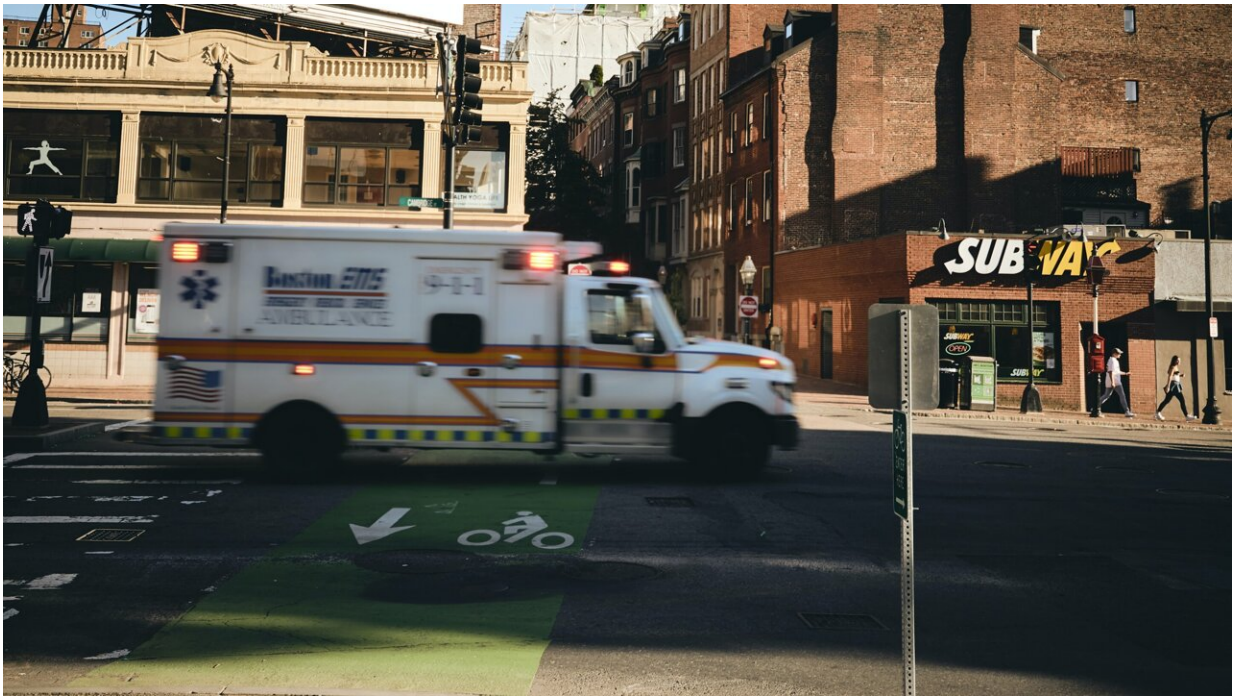
Quality of care for patients who call 911 varies greatly across the US, study finds

February 13 2024



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Emergency medical service (EMS) systems are not consistently providing optimal care based on new national standards of quality to patients who call 911, according to a new study from the Icahn School of Medicine of Mount Sinai.

The study demonstrates that EMS performance on key clinical and

patient safety measures varies widely across urban and rural communities. The findings, published in *Prehospital Emergency Care,* identify opportunities that could lead to improved care during 911 responses and improved outcomes for patients across the United States.

"EMS systems in the United States have traditionally relied upon operational measures, like response times, to measure performance of the system. However, this study highlights how patient care and experience are not solely determined by how fast an ambulance can arrive at the patient's side," explains lead author Michael Redlener, MD, Associate Professor of Emergency Medicine at Icahn Mount Sinai.

"While fast response times are essential for rare, critical incidents—like when a patient's heart stops beating or someone chokes—the vast majority of patients benefit from condition-specific clinical care in the early stages of a medical emergency. It is essential for EMS systems, government officials, and the public to know about the quality and safety of care that is occurring and find ways to improve it," Redlener continues.

This is the first study to use specific safety and clinical quality measures to assess patient care across the entire 911 system in the United States. The research team reviewed all 911 responses in the United States for the year 2019, more than 26 million responses from 9,679 EMS agencies. They assessed specific quality measures in each call outlined by the National EMS Quality Alliance—a nonprofit organization that was formed to develop and endorse evidence-based quality measures for EMS and health care partners to improve the experience and outcomes of patients and care providers. This includes the treatment of low blood sugar, seizures, stroke, pain, and trauma, as well as medication safety and transport safety. Some of the notable findings were:

- Pain for trauma patients improved in only 16% of cases after

treatment by EMS.
- 39% of children with wheezing or asthma attacks did not receive breathing treatments during their EMS call, even though earlier treatment can lead to earlier relief of distressing symptoms.
- Nearly one-third of patients with suspected stroke did not have a stroke assessment documented, potentially delaying or missing time-sensitive treatment.

The researchers also analyzed performance of all EMS agencies, looking at agency size and location—urban, suburban, and rural. They discovered substantial differences in agencies that primarily responded in rural communities compared to urban and suburban areas. Agencies with responses in mostly rural areas were less likely to treat low blood sugar or improve pain for trauma patients, and more likely to use lights and sirens unnecessarily when compared to EMS systems in urban and suburban communities.

Previous studies have shown that when lights and sirens are used during EMS transport, there is a higher likelihood of accidents, injury, and death, so unnecessary use may be more dangerous. Dr. Redlener says the difference between the highest- and lowest-performing agencies on these key measures is notable.

"This work is not about blaming bad EMS services, but about uncovering opportunities to improve patient care," Dr. Redlener adds. "We have to move away from solely looking at response times and start looking at performance that directly impacts the people we are meant to treat."

More information: A National Assessment of EMS Performance at the Response and Agency Level, *Prehospital Emergency Care* (2024). DOI: 10.1080/10903127.2023.2283886.
www.tandfonline.com/doi/full/1 … 0903127.2023.2283886

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