Children's Hospital of Philadelphia PolicyLab

An Asthma Population Health Improvement Initiative for Children With Frequent Hospitalizations

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OBJECTIVES: A relatively small proportion of children with asthma account for an outsized proportion of health care use. Our goal was to use quality improvement methodology to reduce repeat emergency department (ED) and inpatient care for patients with frequent asthma-related hospitalization. METHODS: Children ages 2 to 17 with ?3 asthma-related hospitalizations in the previous year who received primary care at 3 in-network clinics were eligible to receive a bundle of 4 services including (1) a high-risk asthma screener and tailored education, (2) referral to a clinic-based asthma community health worker program, (3) facilitated discharge medication filling, and (4) expedited follow-up with an allergy or pulmonology specialist. Statistical process control charts were used to estimate the impact of the intervention on monthly 30-day revisits to the ED or hospital. We then conducted a difference-in-differences analysis to compare changes between those receiving the intervention and a contemporaneous comparison group. RESULTS: From May 1, 2016, to April 30, 2017, we enrolled 79 patients in the intervention, and 128 patients constituted the control group. Among the eligible population, the average monthly proportion of children experiencing a revisit to the ED and hospital within 30 days declined by 38%, from a historical baseline of 24% to 15%. Difference-in-differences analysis demonstrated 11.0 fewer 30-day revisits per 100 patients per month among intervention recipients relative to controls (95% confidence interval: ?20.2 to ?1.8; P = .02). CONCLUSIONS: A multidisciplinary quality improvement intervention reduced health care use in a high-risk asthma population, which was confirmed by using quasi-experimental methodology. In this study, we provide a framework to analyze broader interventions targeted to frequently hospitalized populations.

Journal:

Pediatrics
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