# Use of Lay Health Educators to Improve Asthma Management Among African-American Children

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Asthma affects 12% of children in the U.S., with some of the highest rates being reported among inner-city, African-American children. A tendency to rely primarily on the emergency department (ED) for asthma care has also been documented. As the focus in the ED is on the treatment of acute symptoms, many frequent ED users are not properly medicated or educated on asthma self-management. Our goal was to design, implement and evaluate an intervention that would educate and empower inner-city, African-American children and their families to better manage asthma, while also facilitating the establishment of a relationship with a Primary Care Provider (PCP). The pilot project assessed the effectiveness of using a Lay Health Educator (LHE) in reducing asthma morbidity and improving quality of life among children with poorly controlled asthma. Children were recruited primarily from the ED and inpatient units of an inner-city hospital and also via referrals from community physicians. Eligible children had severe, uncontrolled asthma, were between the ages of 2-16 years, and were African-American. Two LHEs were recruited from the target community and trained to educate children and their families about how to more effectively manage asthma. Once trained, LHEs conducted 3-4 home visits during a 6-month period with each participating family, providing individualized asthma education. The LHE also served as a liaison between the family and the medical system, helping to bridge the gap between parents and PCPs. Data was collected for 1 year post-baseline for evaluation purposes. Between November 15, 2004 and July 15, 2005, 70 children were enrolled into our study. Ninety-six percent of enrolled children were Medicaid insured and 54% lived with a smoker. The average child was 7.3 years old and had visited an ED, been hospitalized or visited a physician for worsening asthma 6.5 times in the year prior to participation. Fifty-eight (82.9%) completed the entire 6-month intervention phase. Analysis was limited to the 50 (71.4%) children who completed the entire 12-month evaluation phase. Findings were suggestive of improved asthma control. Specifically, a significant improvement in 4 symptom-related variables was noted, with approximately 2-fold reductions in frequency. Urgent health resource utilization also decreased significantly over the follow-up period. For example, ED visits decreased from 3.4 times in the year prior to the study to 0.9 in the year following ($p < 0.05$). Parental Quality of Life, an indicator of the impact of improved asthma control (scaled 1-7), significantly increased from 5.2 to 5.9 ($p < 0.05$) by month 6 and to 6.0 ($p < 0.05$) by month 12. Other important outcomes included improved asthma-related knowledge, decreased exposure to asthma triggers in the home, improved use of medications and increased obtainment of Asthma Action Plans (72.4% at six months). Our findings suggest that individualized, one-on-one asthma education provided by a trained, culturally competent LHE in the home environment may be an effective means of improving asthma management among inner-city, African-American children with poorly controlled asthma. Further studies are needed to affirm our results and assess the model's generalizability.