

Background

In 2014, Baltimore children visited the Emergency Department for asthma 11,920 times. This reflects a rate of about 90 Emergency Department visits per 1000 children, which is 10 times the national average.¹ In addition to presenting an immediate threat to health and life, asthma also undermines educational success. A child with asthma who may not appear severely ill still may miss school frequently. Flare-ups can cause absences as a result of urgent doctor visits or hospitalizations, or parents keeping children at home because they are concerned about symptoms.² Asthma can decrease engagement in school activities and assignments, as well as overall motivation to succeed in school.³ A 2006 study reported that children with asthma miss up to 5 more days of school per year than their peers.⁴

Many asthma attacks are preventable. An important tool for prevention is home modification. Studies have shown that cockroaches, mold, mouse urine and other allergens are responsible for a large proportion of exacerbations.⁵ Housing interventions that address these

¹ Nath JB, Hsia RY. Children's emergency department use for asthma, 2001-2010. *Acad Pediatr*. 2015 Mar-Apr;15(2):225-30.

² Center for Disease Control (CDC). Asthma and Schools. Retrieved April 26, 2016, from <http://www.cdc.gov/healthyschools/asthma/index.htm>

³ State of Chronic Absenteeism and School Health A Preliminary Review for the Baltimore Community. (2012, April). Retrieved from <http://www.elev8baltimore.org/site/wp-content/uploads/2012/04/Absenteeism-and-School-Health-Report.pdf>

⁴ Moonie SA, Sterling DA, Figgs L, Castro M. Asthma status and severity affects missed school days. *J Sch Health*. 2006;76(1):18-24.

⁵ Matsui EC. Environmental control for asthma: recent evidence. *Curr Opin Allergy Clin Immunol*. 2013 Aug;13(4):417-25.

triggers can reduce the severity of asthma in children.⁶ Another major opportunity for prevention is effective medical care for asthma. Many children with asthma return to the Emergency Department again and again because they do not have access to a regular source of care.⁷ These children often do not take regular controller medications that can dramatically improve the course of their illness.

To reduce the enormous toll of asthma on the children of Baltimore, the Baltimore City Health Department has established a series of programs and services for asthma. These include:

- Home visits for children with asthma to educate families about medical management of asthma and about preventing environmental asthma triggers, thereby reducing ED visits for children.
- Community education and outreach to increase community capacity to understand and address barriers to asthma management.
- Convening the Greater Baltimore Asthma Alliance, which brings together individuals and organizations invested in improving asthma outcomes.

The Health Department also engages with numerous community partners committed to the safety of home environments and the best possible medical care for Baltimore's children. These include public agencies including the Baltimore City Public Schools and the Baltimore

⁶ Krieger J, Jacobs DE, Ashley PJ, Baeder A, Chew GL, Dearborn D, Hynes HP, Miller JD, Morley R, Rabito F, Zeldin DC. Housing interventions and control of asthma-related indoor biologic agents: a review of the evidence. *J Public Health Manag Pract.* 2010 Sep-Oct;16(5 Suppl):S11-20.

⁷ Behr JG, Diaz R, Akpınar-Elci M. Health Service Utilization and Poor Health Reporting in Asthma Patients. *Int J Environ Res Public Health.* 2016 Jun 30;13(7). pii: E645.

City Housing Department, as well as private organizations including the Green and Healthy Homes Initiative, Johns Hopkins University, the University of Maryland, and various other partners.

Proposed Project

To advance these efforts and reduce the burden of childhood asthma in Baltimore, the Health Department is proposing to use data more effectively for two primary purposes: improved understanding of the patterns of asthma across the city, which will permit effective, local responses, and identification of children at the highest risk in order to reach out and offer the families additional services. The best and most timely source of data about childhood asthma are records of emergency department visits and hospital admissions that are available through the state's designated health information exchange.

The Health Department will gain access to a list of children from the Health Information exchange who have been to the emergency department or admitted to the hospital because of an Asthma exacerbation. The department will use this information for two purposes:

- 1) Analyses to better understand childhood asthma in Baltimore, including geographic patterns and other risk factors. These analyses may then be used to address specific environmental risk factors or to provide specific services to a local area. The Health Department will not release any confidential or identifiable information related to these analyses.
- 2) Analyses to identify children with multiple Emergency Department or hospital admissions in order to offer specific services to the families. Only Health Department outreach workers will offer the services to families who are identified as able to benefit

through these analyses. These services could include housing improvements, education about asthma, and linkages to primary and specialty care. Families will be able to choose to accept or refuse all services offered.

Data Security and Privacy

The Health Department is committed to openness and transparency in key efforts to reduce suffering and improve health in the city. The Health Department will not have access to the medical histories or other information about the children identified through this program. They will only see their contact information and the number of emergency department visits from the past 12 months.

The Health Department will reach out to the families of the children identified to ask their consent to be enrolled into Health Department programs. The Health Department will not release any confidential or identifiable information related to this project.

The Health Department may use these analyses for the following purposes:

- Outreach, by the Health Department, to offer the following services to families of such children who are identified as likely to benefit:
- Referrals for housing improvements,
- Referrals to home visiting programs,
- Referrals for exercise programs,
- Referrals to primary or specialty medical care,
- Referrals to nutrition programs,
- Referrals to educational services,

- Referrals to community-based programs that may offer a combination of the above services.

Families will be able to choose to accept or refuse all services offered and the Health Department shall post quarterly updates on the aggregate results of key analyses and outreach efforts on the Department's website.