

Better scheduling of admissions can reduce crowding at children's hospitals

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Too many admissions at a hospital at one time can put patients at risk. A new study published today in the *Journal of Hospital Medicine* suggests that "smoothing" occupancy over the course of a week could help hospitals reduce crowding and protect patients from crowded conditions. The strategy involves controlling the entry of patients, when possible, to achieve more even levels of occupancy instead of the peaks and troughs that are commonly encountered.

Researchers gathered inpatient information from 39 children's hospitals during 2007, using it to compare weekday versus weekend occupancy and to model the impact that smoothing inpatient occupancy has on reducing variations in occupancy. While it is obvious that smoothing over the whole week will reduce peaks and raise troughs to average levels, the [investigators](#) sought to quantify just how large these differences are—and thereby quantify the potential of smoothing to reduce inpatient crowding. If smoothing does not significantly reduce crowding, then other strategies might be of more value.

The analysis revealed that weekday occupancy exceeded weekend occupancy: hospitals' average occupancy ranged from 70.9% to 108.1% on weekdays, and 65.7% to 94.9% on weekends. After smoothing, each week's maximum occupancy within the hospitals was reduced by smoothing (by an average of 6.6 percentage points). Through smoothing, 39,607 [patients](#) from the 39 hospitals were removed from settings where occupancy levels exceeded 95%. To achieve within-week smoothing, a median of only 2.6% of admissions would have to be scheduled on a different day of the week; this equates to a median of 7.4 patients per week.

"Scheduled admissions contribute significantly to variability in occupancy at hospitals and raise the risk of mid-week crowding," said lead researcher Evan S. Fieldston, MD, of The Children's [Hospital](#)

of Philadelphia, USA. "Predictable patterns of admissions lead to high occupancy on some days and unused capacity on others, which can be addressed with proactive management of admissions." He suggested that by smoothing out variation and spacing scheduled admissions out over the week, hospitals can reduce crowding without delaying admissions or investing in expensive new beds. Also, currently, patients who are admitted on weekends experience more delays in treatment and have worse outcomes, so increasing the capability of hospitals to function more fully 7 days a week would make the system better and safer for all patients.

Provided by Wiley

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