

Surgical Scheduled Admissions and Occupancy at a Children's Hospital: Variation We Can Control to Improve Efficiency and Value in Healthcare Delivery

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OBJECTIVE: Describe variability in admission, discharge, and occupancy patterns for surgical patients at a large children's hospital and assess the relationship between scheduled admissions and occupancy.

BACKGROUND: High hospital occupancy degrades quality of care and access, whereas low levels of occupancy use hospital resources inefficiently. Variability in scheduling patients for surgical procedures may affect occupancy and be amenable to alteration.

METHODS: This is a retrospective administrative data analysis that took place at 1 urban, tertiary-care children's hospital. A total of 8552 surgical patients hospitalized from July 1, 2009, to June 30, 2010, were included in the analysis, and admission-discharge-transfer data for 1 fiscal year were abstracted for analysis of admission and occupancy patterns.

RESULTS: Among 6257 surgical admissions for non-intensive care unit (ICU) patients, 49% were emergent and 51% were scheduled. Variation in admission volume by day of week was more than 3 times higher for scheduled admissions than for emergent admissions. For non-ICU surgical patients with length of stay 7 days or less (97%), Mondays and Tuesdays generated 42% of scheduled patient occupancy time. Thursdays and Fridays often had high occupancy of surgical patients (>90% of designated beds filled), whereas Saturdays, Sundays, and Mondays were often at low occupancy for those beds (<80% filled). Only 20% of all days in the year had designated non-ICU surgery beds with occupancy between 80% and 95%.

CONCLUSIONS: Scheduled admissions contribute significantly to variability in occupancy. Predictable patterns of admissions lead to high occupancy on some days and unused capacity on others, with few days being at an optimal level of occupancy. These predictable patterns suggest opportunities to improve hospital operations with changes in scheduled admission patterns, which present a different problem than random demand.

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