

Measure Background

Each year, there are 5.2 million hospital stays for children in the United States.¹ The average annual growth in mean hospital costs per stay are approximately 6% to 7% for children, more than three times the rate of cost growth of any other age group.² However, despite the significant health and financial impact of pediatric care, little information is publicly available to compare the quality of pediatric care in hospitals.

In 2017, the Leapfrog Group added two pediatric-specific measures of care quality to its annual Leapfrog Hospital Survey: Pediatric Computed Tomography (CT) Radiation Dose and the CAHPS Child Hospital Survey. These measures apply to both freestanding pediatric hospitals as well as general acute care hospitals that care for pediatric patients.

Patient Experience (CAHPS Child Hospital Survey)

The CAHPS Child Hospital Survey is designed to “address the need to assess and improve the experiences of pediatric inpatients and their parents.”³ Like other CAHPS surveys, this questionnaire focuses on aspects of pediatric inpatient care that are important to patients and their parents, and for which patients and their parents are the best source of information. The survey is taken by the parent or guardian reflecting their child’s experience as a patient and their own experience with their child’s hospital stay. The survey results are designed to be useful to multiple stakeholder groups with a need for information on the quality of pediatric inpatient care, including patients and parents, who can use the information to make better and more informed choices about inpatient care.³ The CAHPS Child Hospital Survey produces 18 measures of patient experience: 10 composite measures and 8 single-item measures, including an overall rating of the hospital.

Through its annual Leapfrog Hospital Survey, Leapfrog is asking hospitals to report the results of their CAHPS Child Hospital Survey (Child HCAHPS). Hospitals are asked to report their “Top Box” score for 5 of the 18 domains of patient experience. “Top Box” scores reflect the percent of survey respondents who chose the most positive response on the provided scale.

Pediatric Computed Tomography (CT) Radiation Dose

Given that radiation doses used for CT are far higher than conventional radiographs (x-rays), it is important for hospitals to review the dosage exposure for their patients, especially pediatric patients given their smaller size and lower bodyweights. While ample evidence shows that cancer risk is proportional to radiation dose, there are no direct data that suggest that lowering doses lowers cancer risk. However, mathematical modeling estimates that by reducing the top quartile of CT doses in children down to the average dose, the number of cancer cases would be reduced by approximately 43%, the equivalent to preventing 4,350 cancer cases per year in the U.S.⁴

Leapfrog’s measure of pediatric CT radiation dose is endorsed by the National Quality Forum (NQF #2820). The measure provides a framework for facilities to assess the doses they are using for pediatric patients, compare them to national benchmarks, and take necessary actions to lower their doses if they exceed threshold values.

The measure asks hospitals to report their 25th, 50th, and 75th percentiles for CT radiation dose length product (DLP) in routine head and routine abdomen/pelvis scans in pediatric patients across five age strata. Hospitals that have fewer than 10 encounters for an anatomic area and age stratum for the entire reporting period will not have to report the percentiles for that age stratum.

Pediatric Care Standards

Hospitals achieving the standards for Pediatric Care have:

- Performed in the top quartile for at least 4 of the 5 Pediatric CAHPS domains (a subset of the 18 domains), listed below:
 - a. Communication with Parent – Communication about your child’s medicines
 - b. Communication with Parent – Keeping you informed about your child’s care
 - c. Communication with Child – How well nurses communicate with your child

- d. Communication with Child – How well doctors communicate with your child
- e. Attention to Safety and Comfort – Preventing mistakes and helping you report concerns
- Received 75% or more of the possible points based on CT radiation doses across two anatomic areas (head and abdomen/pelvis) and 5 age strata compared to national benchmarks.

and associated radiation exposure and leukemia risk in children and young adults across seven integrated healthcare systems from 1994-2010. *JAMA Pediatr.* 2013;167(8):700-707.

Download the complete Leapfrog Hospital Survey scoring algorithms document at [Hospital Scoring and Results webpage](#).

Why Purchasers Should Get Involved

When children need care in a hospital, it is a stressful experience for both the patient and their parent. In these situations, parents are frequently pulled away from work and must balance the stress of their job with being present for their child. Given the lack of data about the quality of inpatient pediatric care, parents often have little information on which to choose a hospital for their child's care. As many employers cover pediatric dependents and pay for much of their care, purchasers can play an important role in pushing hospitals to make the quality of their pediatric care more transparent.

References

1. Weiss AJ, Liang L, Martin K. Overview of Hospital Stays Among Children and Adolescents, 2019. 2022 Nov 29. HCUP Statistical Brief #299. Agency for Healthcare Research and Quality (US); 2006. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK588376>
2. /Moore B, Levit K, Elixhauser A. Costs for hospital stays in the United States, 2012. HCUP statistical Brief #181. Agency for Healthcare Research and Quality. 2014.
3. The CAHPS child hospital survey. Content last reviewed June 2016. Agency for Healthcare Research and Quality. https://www.ahrq.gov/cahps/surveys-guidance/hospital/about/child_hp_survey.html. Accessed March 15, 2017.
4. Miglioretti D, Johnson E, Vanneman N, Smith-Bindman R, et al. Use of computed tomography