

## Reconsidering Discharge Criteria in Children With Neurologic Impairment and Acute Respiratory Infections

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Children with medical complexity account for 30% of pediatric hospitalizations and half of all pediatric hospital costs.<sup>1</sup> They frequently experience long lengths of stay (LOS), which are associated with hospital-acquired infections, high costs, and family stress.

In this issue of the *Journal of Hospital Medicine*, Steuart and colleagues investigate one opportunity to decrease LOS in a subset of children with medical complexity by studying the impact of discharge before patients' return to their respiratory baseline status.<sup>2</sup> They examined 632 hospitalizations in children with neurologic impairment who required increased respiratory support for acute respiratory infections. After adjustment for demographic characteristics, clinical complexity, and acute illness severity, there was no difference in the risk of 30-day hospital reutilization (ie, emergency department revisits and readmissions) when comparing the 30% of children discharged before returning to their respiratory baseline with the 70% discharged at baseline (reutilization rates of 32.8% and 31.8%, respectively).

Twenty-six percent required readmission. This rate is four times that reported for children overall, and higher than the rate for children with the top 10 chronic conditions (range, 6%-21%).<sup>3</sup> It also exceeds the median 30-day risk-standardized readmission rates for adult conditions targeted by the Centers for Medicare & Medicaid Services (range, 12%-22%).<sup>4</sup> The high readmission rate demonstrates the vulnerability of this population and their need for support in hospital-to-home transitions.

These results suggest important areas for future research. First, the findings need to be replicated by multicenter studies to better understand their generalizability. Second, we need more information about the respiratory support required at discharge, which was not captured in this study. For example, clinicians and families may be more comfortable with discharge for a patient who needs slightly higher levels of their baseline support rather than a new modality of respiratory support. Third, we need to better understand the home context of patients discharged before return to respiratory baseline. Lack of home nursing, in particular, has been associated with discharge delays and prolonged LOS in this population.

This study prompts reconsideration of discharge criteria for acute respiratory infections, which often include return to respiratory baseline. Discharge before respiratory baseline for healthy children with bronchiolitis who were discharged on home supplemental oxygen has been associated with shorter hospitalizations and lower costs without differences in reutilization.<sup>5</sup> Steuart and colleagues demonstrate the potential of this approach in children with neurologic impairment. One key question remains: Which children are most appropriate for discharge before return to respiratory baseline? Family engagement in discussions of goals of hospitalization, self-efficacy, and discharge readiness are important.<sup>6</sup> These conversations provide context that informs discharge decisions. If the patient is stable and both the medical team and family are comfortable with discharge before respiratory baseline, there may be opportunities to engage in shared decision-making around discharge criteria.

The vulnerability of this population, evidenced by their high rates of readmission, reinforces the importance of family engagement, understanding these children's diverse needs, and further research to identify effective interventions to support safe transitions from hospital to home.

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