

# Evaluation Summary

MAP, School Nurse Mini-grants, and  
Certified Asthma Educator Initiative

# MAP Focus Groups

- Why do people leave the program?
- What do participants think of the program?

# MAP Focus Groups

- Hired two facilitators
- Sent letters
- Hosted focus groups
- Performed personal interviews

# MAP Focus Group Findings

- 13 interviews
  - Focus groups were not a good venue

# Findings-Structure

- 1) What was your goal for your family participating in the program?
- 2) Did the program meet those goals and if so, how?
- 3) How did the meeting times work for your family?
- 4) How did the way the MAP staff communicated with you family fit your needs?

# Findings-Curriculum/Material

- 1) What information provided by the MAP has been the most useful to you?
- 2) What information provided by the MAP had been the least useful to you?
- 3) How do you feel about the materials you received?

# Findings-General Program

- 1) Did you finish the program?
- 2) Would you be interested in enrolling in MAP again?
- 3) Can you please tell us your general feel for the program?
- 4) Have you been able to make changes in your quality of life through MAP?
- 5) What are some skills you have learned through MAP that will help you and your family now and into the future?

# Findings-Quality of Life

- 1) Do you have recommendations of how to increase commitment/ engagement with the meeting times?
- 2) Are there any incentives that could have been offered to increase participation in the MAP?
- 3) How did you hear about the MAP?

# Findings-Recommendations

- What are your overall recommendations for the MAP
- Do you have any recommendations for marketing the MAP?

# Findings-Attrition

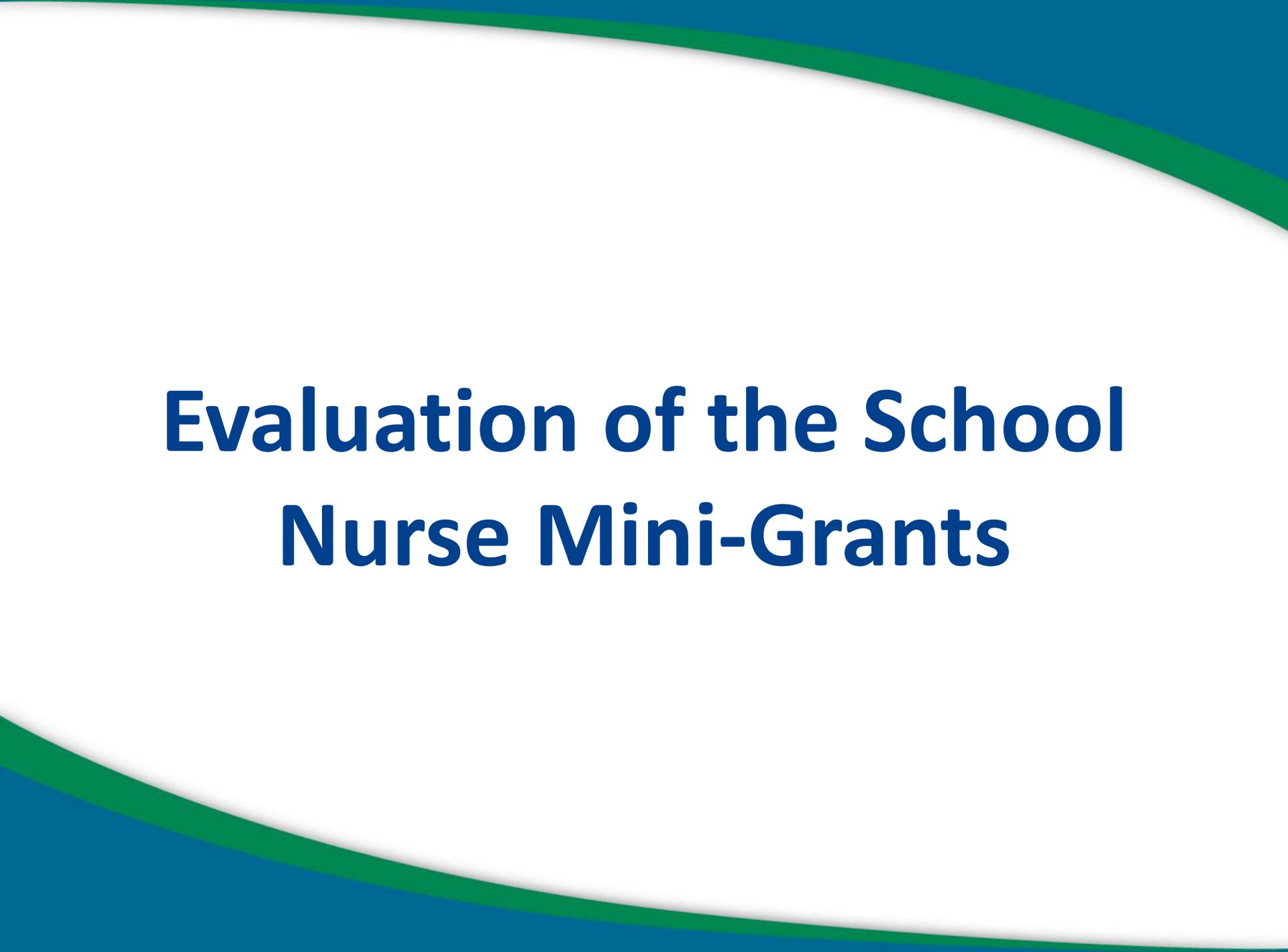
- 1) Do you have any ideas or speculations as to why participants would drop out of the MAP?

