

Beds in pediatric intensive care unit could be used more efficiently with improved flow

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The pediatric intensive care unit (PICU) is a precious resource. With limited number of beds and resource-intensive services, it is a key component of patient flow. A new study published in the *Journal of Hospital Medicine* reveals that while a large PICU observed for the study delivered critical care services most of the time, periods of non-critical care services represented a barrier to access for new patients. At times when a bed was needed for a new patient, the PICU had beds being used for patients who could have been in other settings.

Led by Evan Fieldston, MD, MBA, MSHP, of the Children's Hospital of Philadelphia and the Perelman School of Medicine at the University of Pennsylvania, researchers conducted a real-time prospective observational study in a convenience sample of days in the PICU of an urban tertiary-care children's hospital.

Three trained observers spent 5 non-contiguous weeks in the PICU for 16 hours each day and also recorded what happened overnight each morning. This created over 20,000-bed-hours of data, which were then categorized as medical or nursing value-added, necessary logistics, non-value-added, or empty and unassigned time.

Results showed that 82% of the time, the beds were being used for value-added purposes. While only 8% of the time was non-value added, during 75% of the time when the PICU was full, at least 1 bed was being used for a non-value-added purpose and 37% of the time, that was 2 beds.

"This topic affects the delivery of healthcare in all settings, but most notably inpatient settings," Fieldston concludes. "This work is part of a larger stream that is merging operations management and other techniques to better describe and improve [healthcare delivery](#) and provides hospitalists and hospital leaders an approach to learn more about their operations."

Andrew Auerbach, MD, MPH, Editor-in-Chief of the journal, notes "Intensive care services are scarce resources, and stewardship of critical care beds is crucially important. This study helps clinicians, patients, and hospital administrators by providing an understanding of where opportunities for improvement exist."

More information: Fieldston et al. Direct Observation of Bed Utilization in the Pediatric Intensive Care Unit. *Journal of Hospital Medicine*. [DOI: 10.1002/jhm.993](https://doi.org/10.1002/jhm.993)

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