Montana
Chronic Disease Prevention
& Health Promotion Bureau

Chronic Disease Surveillance Report

The Montana Asthma Home Visiting Program

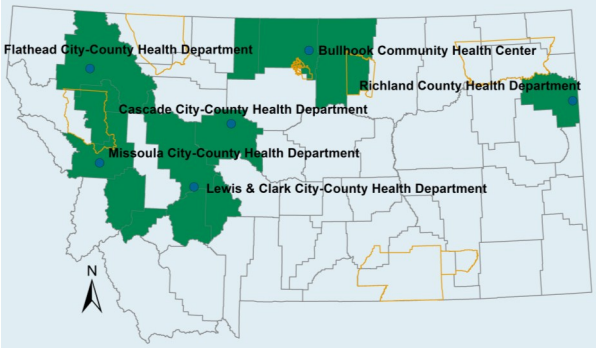
According to the Community Preventive Services Task Force, there is strong evidence for "the use of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma."[1] Furthermore, a large review of these asthma programs found that the economic benefits "can match or even exceed their program costs."[2]

In 2010, The Montana Asthma Control Program began work to design a home visiting program that fits the criteria outlined in the Community Guide for children and adolescents with uncontrolled asthma. The Montana Asthma Home Visiting Project (MAP) was designed to address basic asthma pathophysiology, asthma medications, and has a significant home environmental focus to address asthma triggers.

In 2011, three sites were funded to conduct MAP. They are the Bullhook Community Center, Missoula City-County Health Department and Lewis and Clark City-County Health Department. In 2014, three new sites were added at Cascade City-County Health Department, Flathead City-County Health Department, and Richland County Health department. These sites cover a variety of locations (Figure).

This report describes the MAP and demonstrates the improvements in asthma symptoms and quality of life of participants.

Figure. County of residence of MAP participants, Montana, 2014



Montana Asthma Control Program

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(406) 444-9155

http://www.dphhs.mt.gov/asthma

MONTANA DPHHS
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Methods
Deidentified data are submitted quarterly from MAP nurses via a secure website owned by the State of Montana. At varying contacts, home visiting nurses conduct an Asthma Knowledge Test (AKT), administer the Asthma Control Test (ACT), check inhaler technique, assess the number of urgent or emergency medical visits, ask about missed school and work days, and ask about a variety of asthma symptoms. The results shown in this report are a summary of these data.

March 2014

Services Provided

Eligible participants are:

- Aged 0-17 years
- Score less than 20 on the Asthma Control Test (ACT) or have had an emergency department (ED) visit or hospitalization for asthma in the last 12 months
- Live in or near a funded jurisdiction
- Have received a diagnosis of asthma

Each participant receives mattress and pillow covers for their bed, a workbook to track their progress and notes, a High-Efficiency Particulate Absorption (HEPA) filter if they have a pet or a tobacco smoker in the home, a home assessment of asthma triggers, and comprehensive education on asthma triggers and medications. These topics are covered during 6 contacts with a registered nurse (Table 1).

Table 1. Description of each MAP contact

Visit	Month	Type of contact	Outline
1	Baseline	Home visit	Baseline data collection, educate on asthma pathophysiology, asthma triggers, medication, devices and technique, asthma action plans, perform home environmental asthma triggers assessment, set home environmental change goal. Administer Asthma Knowledge Test (AKT).
2	1 month	Home visit	Review home environmental asthma trigger assessment and discuss if goal was met, review inhaler technique, review importance of asthma action plan
3	3 month	Phone call or home visit	Home visit if environmental change has not been made, SABA use still high, a HEPA purifier was provided in second visit, or child does not have an asthma action plan. Otherwise, family receives a phone call to address any questions they may have.
4	6 month	Home visit	Re-measure child's symptoms and asthma knowledge, provide review of the curriculum from Visit 1, review child's asthma action plan
5	9 month	Phone call or home visit	Home visit if the ACT given at Visit 4 was <20, if SABA use still high, or if there was no updated asthma action plan at Visit 4. Otherwise, family received a phone call to address any questions or concerns.
6	12 month	Home visit	Re-measures child's symptoms and asthma knowledge, review inhaler technique, review asthma curriculum from previous visits, address final questions, administer the exit survey

Note to our readers: If you would no longer like to receive this report or if you would like to receive it electronically, please email jfernandes@mt.gov or call 406-444-9155 to make your request.

