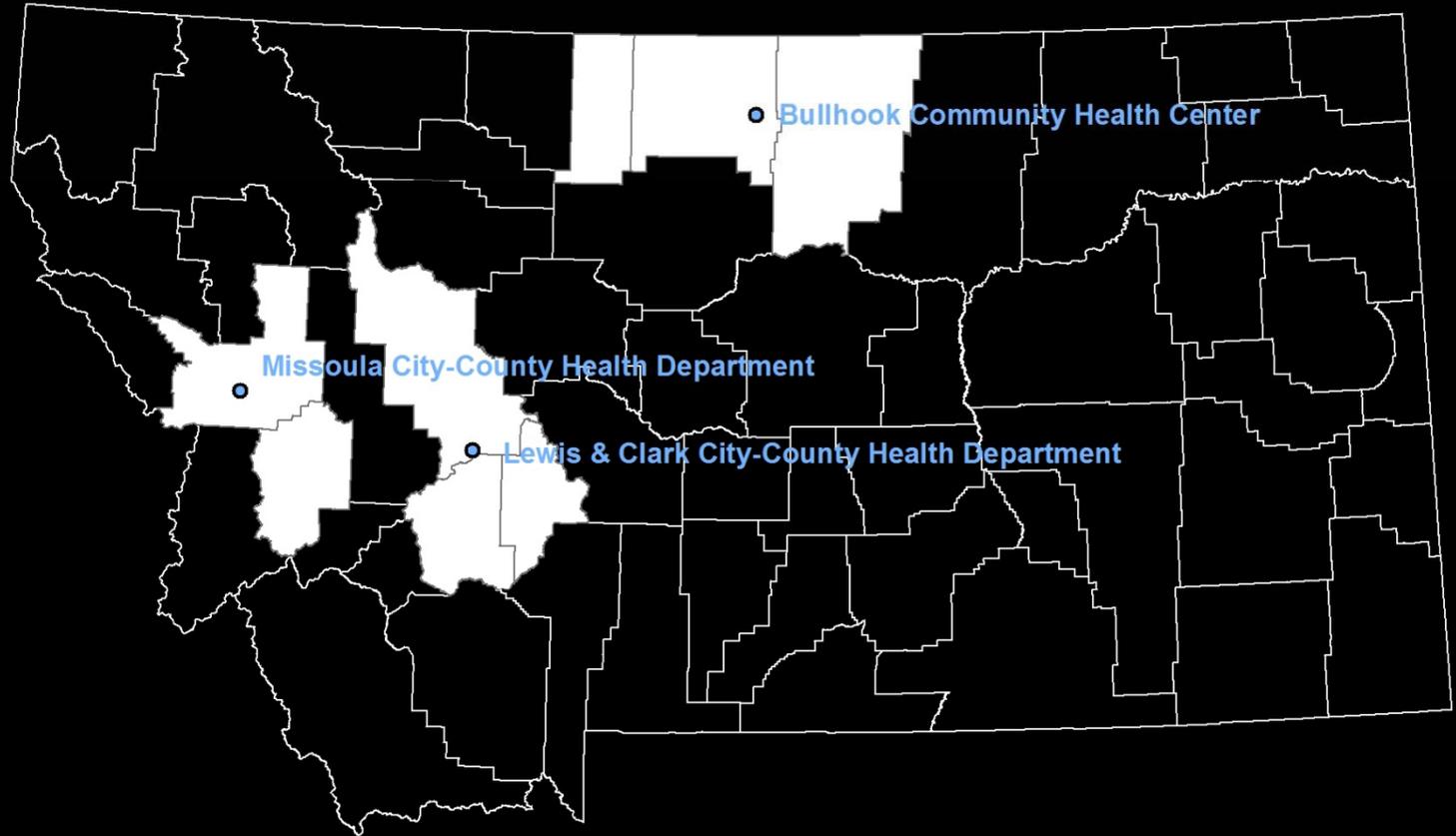


U.S. Geological Survey
Department of the Interior
1225 E. Columbia Avenue
Reston, Virginia 20192

MAP Timeline

- December 2010 Competitive RFP released to all local health departments and CHCs
- January 2011: Applications reviewed, three sites awarded
- March, 2011: 2 day training in Helena for sites
- June, 2011: Recruitment begins

