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Characterization of Low Resource Utilization Observation Status Hospitalizations within Children's Hospitals

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Characterization of Low Resource Utilization Observation Status Hospitalizations within Children's Hospitals

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IRB Number: STUDY00000506

Describe role of Submitting/Presenting Trainee in this project (limit 150 words):
Submitting trainee is the primary investigator for this project. He was involved in conception, development, and analysis of data as well as writing and editing of the abstract.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

Background:

Observation (obs) status hospitalizations are prevalent in pediatrics. Resources consumed by obs status hospitalizations are similar to those under inpatient status, however reimbursement for obs is significantly reduced, making obs status a potential financial liability for hospitals. A subset of obs status patients receive minimal interventions and incur low resource utilization (LRU) costs. These patients represent a cohort that could likely be treated outside of the hospital setting.

Objectives/Goal:

To describe characteristics of observation status hospitalizations with low resource utilization and to examine their variability among children's hospitals.

Methods/Design:

Retrospective cohort design using the Pediatric Health Information System database. We included observation status hospitalizations of children aged 0-18 years between 1/1/2016-12/31/2016. For each hospitalization, we calculated the ratio of non-room utilization costs to total hospitalization cost. Hospitalizations were divided into quartiles based on this ratio with the lowest quartile being defined as LRU. We analyzed associations between demographic and clinical characteristics and LRU using bivariate analyses and multivariable logistic regression. Classification and Regression Tree (CART) analyses identified combinations of characteristics most associated with LRU. Finally, we described the proportion of LRU hospitalizations across hospitals.

Results:

Of 153,705 observation status hospitalizations, we identified 39,024 (25.4%) as LRU obs hospitalizations (table 1). We found that children < 1 year (OR 3.2, 95% CI 3.1-3.4), without complex care conditions (OR 3.2, 95% CI 2.8-3.5), and who were directly admitted (OR 4.5, 95% CI 4.4-4.7) had the greatest associations with LRU obs hospitalization (table 2). CART analyses revealed that those admitted via direct admission, without complex care conditions, and with a primary respiratory diagnosis were associated with LRU obs hospitalization 74% of the time (figure 1). We observed substantial variation (1%-67% of observation hospitalizations) in LRU obs hospitalizations across children's hospitals (figure 2).

Conclusions:

LRU obs hospitalizations are variable between children's hospitals and represent a potential financial liability. Factors associated with LRU obs hospitalization may represent opportunities for children's hospitals to reduce unnecessary hospitalizations and potential financial liabilities.