References

1. http://www.thecommunityguide.org/asthma/multicomponent.html
2. Nurmagambetov TA, Barnett SB, Jacob V, *et al*. Economic value of home-based, multi-trigger, multicomponent interventions with an environmental focus for reducing asthma morbidity: A community guide systematic review. *Am J Prev Med* 2011;41(2S1):S33-S47.
3. National Heart Lung and Blood Institute (US). Expert Panel Review-3 Guidelines to Asthma Management. National Institutes of Health (US); 2007 Aug. NIH Pub. Available at: http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf

Table 2. Results of participants completing the MAP, December, 2013

	Percent	
	Baseline	12 month
Severe or very severe self-reported asthma	32	6
AKT score of 10 or higher (equivalent to ≥91%)	21	75
ACT score less than 20 (uncontrolled asthma)	73	10
Have good inhaler technique	26	93
Have an asthma action plan	25	89
Had symptoms every day of the last 30 days	23	4
Some/extreme activity limitation in the last month	81	35
Used SABA every day of the last 30 days	17	2
Completed environmental change in home	--	100
Missed at least 1 school day due to asthma in the last 6 months	57	22
Had an unscheduled office visit or ED visit for asthma in the last 6 months	66	25

Table 3. Self-efficacy of participants completing the MAP, December 2013

	Percent	
	Baseline	12 month
Self-reported fair amount, quite a bit, or a lot known about asthma	70	100
Self-reported fair amount, quite a bit, or a lot known about asthma medications	57	94
Self-reported fair amount, quite a bit, or a lot known about asthma triggers	57	96
Self-reported that they are confident or very confident that they can handle an asthma attack	62	91

Participants and Results

As of December, 2013, 53 children have successfully completed the 6 contacts provided by a registered nurse. Sixty percent were boys, 45% were aged 5 years or less and 81% were white race (data not shown).

MAP participants experienced dramatic improvements in their asthma symptoms after 1 year (Table 2). Fewer participants used their Short Acting Beta Agonist (SABA) everyday, experienced symptoms every day, and reported less activity limitations. Participants reported fewer ED visits and missed school days due to asthma and more had good inhaler technique and asthma control upon completion of the program.

Participants and their families also reported better self-efficacy for dealing with their or their child's asthma (Table 3). Increases were made in knowledge of asthma pathophysiology, medications, triggers, and overall confidence in handling an asthma attack.

How to Enroll

Contact the lead nurse at one of the funded sites or visit our website to print off a referral form.

Bullhook Community Health Center
Brandi Baker, RN
bakerb@bullhook.com, 406-265-4541
Cascade City-County Health Department
Marcia Ward, RN
mward@cascadecountymt.gov, 406-761-9888
Flathead City-County Health Department
Jody White, RN
jwhite@flathead.mt.gov, 406-751-8110
Lewis & Clark City-County Health Department
Michelle Much, RN
mmuch@co.lewis-clark.mt.us, 406-443-8964
Missoula City-County Health Department
Josy Jahnke, RN
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Clinical Recommendations

- Assess whether a patient's asthma is in control with a validated test like the Asthma Control Test (ACT).
- Educate patients about changes that can be made in the home to address asthma triggers.
- Ensure every asthma patient has an asthma action plan and good inhaler technique.
- If you live in or near a funded area, consider referring patients to MAP.

Report Highlights: Montana Asthma Home Visiting Program (MAP)

- Description of the Montana Asthma Control Program's home visiting project
- Data on the dramatic improvements of asthma symptoms of the first participants to complete the project
- Where the MAP exists and how to enroll patients

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