MAP Pilot



Three sites funded in spring 2011

Eligibility

Child aged 0-17 with
current asthma diagnosis

At least one ED visits or
hospitalization for asthma in
the last year OR

Asthma control test score of
less than 20 in the last year

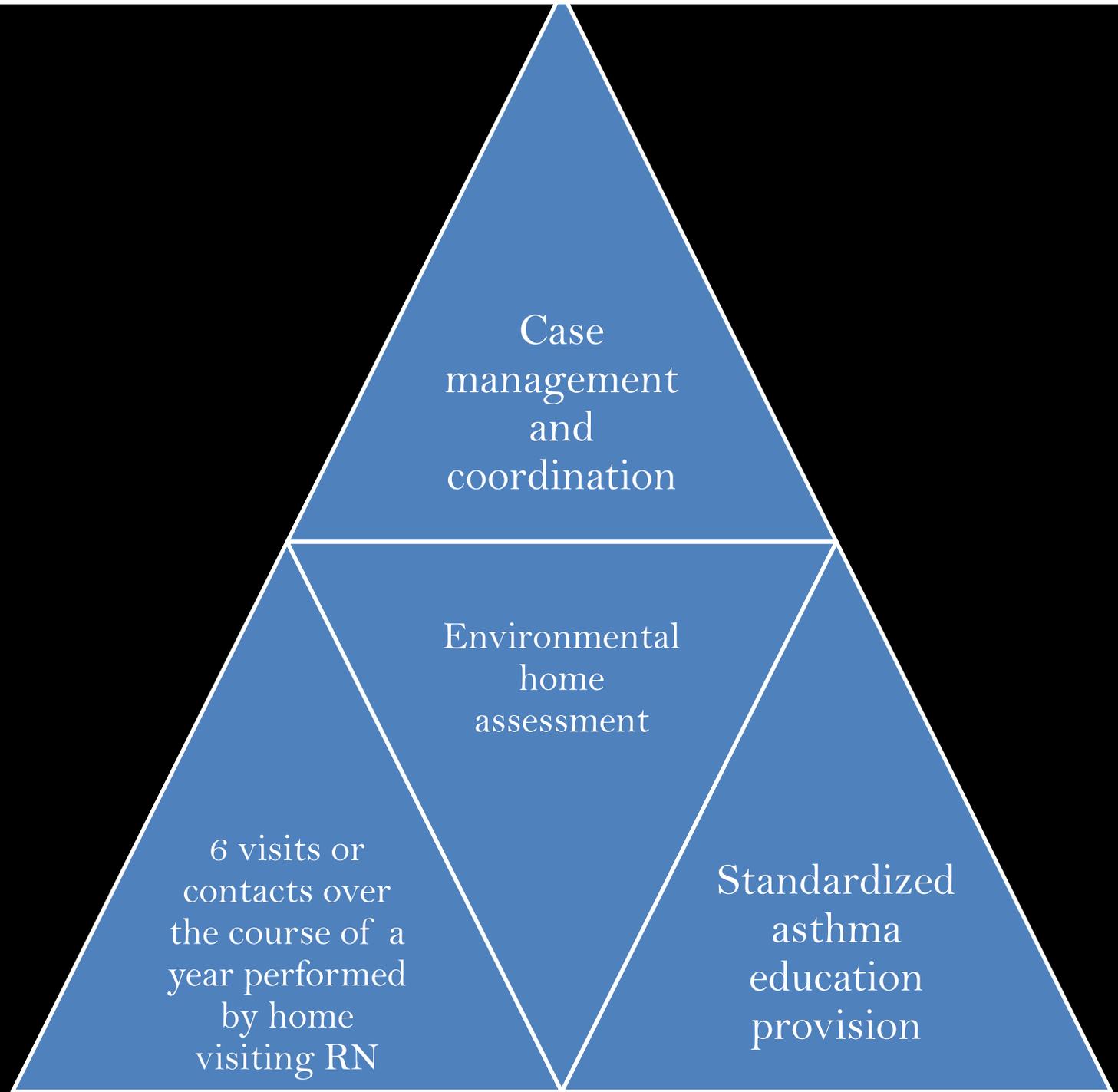
Home visitors

Registered nurses

Required to have previous home visiting experience

No specific knowledge of asthma required

MAP Specifics



1st Visit

- ~ 2 hours
- Entry survey given to parent
- Asthma knowledge quiz
- Asthma Control Test
- Healthcare/medication usage
- School/Work days missed
- Written asthma action plan
- Educational session
- Home environmental assessment
- Allergen impermeable covers given
- Case coordination with PCP
- Educational materials left with family