# MAP Focus Group Conclusions

- 50% attrition is reasonable-literature review
- Participants really like the program
  - Nurses key
  - Home assessment important
  - Materials are useful
- Improvements to consider
  - More media and varied materials
  - Completion incentives
  - Individualized scheduling

**Any questions?**





# **Evaluation of the School Nurse Mini-Grants**

# Program background

The MACP has been supporting school nurses through the mini grant program since 2010.

- Consists of small, short-term grants to address asthma in schools
- \$500 can be awarded to an individual applicant, or \$1,500 to a group of three
- Partnership with the MASN has been an essential component of program success.

# Evaluation questions

We wanted to know...

- How many nurses have participated?
- How many students, parents, and school staff have been reached?
- How useful were the activities?
- Were the expected outcomes achieved?
- Were participants satisfied with MACP?

# Data collection

Data was collected using the grant applications and outcomes reports, generated by participating school nurses.

A survey of participants was not possible.

# Results: Overview

27 nurses conducted 44 projects between 2010 and Spring 2014.

Year of implementation	Number of participants
1	21
2	9
3	6
4	8

# Results: Overview

9 group grants and 35 individual grants were awarded.

Mini-grant project	Number of projects
1: School staff training	31
2: Teaching ASME	7
3: Partnering with parents	3
4: Assessing asthma-friendly school policies and procedures	3
5: Home environmental assessments	0
6: Design your own	0

# Results: Project 1

1,050+ staff trained

Knowledge test scores 50%  83%

## Nurse Feedback

- Eager staff and support of principal were extremely helpful
- All materials received from MACP were useful
- Scheduling was difficult due to busy schedules and staff turnover

# Results: Project 1

100% of nurses said they would recommend the project

- “Often the younger kids are newly diagnosed and don’t know why symptoms are happening or when to seek treatment”
- “....increases dialogue between school nurse, teachers, and coaches, and also reassures staff on how to manage asthma attacks at school and in sports”
- Training greatly increased staff awareness and knowledge
- Nurses found themselves more informed and capable of speaking to school staff and students about asthma

# Results: Project 2

42 parent/student combinations received an average of 1-2 hours of training and ASME

10 students with uncontrolled asthma identified

- 10/10 were referred to healthcare providers

## Nurse Feedback

- 100% of nurses said they would recommend the project

“You see the children gain knowledge about their asthma and become confident in dealing with it. You hope that parents learn through the information sent home.”

