**Introducing the National Survey of Pediatric Post-Acute Care:**

**An Open-Access Database of Pediatric Facilities**

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**Abbreviations:**

PAC: Post-Acute Care

SNF: Skilled Nursing Facility

ICF: Intermediate Care Facility

LTAC: Long-Term Acute Care

**Contributors Statement Page**

Dr. Nadine Straka and Dr. Michael McManus conceptualized and designed the study, designed the data collection system, coordinated and supervised the data collection, drafted the initial manuscript, and critically reviewed and revised the manuscript.

Jennifer Franks collected data and critically reviewed and revised the manuscript.

Dr. Urbano França carried out data analyses and critically reviewed and revised the manuscript.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

**INTRODUCTION**

Nationwide, ~1% of pediatric admissions to acute care hospitals are discharged to a post-acute care (PAC) facility, vs. ~40% of Medicare recipients.1 Explanations for this disparity have not been explored since even simple data on the number and location of pediatric facilities is lacking.2,3 We addressed this gap by identifying and mapping pediatric PAC facilities across the United States.

**METHODS**

This activity was exempted from approval by the Boston Children’s Hospital Institutional Review Board. Facilities delivering pediatric, specialty, rehabilitation, post-acute, long-term acute, and sub-acute care were identified on state regulatory websites and within Center for Medicare and Medicaid Services Provider of Service Files.4 The activities of these facilities were confirmed by telephone inquiry and a dataset was created based on a questionnaire covering the following: patient population (pediatric patients < 18 years vs. adolescent patients > 12 years), size, scope of practice, care provided, and type of facility (a free-standing pediatric PAC facility versus an embedded pediatric PAC unit within a pediatric or adult facility). Unreachable facilities were so noted but maintained in the dataset with information from electronic sources. Facility addresses were geocoded using Google Location Services and mapped using open data science tools.5 Population estimates were extracted from the 2020 U.S. Census.6

**RESULTS**

We surveyed 1355 facilities. 17.8% (241/1355) were pediatric-specific units or facilities accepting some pediatric patients (figure 1). There were 34 freestanding pediatric PAC facilities, all accepting patients with tracheostomies, 97% (33/34) accepting those requiring mechanical ventilation via tracheostomy, and 85% (29/34) accepting patients requiring parenteral nutrition. Among the 68 embedded pediatric PAC units, 93% (63/68), 57% (39/68), and 57% (39/68), accept tracheostomies, mechanical ventilation, and parenteral nutrition, respectively. Of the remaining facilities, 30.3% (73/241) were adult facilities accepting adolescents and 27.4% (66/241) were adult facilities accepting pediatric patients on a case-by-case basis. About 3.5% (47/241) of facilities were identified as non-PAC facilities (LTAC, SNF, and ICF). Thirty-six states (72%) had at least one pediatric PAC facility and geographic distribution varied considerably. Facility locations and pediatric population by state are presented in figure 2. Interactive map features and the complete dataset are accessible at <https://nsufmm.github.io/postacutepeds/>.

**DISCUSSION**

Here we identify, geolocate, and describe the practice scope of 102 pediatric-specific PAC facilities within 36 U.S. states. Approximately one-third are freestanding facilities that accept most children with technology dependence. Children with complex medical conditions represent a significant, growing, proportion of pediatric hospitalizations7,8, so these data offer a starting point for studying PAC supply and demand. Our goal is to make this information publicly accessible and to update it through feedback from the pediatric PAC community.

The geographic distribution of pediatric PAC beds may affect access to care. Fifteen states lacked any pediatric specific PAC units or facilities, so out-of-state insurance contracting and travel would be required for children to access rehabilitative care. Alternatively, pediatric patients might be admitted to adult centers, rely more heavily on home nursing and family support, or remain longer within inpatient facilities. The relationship between PAC availability, hospital length of stay, and medical outcomes deserves study.

We faced challenges in creating this report. First, some facilities may have escaped our state and federal screening process. While there is little published data, one estimate offered in a commentary suggested that there were approximately 36 free standing PAC hospitals in the U.S. and 145 units embedded within adult facilities3. Here we extend that list and additionally provide facility names, locations, sizes, and practice scopes. A second challenge is the definition of pediatric PAC and the differentiation of LTAC, SNF, and ICF facilities offering selected elements of PAC. We approached this challenge by simply describing the services offered, rather than attempting to create a classification system. Finally, the scope of practice and admission policies we report are from online information and polling, so rely on telephone respondents and webpage maintanance. We therefore hope to extend and improve this resource through feedback and updates from participating facilities.

In summary, we report the results of a national survey of pediatric PAC facilities conducted in response to a call for data in *Pediatrics*2. We intend this as a starting point for understanding the role of PAC in our health care system and as an updatable resource for future outcomes research.

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**Figure 1.** Identification of Pediatric Post-Acute Care Facilities. Pediatric facilities were stratified based on type of facility including a free-standing PAC facility versus an embedded pediatric PAC unit within a pediatric or adult facility. Pediatric population is defined as patients less than 18 years of age. Adolescent population is defined as patients greater than or equal to 12 years to 18 years of age. PAC: Post-Acute Care, SNF: Skilled Nursing Facility, ICF: Intermediate Care Facility, LTAC: Long-Term Acute Care.

**Figure 2.** Geographic distribution of Pediatric Post-Acute Care Facilities in the United States. Shading represents the number of children < 18 years per state. Each type of facility of interest is denoted by a different symbol as outlined in the legend. An interactive map can be accessed at: <https://nsufmm.github.io/postacutepeds/>.