

# Study examines delayed pediatric diagnoses in emergency departments

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Emergency departments (EDs) that see fewer pediatric patients are more likely to give delayed diagnoses for serious medical conditions compared to those who see pediatric patients more often, according to a

Northwestern Medicine study [published](#) in *JAMA Pediatrics*.

The findings underscore the need for more tools that support timely diagnoses in smaller EDs and those that see fewer pediatric patients, according to Kenneth Michelson, MD, MPH, associate professor of Pediatrics in the Division of Emergency Medicine and lead author of the study.

"I think every doctor in every ER is really trying to do a great job. Nobody is not working hard enough or isn't educated enough. I just think experience does matter. The solutions are not to educate people more, I think the solutions are to provide more pediatric resources to the ERs that need them most," said Michelson, who is also an attending physician in Emergency Medicine at the Ann and Robert H. Lurie Children's Hospital of Chicago.

According to Michelson, of the approximately 4,500 emergency departments in the U.S., only a third are attached to a hospital with a strong inpatient pediatric presence.

"For these emergency departments, although they still see kids, if a child needs to be admitted, they have to be transferred to a different hospital," Michelson said. "So, the capabilities of ERs to care for kids are vastly different across ERs, and actually about a third of ERs in the country see fewer than five kids a day, which is very few."

In the current study, the investigators analyzed retrospective data including more than 58,000 patients under the age of 18 years who were treated at 954 different EDs across eight states in the U.S. Patient data was collected using the Healthcare Cost and Utilization Project State ED and Inpatient Databases; data was collected from January 2015 to December 2019.

All patients also had a first-time diagnoses of one of 23 serious acute conditions, and 11.4% had a complex chronic condition.

"For each visit, we looked backward over the prior week and said, 'was a child seen in an [emergency department](#) in the week leading up to the time they were diagnosed?' Because if they were, that's potentially a missed diagnosis," Michelson said.

Overall, possible delayed diagnosis occurred in 15.8% of patients. The investigators also found that delayed diagnoses were 26.7% less common in EDs with a higher patient volume compared to those with a lower patient volume.

This trend was also consistent across 21 of 23 conditions, except [ectopic pregnancy](#) and sinus venous thrombosis. Additionally, condition-specific complications were approximately 11% more likely to occur in patients with a possible delayed diagnosis compared to those without.

Michelson said that regardless of their findings, families should still feel confident going to their local emergency department.

He emphasized that EDs that see fewer [pediatric patients](#) need more resources, including those provided by the National Pediatric Readiness Project, and that existing resources in larger pediatric EDs should be made more widely available to smaller EDs. He also suggested the implementation of programs that allow pediatricians to be made available to EDs via teleconsultations.

"Readiness efforts, diagnostic aids in the [electronic medical record](#) and then building up teleconsultation—I think those are three mechanisms that I think are really promising for bringing pediatric expertise even to small hospitals," Michelson said.

**More information:** Kenneth A. Michelson et al, Emergency Department Volume and Delayed Diagnosis of Serious Pediatric Conditions, *JAMA Pediatrics* (2024). [DOI: 10.1001/jamapediatrics.2023.6672](https://doi.org/10.1001/jamapediatrics.2023.6672)

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