# Results: Project 3

44 school administrators and school board members received information on policies related to asthma and how they can improve those policies

## Nurse Feedback

- Materials received from MACP were useful and increased authority while presenting
- All suggested changes to school policies were received with support and enthusiasm
- 100% of nurses said they would recommend the project

# Results: Project 3

## Extra Highlights

- In one school district, a company was hired to address ventilation issues found in the school
- With the help of the Student Services Director, school nurse began to create and update emergency care plans for students with current diagnosed asthma

“Projects like this provide the impetus to complete assessments and quality improvement projects that we mean to get done but that are easily brushed aside. The MACP work plan and deadlines cause us to focus our attention on the project and complete the task.”

# Results: Project 4

Asthma Self-Management Curriculum Selected by Grantees			
Open Airways for Schools	Power Breathing	MACP's Creating Asthma Friendly Schools Presentation	Designed Own Curriculum
1	1	3	2

Each grantee provide an average of 5 hours of ASME

## Nurse Feedback

- Nurses used health classes, study halls, and lunch/recess time to educate students
- 100% of nurses said they would recommend the project

# Results: Project 4

## Extra Highlights

- One school nurse was called away during a training session due to a teacher in the school having an asthma attack with no available rescue inhaler
- Collaboration with the University of Montana Pharmacy School
- Success was due to the curricula and materials provided by the MACP
  - “teen-focused, believable, and captivating to the audience”

# Interpretation of results

## Potential barrier to awarding 20 grants per year

- Lack of time to carry out project

## Possible ways to address this:

- Emphasizing the ease with which a project can be completed;
- Provide nurses who finish a project with a certificate of completion to show value for their time;
- Opening the application to certified asthma educators (AE-Cs) across the state, instead of only school nurses; and
- Continuing to partner with the MASN to advocate for increasing the number of school nurses in Montana.

# Interpretation of results

## Perceived usefulness of available projects

- Provided nurses with credibility to gain buy-in from school personnel
- No negative comments about the amount of funding
- Projects chosen less may have been viewed as more difficult and time consuming
- Home Environmental Assessments would require a school nurse to leave the school and neglect his or her primary responsibility. Lack of training may have also been a deterrent.

# Interpretation of results

## Plans for Improvement:

- Updates & Improvements to materials provided for existing projects
- 3 new projects
  - Attending the AE-C exam review course or the Big Sky Pulmonary Conference
  - Promoting a Clean Air Campaign
  - Referring students w/uncontrolled asthma to the MAP
- Addition of standardized questions to assess satisfaction levels in regards to the application process, reporting process, and support provided by the MACP.

