

# Pediatric neurocritical care

Pediatric [neurocritical care](#) as a conceptual service is relatively new, and implementation of such specialized services may improve outcomes for [children](#) with disorders of the brain or spinal cord.

A survey was sent to PICU Medical Directors and Program Directors of Pediatric Neurosurgery fellowship and Child Neurology residency programs.

A total of 378 surveys were distributed; 161 respondents representing 128 distinct hospitals completed the survey (43% response rate). Thirty-five percent (45/128) reported having a pediatric neurocritical care service. The most common type of service used a consultation model (82%; 32/39 responses). Other types of services were intensivist-led teams in the PICU (five hospitals) and dedicated PICU beds (two hospitals). Hospital characteristics associated with availability of pediatric neurocritical care services were level 1 trauma status ( $p = 0.017$ ), greater numbers of PICU beds ( $\chi^2 [6, n = 128] = 136.84$ ;  $p < 0.01$ ), and greater volume of children with pediatric neurocritical care conditions ( $\chi^2 [3, n = 128] = 20.16$ ;  $p < 0.01$ ). The most common reasons for not having a pediatric neurocritical care service were low patient volume (34/119 responses), lack of subspecialists (30/119 responses), and lack of interest by PICU faculty (25/119 responses). The positive impacts of a pediatric neurocritical care service were improved interdisciplinary education/training (16/45 responses), dedicated expertise (13/45 responses), improved interservice communication (9/45 responses), and development/implementation of guidelines and protocols (9/45 responses). The negative impacts of a pediatric neurocritical care service were disagreement among consultants (2/45 responses) and splitting of the PICU population (2/45 responses).

At least 45 specialized pediatric neurocritical care services exist in the United States. Eighty percent of these services are a consultation service to the PICU. Hospitals with level 1 trauma status, greater numbers of PICU beds, and greater numbers of patients with pediatric neurocritical care conditions were associated with the existence of pediatric neurocritical care as a clinical service <sup>1)</sup>.

<sup>1)</sup>

LaRovere KL, Murphy SA, Horak R, Vittner P, Kapur K, Proctor M, Tasker RC. Pediatric Neurocritical Care: Evolution of a New Clinical Service in PICUs Across the United States. *Pediatr Crit Care Med*. 2018 Aug 21. doi: 10.1097/PCC.0000000000001708. [Epub ahead of print] PubMed PMID: 30134362.

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