

Mobile clinics, home visits of little benefit to children with asthma who need care the most

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A new Johns Hopkins Children's Center study of Baltimore City children with asthma shows that two programs designed to improve disease outcomes among those who may be affected the worst fall short of expectations.

The Breathmobile, a mobile clinic that brings preventive [asthma](#) care and education to low-income, inner-city patients did not improve asthma outcomes, nor did home visits by asthma educators, the study shows. The combination of the two had minimal and short-lived effects, the investigators report.

Researchers say the findings, published online Nov. 21 in the [Journal of Allergy and Clinical Immunology](#), underscore the critical need for better ways to reach and engage the most vulnerable [pediatric asthma](#) patients and eliminate the barriers that stand between these children and optimal asthma care.

Asthma is the United States' most common chronic pediatric illness, affecting 6.5 million children. Poor, [minority children](#) traditionally experience worse disease and more frequent flare-ups because of delayed care, worse access to specialists and lack of a primary physician, past research has shown.

The researchers say they believe each child treated by the mobile team benefited individually, but the cumulative, population-wide effects remained minimal because only a handful of those eligible for the

services actually used them.

Despite free care, multiple locations and many reminders to schedule a visit, only half of the families whose children qualified for mobile clinic care did so, and only a fraction (20 percent) of those eligible to receive care showed up for their appointment.

"Parking the Breathmobile in the driveway down the street in and of itself is not enough to make a difference unless we get better at engaging these families and figure out what exactly is stopping them from using these services," says senior investigator Kristin Riekert, Ph.D., an asthma researcher at Hopkins Children's.

Barriers to care, the investigators say, may include misconceptions about the need for non-urgent asthma care and busy work schedules that preclude daytime appointments. Previous research has found that some families underestimate disease severity and their children's need for routine asthma prevention.

"Our study shows that removing structural barriers like access is important but insufficient," says study lead investigator Michelle Eakin, Ph.D.

The current study involved 321 low-income children with asthma, ages 2 to 6, followed over one year. Patients were divided into four groups: those receiving Breathmobile clinic services, home educational visits, a combination of the two or neither.

Children in the Breathmobile clinic group underwent a physical exam, including a skin test for common asthma triggers like pet dander, mouse and cockroach allergens. They were also given prescriptions for asthma controller medications to be taken regularly to prevent airway inflammation and avoid disease flare-ups. Families received the

Breathmobile schedule for their neighborhood, as well as several reminders via phone and mail of upcoming Breathmobile visits. Children in the home-education group received a visit that provided the families with information on basic [asthma care](#) and tips on communicating with the child's primary-care physician. The asthma educators also accompanied patients to an appointment with their pediatricians to ensure better communication.

Children who received both [home visits](#) and care at the Breathmobile had 7 percent more symptom-free days compared with those who got neither. In other words, they had 1.7 more days, per month, on average, free of asthma symptoms. However, the increase was not sustained beyond six months and the difference dissipated within a year.

The study found no notable differences between groups in numbers of emergency room visits, in caregiver quality of life and in use of rescue fast-acting medication to tame flare-ups, the latter an indicator of poorly controlled disease. The combined-care group experienced 83 percent fewer hospitalizations, on average, but, once again, these differences disappeared within one year.

Provided by Johns Hopkins Medical Institutions

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