

Rehospitalization for Childhood Asthma: Timing, Variation, and Opportunities for Intervention

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OBJECTIVE: To assess the timing of pediatric asthma rehospitalization, variation in rate of rehospitalization across hospitals, and factors associated with rehospitalization at different intervals.

STUDY DESIGN: Retrospective cohort analysis of 44 204 hospitalizations for children with asthma within 42 children's hospitals between July 2008 and June 2011. The main outcome measures were rehospitalization for asthma within 7, 15, 30, 60, 180, and 365 days of an index asthma admission.

RESULTS: The rate of asthma rehospitalization ranged from 0.5% (n = 208) at 7 days to 17.2% (n = 7603) at 365 days. Black patients and patients with public insurance had higher odds of rehospitalization at 60 days and beyond ($P \leq .01$ for both). Adolescents (12- to 18-year-old), patients with a diagnosis of a complex chronic condition, and patients with a prior year asthma admission had higher odds of rehospitalization at every time interval ($P \leq .001$ for all). Significant hospital variation in case-mix adjusted rates of rehospitalization existed at each time interval ($P \leq .01$ for all). Rates at 365 days were $\leq 10.9\%$ for the top 10% of hospitals; if all hospitals achieved this rate, 36.6% of rehospitalizations might have been avoided.

CONCLUSIONS: Significant variation in asthma rehospitalization rates exists across children's hospitals from 7 to 365 days after an index admission. Racial/ethnic and economic disparities emerge at 60 days. By 1 year, rehospitalizations account for 1 in 6 hospitalizations. Assessing asthma rehospitalizations at longer intervals may augment our current understanding of and approach to post-hospitalization care improvement.

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Authors:

Kenyon CC, Melvin PR, Chiang VW, Elliott MN, Schuster MA, Berry JG