## In conclusion...

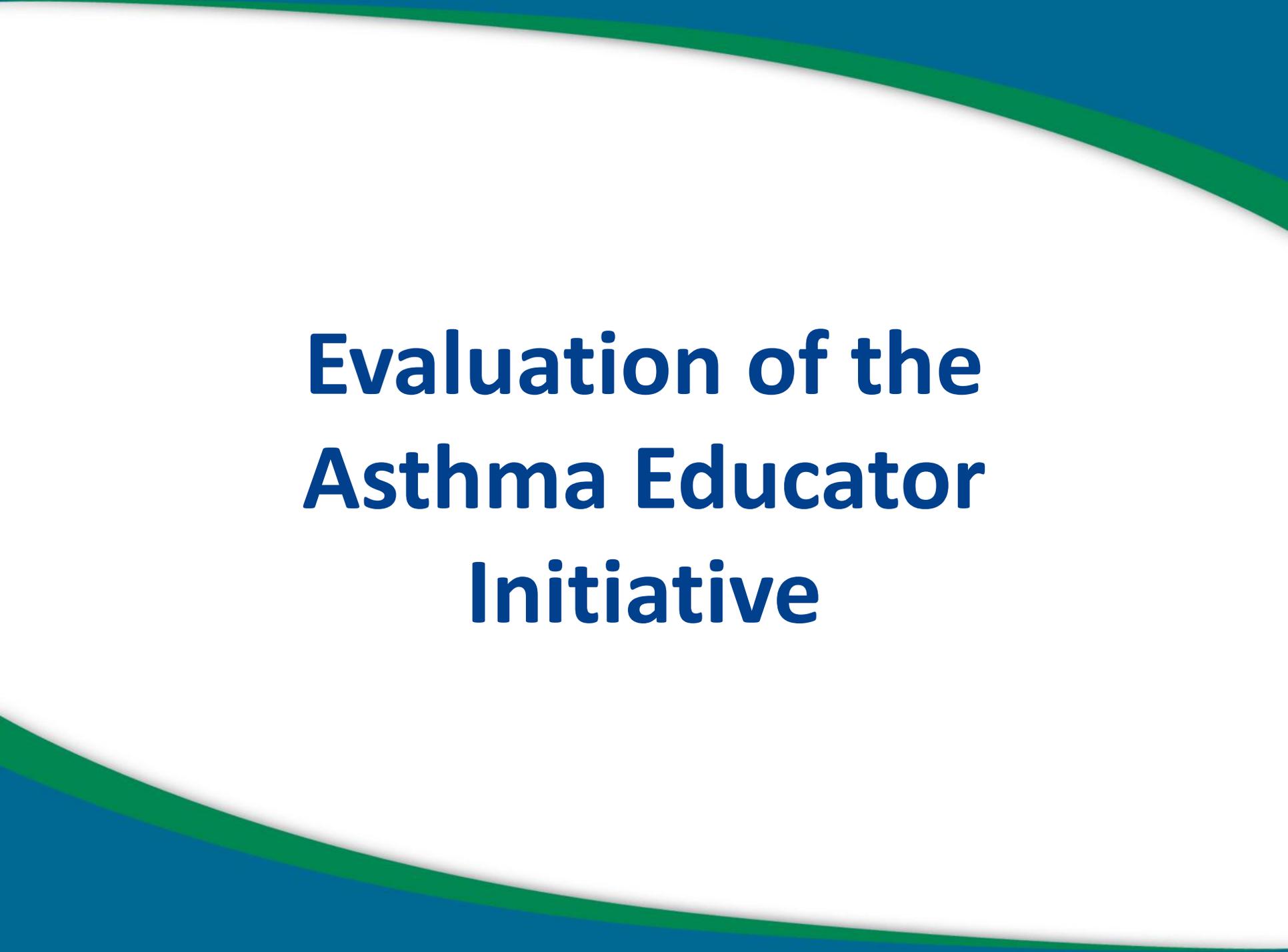
Current perceptions of the projects available to nurses has been favorable, and changes have been made to offer even more flexibility.

The MACP is committed to finding ways to increase the number of participating nurses to 20 per year.

This work wouldn't be possible without the support of the MASN.

**Any questions?**





# **Evaluation of the Asthma Educator Initiative**

# Program background

Main goal: to increase the number of certified asthma educators in Montana.

- Manages a lending library of study materials
- Offers mentorship opportunities
- Coordinates the annual AAE exam review course
- Provides ongoing educational opportunities like webinars and the BSPC

# Evaluation questions

- To what extent are the lending library and classes being used?
- Is self-reporting of provision of asthma education increasing?
- Is the number of certified asthma educators increasing?
- What is the value of becoming a certified asthma educator?

# Data collection

Data was collected in the following ways:

- MACP logs
- The NAECB website
- SurveyMonkey

Unfortunately, the Asthma Call-Back Survey (ACBS) could not be analyzed.

# Results: Overview

Primarily, our services are used by people with hospital, clinic, or other medical facilities (45%).

Participants are most likely to be nurses (34%), followed closely by respiratory therapists.

Do you currently provide ASME?	# of respondents
Yes, but I am not an AE-C	19
No, I do not provide education	15
Yes, and I am an AE-C	9
No, but I am an AE-C	0

# Results: MACP materials

The MACP has two books to lend people who are studying for the AE-C exam:

- *The Asthma Educator's Handbook* (Fanta, Carter, Stieb, & Haver, 2007)
- *AAE National Asthma Educator Certification and Recertification Review Course Syllabus* (Association of Asthma Educators, 2014)

**Over 40** healthcare providers have used this library since 2008.

# Results: MACP materials

Suggestions for future resources included:

- Teaching materials for teachers, staff, and students;
- Practice tests;
- Environmental health information;
- Medication and EPR-3 guidelines for treatment of asthma;
- Materials provided in an online format; and
- Professional capacity building resources, such as how to bill for educational services and standardized practice protocols or patient education forms.