ASTHMA HOME ENVIRONMENT

CHECKLIST

Home visits provide an opportunity to educate and equip asthma patients with the tools to effectively manage their disease in concert with a physician's care. This checklist—designed for home care visitors—provides a list of questions and action steps to assist in the identification and mitigation of environmental asthma triggers commonly found in and around the home. The checklist is organized into three sections—building information, home interior and room interior. The room interior is further subdivided by categories (such as bedding and sleeping arrangements, flooring, window treatments, and moisture control). This will allow the home care visitor to focus on the specific activities or things in a room—in particular the asthma patient's sleeping area—that might produce or harbor environmental triggers. The activities recommended in this checklist are generally simple and low cost. Information on outdoor air pollution follows the checklist. The last page includes information on U.S. Environmental Protection Agency (EPA) resources and an area for the home care visitor to record a home visit summary.

If the patient's sensitivities to allergens (such as dust mites, pests, warm-blooded pets and mold) and irritants (such as secondhand smoke and nitrogen dioxide) are known, the home care visitor should begin by focusing on relevant areas. This checklist covers the following allergens and irritants, which are commonly found in homes. Information is also provided on chemical irritants—found in some scented and unscented consumer products—which may worsen asthma symptoms.

Dust Mites

Triggers: Body parts and droppings.
Where Found: Highest levels found in mattresses and bedding. Also found in carpeting, curtains and draperies, upholstered furniture, and stuffed toys. Dust mites are too small to be seen with the naked eye and are found in almost every home.

Pests (such as cockroaches and rodents)

Triggers: Cockroaches – Body parts, secretions, and droppings.
Rodents – Hair, skin flakes, urine, and saliva.
Where Found: Often found in areas with food and water such as kitchens, bathrooms, and basements.

Warm-Blooded Pets (such as cats and dogs)

Triggers: Skin flakes, urine, and saliva.
Where Found: Throughout entire house, if allowed inside.

Mold

Triggers: Mold and mold spores which may begin growing indoors when they land on damp or wet surfaces.
Where Found: Often found in areas with excess moisture such as kitchens, bathrooms, and basements. There are many types of mold and they can be found in any climate.

Secondhand Smoke

Trigger: Secondhand smoke – Mixture of smoke from the burning end of a cigarette, pipe or cigar and the smoke exhaled by a smoker.
Where Found: Home or car where smoking is allowed.

Nitrogen Dioxide (combustion by-product)

Trigger: Nitrogen dioxide – An odorless gas that can irritate your eyes, nose, and throat and may cause shortness of breath.
Where Found: Associated with gas cooking appliances, fireplaces, woodstoves, and unvented kerosene and gas space heaters.

1st Visit



Asthma Education Curriculum

Session One: General Asthma Education



2nd Visit

- At one month
- Check on environmental goal set at the first visit
- Asthma knowledge quiz
- SABA use
- The nurse will follow up to see if the child has seen a healthcare provider
 - Review asthma action plan with the child and parent
- Free-standing HEPA purifiers will be provided to families
 - If the child is exposed to secondhand smoke, or
 - Where a dog/cat is present

3rd Visit

- At three months
- In person visit or phone call
- Educational/environmental issues addressed as needed



4th Visit

- At six months
- Asthma knowledge quiz
- Educational/environmental issues addressed as needed
- SABA use in last month
- Healthcare/medication usage
- School/Work days missed

5th Visit

- At 9 months
- Educational/environmental issues addressed as needed
- Phone call or in person visit



6th Visit

- At 1 year
- Asthma Control Test
- Asthma knowledge quiz
- Educational/environmental issues addressed as needed
- SABA use in last month
- Healthcare/medication usage, including ED/unscheduled office visits
- School/Work days missed
- Exit survey administered

MAP Objectives

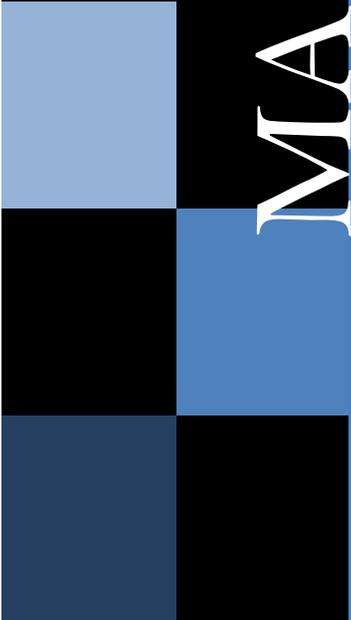
Increase test scores measuring management of asthma symptoms by 25%

