Improving Single Maintenance and Reliever Therapy for Patients Admitted for Asthma Exacerbation

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Introduction:
In 2020, single maintenance and reliever therapy (SMART) became guideline-recommended care for school-age children in the United States with poorly controlled, persistent asthma. Pediatric inpatient providers are well positioned to prescribe SMART, as they often care for patients with poorly controlled asthma. Our interdisciplinary team aimed to increase the proportion of SMART prescriptions at discharge for eligible pediatric patients admitted for asthma exacerbation from 17% to 40% by September 2023, consistent across strata of payor type, race, and Child Opportunity Index (COI).

Methods:
Four primary drivers of SMART prescription at discharge were identified: familiarity, prescriber culture, decision support, and logistics. Interventions targeting these drivers, including education and clinical decision support, were implemented during 10 Plan-Do-Study-Act cycles. This quality improvement project included patients who were prescribed an inhaled controller medication on admission and had 2 or more hospitalizations and/or emergency room visits for asthma exacerbation requiring systemic corticosteroids within 12 months. The outcome measure was SMART prescription at discharge, stratified by payor type, race, and COI.

Results:
Between January 2021 and December 2023, 312 hospital encounters involving 215 unique patients occurred. SMART prescription at discharge increased from 17% at baseline to 38% and was sustained for 19 months. Similar increases in SMART prescriptions at discharge were observed among Black patients, those with government-sponsored health insurance, and those with very low COI.

Conclusions:
Using quality improvement methodology, SMART prescriptions increased at discharge for pediatric patients admitted for asthma exacerbation, including in demographic strata where disparities are often observed.

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