# Results: Review course

**More than 400** healthcare providers have attended a review course since 2008.

Suggestions made for improvements of the review course included:

- Increasing the number of hands-on or small group activities;
- Holding the course at a more cost-effective location;
- Follow-up with participants after 6 months;
- Use clinicians as instructors; and
- Providing more case examples.

# Results: AE-Cs in Montana

In 2008 there were only 8 AE-Cs in Montana, and now there are 39!

We asked survey respondents:

- Is asthma education best delivered by an AE-C?
- What are some benefits and barriers to becoming certified?

# Results: AE-Cs in Montana

Benefits	Barriers
Patients feel more comfortable with our credibility	Time
I feel more comfortable providing information	Cost of certification
If you work in a place where you are reimbursed or rewarded	No reimbursement or increase in pay
Enhances the work that I already do	Not a top priority among many responsibilities
Increased respect or credibility with other providers	Test anxiety
Increased marketability in job search	Traveling to testing sites
Help to reduce asthma rates in children	Lack of support from employer
Increase asthma awareness	Not enough advance notice of testing dates
Creates a more well-rounded staff	
Insurance coverage	

# Interpretation of results

## Logistics

The certification has value, but candidates can struggle to overcome problems like time, money, and travel.

## Promotion

One possible reason for underuse of MACP resources is lack of promotion.

# Interpretation of results

## Tracking and evaluating

An internal evaluation of the AAE course could be beneficial, as well as a formal tracking system for the mentorship program.

## Increasing the number of AE-Cs

The MACP did not meet its original goal of increasing the number of AE-Cs in MT by 10 per year. However, other data suggest that many more people are qualified to become certified than actually take the exam.

## **In conclusion...**

We should work to improve promotion of the materials we have to offer.

We are reaching a wide range of occupations and organizations.

Providing quality asthma education has value.

**Any questions?**



# Using Asthma “Apps”

# Terminology

“**App**” is a shortened form of mobile application, or programs developed for your smartphone.

**mHealth** is “medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices.”

*Martinez-Perez et al. (2013)*

# Increasing in popularity

- 80% of the world has a mobile phone, and about 20% of those are smartphones
- By 2018 half of over 3 billion smartphone and tablet users will have downloaded mHealth apps
- 42% of US adults have a phone with one or more apps installed, and almost a third of these individuals report having an app that helps track or manage their health
- In 2012, 49% of Hispanics, 47% of African Americans, and 42% of whites owned smartphones

*Slabodkin (2013), Martinez-Perez et al. (2013), FDA (2014), Huckvale et al. (2012)*

# What do we need to consider?

- How rigorously should these be monitored?
- Should they be subject to the same assessment methods as traditional healthcare interventions?
- How can we provide protection and safe access to patient-level data?

*Charani et al. (2014)*

# Who monitors them?

The FDA **will not review** a device that poses “minimal risk” to patients, including any app that:

- Helps patients self-manage their condition(s) without providing specific treatment suggestions;
- Provides patients with tools for tracking health information, whether it be for personal use, for sharing with a provider, or for uploading to a cloud database or personal or electronic health record;
- Provides access to information related to health conditions or treatments;
- Helps document and communicate conditions to providers;
- Automates simple tasks for providers;
- Helps track or manage patient immunizations;
- Provides drug-drug interactions and relevant safety information based on demographic data, clinical information, and current medications; and
- Enables a health care provider to access a patient’s personal health record hosted on a web-based or other platform, or enables patients to interact with personal or electronic health records similarly.

*FDA (2014)*

# Current research

Evidence on the benefits of mHealth has been mixed. Researchers have determined there is **inconclusive evidence** to support using apps in patient care.

# Current research

## Huckvale, et al. (2012)

Identified 103 apps in English.

- 56 were sources of information, 47 were tools for self-management (neither were both)
- 32 made “unequivocal recommendations about strategies for asthma control...that were unsupported by current evidence”
- 4 recommended avoiding conventional medical care because of risk of side-effects, addiction to medication, and worsening of the condition

# Current research

## Morrison, et al. (2014)

Used 10 out of 29 identified literature reviews.

