OBJECTIVE: We evaluated the longitudinal effects of home-based asthma education combined with medication adherence feedback (adherence monitoring with feedback [AMF]) and asthma education alone (asthma basic care [ABC]) on asthma outcomes, relative to a usual care (UC) control group.

METHODS: A total of 250 inner-city children with asthma (mean age: 7 years; 62% male; 98% black) were recruited from a pediatric emergency department (ED). Health-outcome measures included caregiver frequency of asthma symptoms, ED visits, hospitalizations, and courses of oral corticosteroids at baseline and 6-, 12-, and 18-month assessments. Adherence measures included caregiver-reported adherence to inhaled corticosteroid (ICS) therapy and pharmacy records of ICS refills. Multilevel modeling was used to examine the differential effects of AMF and ABC compared with UC.

RESULTS: ED visits decreased more rapidly for the AMF group than for the UC group, but no difference was found between the ABC and UC groups. The AMF intervention led to short-term improvements in ICS adherence during the active-intervention phase relative to UC, but this improvement decreased over time. Asthma symptoms and courses of corticosteroids decreased more rapidly for the ABC group than for the UC group. Hospitalization rates did not differ between either intervention group and the UC group. No differences were found between the ABC and AMF groups on any outcome.

CONCLUSIONS: Asthma education led to improved adherence and decreased morbidity compared with UC. Home-based educational interventions may lead to modest short-term improvements in asthma outcomes among inner-city children. Adherence feedback did not improve outcomes over education alone.