ST. MARY'S COUNTY HEALTH DEPARTMENT

ASTHMA CONTROL
WHAT REALLY WORKS

Cochran AM, Onyango E, Lemmert KR, Norton L, Aubert SJ

BACKGROUND

2 MILLION

Asthma accounts for almost two million emergency department (ED) visits each year in the USA.[1]

10.5 MILLION

Asthma is the leading cause of school absenteeism, resulting in 10.5 million missed school days yearly.[1]

3RD

Asthma is the third leading cause of hospitalization among children under 15 years.[1]

10.3%

Childhood asthma prevalence is 10.3% in the state of Maryland, and 13.7% in St. Mary's County.[2]

The Asthma Control Program (ACP) at St. Mary's County Health Department (SMCHD) aims to reduce exposure to indoor asthma triggers, decrease asthma-related ED visits, hospitalizations, and missed school days among children by promoting general asthma education to children and their families, reducing triggers for asthma in the home setting, increasing the use of asthma action plans by health professionals and patients, and providing actionable assessment information to primary care providers, school nurses and parents.

The ACP targets children with asthma (ages 2–18) living in St. Mary's County, MD.

INTERVENTION

1 Referrals are obtained from primary care providers, specialist physicians, local EDs, school nurses, social services and other members of the community.

2 A single home visit is made by a nurse/certified asthma educator. During the visit the child and their caregiver(s) may receive: general asthma education, free supplies (mattress/pillow covers, spacer, and for some, a HEPA vacuum), assessment of environmental triggers, and remediation guidance.

3 Written follow-up report to doctors, school nurses, and parents.

4 3, 6, and 12 months post initial visit, follow-up via telephone counseling sessions are conducted.

EDUCATION
Asthma education for referred patient and family or caregivers.

REVIEW
Review of written asthma action plan with patient and parent or caregiver.

ASSESSMENT
Assessment of medication usage.

INSTRUCTION
Instruction on compliance and proper use of inhalers.

TRIGGER IDENTIFICATION
Identification of potential environmental asthma triggers in the home.

REMEDIATION
Provide environmental remediation supplies (as program resources allow), which include mattress and pillow covers, spacers for inhalers, pediatric masks and HEPA vacuums.

ENCOURAGEMENT
Encourage smoking cessation as needed.

OUTCOMES

OVER THE LAST 3 YEARS

the SMCHD certified asthma educator performed 97 multi-trigger, multi-component environmental intervention visits to 2-18 years olds with asthma. These visits were conducted at the primary residences of the referred patients.

Several patients who participated in the intervention were excluded from the reported data:

- 31 individuals were lost to follow-up (phone disconnected or did not respond to calls)
- 1 referred child did not have an actual asthma diagnosis

Outcomes collected for participating patients include the number of ED visits, the number of hospital stays, the number of missed school days, and the number of oral steroid courses.

Outcomes are measured 12 months before the home visit and at 3,6, and 12 month intervals after the visit.

Data collected is by self report.

As of June 2017:

81 PATIENTS have completed a three month post-visit assessment.

76 PATIENTS have completed a six month post-visit assessment.

61 PATIENTS have completed the 12 month post-visit assessment.

Post-visit assessments continue to be conducted.

RESULTS

The home visit model reduced:

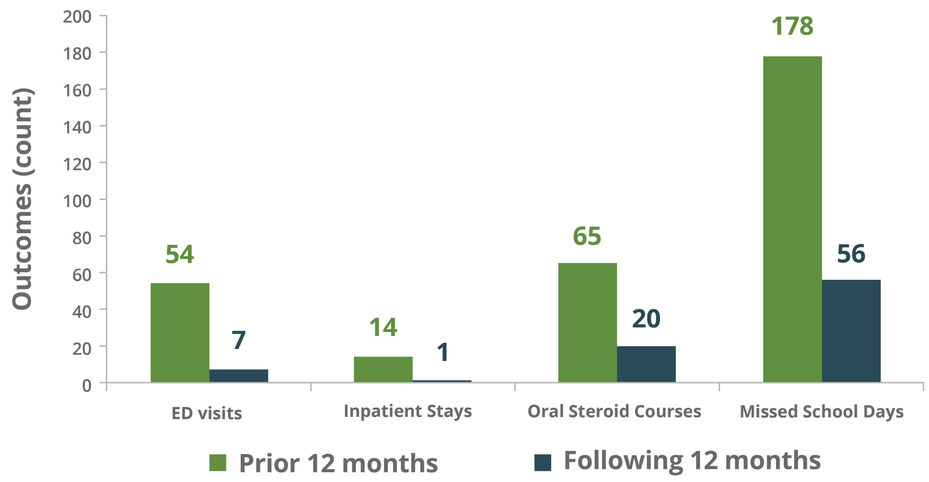
ED VISITS BY 92.5%

ORAL STEROID COURSES BY 69.2%

INPATIENT STAYS BY 92.9%

MISSED SCHOOL DAYS BY 68.5%

Intervention Outcomes, Completion of One Year Post-Home Visit (n=61)



CONCLUSION

Results show that the home visit model has been effective in decreasing all measured outcomes. Aggregate data collected at 3, 6, and 12 months post visit will provide a more complete picture of program effectiveness.

NEXT STEPS

1 Identify local partnerships to provide affordable home environmental remediation.

2 Develop improved referral system from local hospital and emergency medical services for children seen in the emergency department.

3 Expand program to allow additional home visits by a nurse or certified asthma educator.

4 Improve education and referrals to smoking cessation programs for parents with asthmatic children.

5 Use payer data to assess economic impact of intervention.

[1] Moorman JE, Akinbami LJ, Bailey CM, et al. National Surveillance of Asthma: United States, 2001–2010. National Center for Health Statistics. Vital Health Stat 3(35). 2012.

[2] Maryland Department of Health and Mental Hygiene. Annual Trend in Current Asthma Prevalence Among Children (0-17 years) BRFSS, 2011-2012 aggregated. 2014.

ANGELA COCHRAN, MS
Director, Chronic Disease Prevention & Control

angela.cochran@maryland.gov

301-475-4330