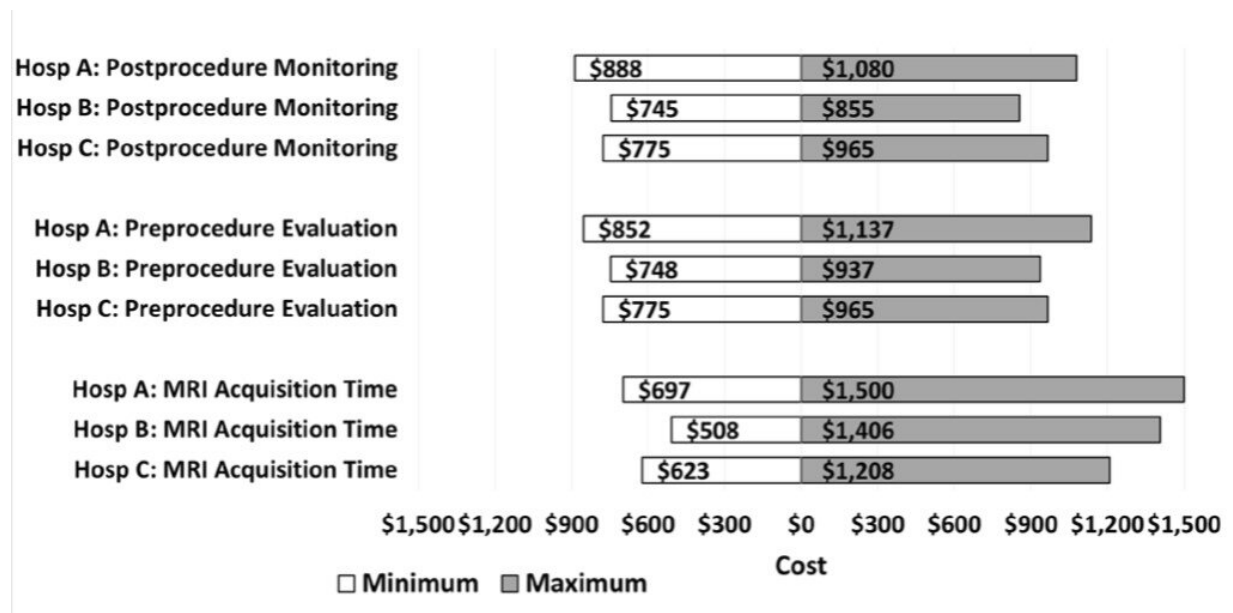


# Pediatric outpatient non-contrast brain MRI: A cost analysis at three U.S. hospitals

December 21 2022



Tornado diagram shows minimum and maximum costs according to hospital and activity. Depicted minimum and maximum costs are derived by using minimum and maximum time durations for each hospital and activity. Credit: *AJR*

Findings from an accepted manuscript published in the *American Journal of Roentgenology (AJR)* have highlighted potentially substantial cost savings by reducing the use of sedation for pediatric brain MRI examinations.

"The health system cost of performing a sedated MRI was substantially greater than that of performing a non-sedated MRI," wrote first author Shireen E. Hayatghaibi, Ph.D., from the department of radiology at Cincinnati Children's Hospital Medical Center in Ohio. "However, the cost of each individual examination type did not vary substantially among hospitals."

In the accepted manuscript, Hayatghaibi et al. calculated direct pricing for outpatient non-contrast brain MRI examinations at three academic pediatric hospitals. Labeling MRI examinations as sedated, non-sedated, or limited, process maps were then drawn to describe patient workflows, based on input from key personnel and direct observation. Capacity cost rates were calculated for resource types within three categories: labor, equipment, and space (supply cost was calculated separately). The cost of each process step was determined by multiplying step-specific capacity costs by the time required for each step. Costs of all steps were summed to yield a base case total examination cost.

Ultimately, across three free-standing pediatric institutions, the base case cost for a sedated non-contrast outpatient [brain](#) MRI was \$842 (\$775-924 across hospitals), for a non-sedated MRI was \$262 (\$240-285), and for limited MRI was \$135 (\$127-141). For all examination types, the largest cost category, as well as the biggest source of difference in cost between hospitals, was labor. Additional sensitivity analysis found that the greatest influence on overall cost at each [hospital](#) was the duration of the MRI acquisition.

"Health systems operating within alternative payment models can use this comparative cost information for purposes of cost reduction efforts and establishment of bundled [prices](#)," the authors added.

**More information:** Shireen E. Hayatghaibi et al, Pediatric Outpatient Noncontrast Brain MRI: A Time-Driven Activity-Based Costing

Analysis at Three U.S. Hospitals, *American Journal of Roentgenology* (2022). [DOI: 10.2214/AJR.22.28490](https://doi.org/10.2214/AJR.22.28490)

Provided by American Roentgen Ray Society

Citation: Pediatric outpatient non-contrast brain MRI: A cost analysis at three U.S. hospitals (2022, December 21) retrieved 27 April 2024 from <https://medicalxpress.com/news/2022-12-pediatric-outpatient-non-contrast-brain-mri.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.