Increase knowledge of methods of reducing and/or eliminating environmental asthma triggers by 25%

Increase to 100% the percentage of children in the program with a written asthma action plan

Decrease by at least 50% the proportion of children who reported using their short-acting beta agonist medication everyday within the last month

Increase by at least three points the mean score on the Asthma Control Test



MAP Objectives

Reduce by 25% the number of school days missed in the previous six months

Demonstrate a decline in ED/urgent care/unscheduled office visits for asthma

Estimate cost savings



Preliminary data

As of June 15th, 2012 :

- 84 children across the three sites had received the initial home visit
- 65 had received two visits (initial and one month)
- 58 children had received at least three home visits (initial, one month and three months)
- 48 had received a 4th visit at 6 months

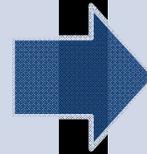
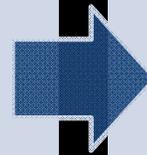
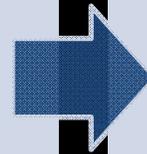
Preliminary data

Initial Visit

Asthma knowledge
test score of 10 or
higher: 11%

Has good inhaler
technique: 16%

Has AAP: 23%



1 month

Asthma knowledge
test score of 10 or
higher: 43%

Has good inhaler
technique: 60%

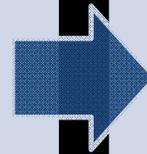
Has AAP: 52%

Preliminary data

Initial Visit

Had symptoms on
all of the last 30
days: 20%

Some/extreme
activity limitation in
the last month: 82%



1 month

Had symptoms on
all of the last 30
days: 11%

Some/extreme
activity limitation in
the last month: 64%

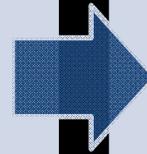
Preliminary data

Initial Visit

Missed at least one school day in the last 6 mo: 48%

ED/Unscheduled office visit in last 6 months: 57%

Has AAP: 23%



6 month

Missed at least one school day in the last 6 mo: 21%

ED/Unscheduled office visit in last 6 months: 23%

Has AAP: 70%

Preliminary data

Initial Visit

Missed at least one school day in the last 6 mo: 60%

ED/Unscheduled office visit in last 6 months: 67%

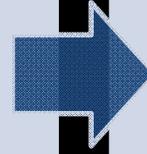
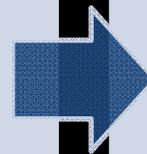
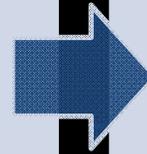
Has AAP: 20%

6 month

Missed at least one school day in the last 6 mo: 7%

ED/Unscheduled office visit in last 6 months: 11%

Has AAP: 77%





Success story

Missoula City-County
Health Department
MAP Home Visiting

Josy Jahnke, RN, BSN

Public Health Nurse

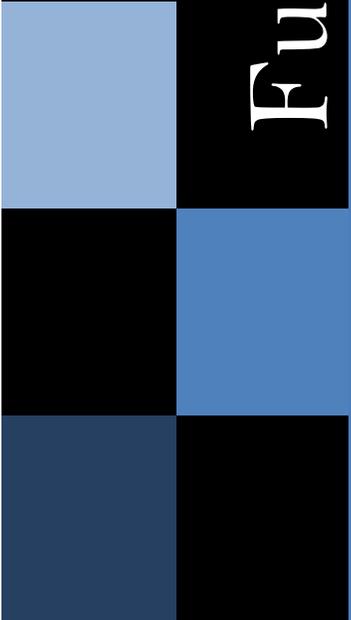
Kate Siegrist, RN, MSN, CNM

MCH Nursing Supervisor

Success story

Ellie in Missoula





Future Directions

- Applied for EPA Grant to fund 2 more sites for 2 years—would start October, 2012
- Possibility of more state funding through MSA

More information

MAP sites are currently accepting enrollees. Please send referrals!

Potential for funding more sites.
See me if you are interested.

Contact Katie Loveland
Montana Asthma Control Program
406-444-7304
<http://dphhs.mt.gov/asthma>
kloveland@mt.gov