- Patient satisfaction of mHealth tools is generally high
- Barriers to uptake are generally low
- Indicators of effectiveness showed mixed results, from positive to no change
  - ASME, lung function, QOL, med adherence, symptoms, asthma control, missing school, emergency department visits, hospitalizations, primary care visits
- No trials had participants over age 65, only one had patients over 50
- Socioeconomic status and education levels of participations have not been addressed

# Are they reliable?

Some questions that can help determine reliability include:

- Is the purpose clearly stated?
- How often is it updated?
- Is the information referenced?
- Is confidentiality protected?
- Is funding/conflict of interest clearly stated?
- Is the device available (Android, iOS, BlackBerry, etc.)?
- Is the interface user-friendly and cost-effective?

*Hartzler (2013)*

# Are they educational?

Comprehensive educational materials should include:

- Basic facts about the nature of the condition
- Treatment and proper medication use
- Allergen and trigger avoidance
- Self-monitoring and assessment skills
- The role of a written, personalized action plan
- Recognizing and responding correctly to exacerbations
- Personalize the definition of good asthma control

*Hartzler (2013)*

# Popular apps

## Propeller Health

The only app system currently approved by the FDA. A small device attaches to the top of an inhaler and records time and place of use to track symptoms and adherence. It connects via Bluetooth to the Propeller mobile app, and is available in English and Spanish. It responds to an increase in rescue medication use to help patients avoid exacerbations and intervene early. Includes reminders, notifications, education, and coaching on topics such as proper inhaler technique. iOS and Android compatible.



# Popular apps

## AsthmaMD

The AsthmaMD Peak Flow Meter can be purchased in retail pharmacies across the U.S. It works with an app and cloud portal to track symptoms and medication use in a log that can be sent to a physician. Available on iOS, and coming soon to Android.



# Popular apps

## WellaPets

A game about a fire-breathing dragon that needs help with asthma self-management. Players learn about inhaler technique, the difference between controller and rescue medicines, what asthma triggers are, and how to identify asthma symptoms. Available on iOS and Android.



# Popular apps



## AirSonea/AsthmaSense

The AirSonea Wheeze Monitor analyzes breathing sounds to identify the presence of wheezing and uses Bluetooth to transmit the data to your phone.

AsthmaSense uses action plans, records triggers and medication use, and schedules reminders. Available on iOS and Android.

# Popular apps

## Assist Me With Inhalers

Teaches a patient how to use 11 different types of inhalers using both audio and visual aides. Includes a basic reminder system for when to use medication. Currently only available on iOS.



# Popular apps



## AsthmaBuddy

Utilizes asthma action plans and allows you to record peak flow values, medication use, symptoms, and triggers. Monitors up to 5 people's asthma action plans, and the plans can be emailed to people such as your physician. Allows access to how-to videos that demonstrate correct inhaler technique. Available on iOS and Android.

# Promising developments

Meet *Masma*



Pleased to meet you.

**I'm Masma**, the world's first virtual asthma assistant. Masma equips you with everything that you'll need to keep your child's asthma under control all the time and wherever you are.

## PraxisHealth

Currently in development, this app is undergoing research with Columbia University and Harvard Medical School. It is an evidence-based online training tool with access to instructional videos on inhaler technique, an app that schedules reminders, helps identify and remove triggers, and uses your asthma action plan. The company hires certified asthma educators to provide you with live support. Patients can sign up for the beta program as of August 2014, before the full release.

# Promising developments

## SPARX

A game similar in look and feel to World of Warcraft designed to help manage chronic conditions using Cognitive Behavioral Therapy. Developers hope to have iOS and Android platforms by end of the year.



# Summary

Use caution when recommending that a patient use an app to help manage their asthma.

# Discussion questions

1. Does anyone use apps with their patients currently? If so, what do you use?
2. Does the use of smartphone apps to control asthma seem like a good idea?
3. Should the MACP participate in promoting these systems?

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**Any questions?**

