Medical Xpress

Patient transfer systems needed to ensure equity, as ICUs overload during pandemic

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During the COVID-19 pandemic, many U.S. hospitals had overcapacity intensive care units (ICU) while other area hospitals had open ICU beds available, a phenomenon known as "load imbalance." The hospitals most

likely to be overloaded in imbalanced regions served a higher number of Black patients and more patients enrolled in Medicaid, according to a new study conducted by Weill Cornell Medicine investigators.

In the study, published July 5 in *Health Affairs*, more than half of the regions studied experienced a load imbalance. "The research highlights the need for better coordination of patient transfers, which can alleviate overcapacity and ease inequities in care," said senior study author Dr. William L. Schpero, assistant professor of population health sciences at Weill Cornell Medicine.

This study appears to be the first to closely examine the prevalence of hospital load imbalance during the pandemic and the type of hospitals that were affected, according to lead study author Dr. Adam S. Vohra, an interventional cardiology fellow in the Department of Medicine at Weill Cornell Medicine.

For their study, the researchers assessed data from 290 hospital referral regions (HRRs), which are geographic areas that designate hospital markets. Data on hospital capacity came from the COVID-19 Reported Patient Impact and Hospital Capacity files, produced by the U.S. Department of Health and Human Services.

The research team found that 154 HRRs, or 53.1%, experienced load imbalance during the study period, from July 31, 2020, through March 4, 2022. Regions with the most load imbalance had a higher proportion of residents who identified as Black. Moreover, hospitals with the highest proportion of Medicaid patients and Black Medicare patients were significantly more likely to be overloaded while other area hospitals had available capacity.

"We think we used a fairly conservative estimate of an imbalance, so if anything, we may be underestimating its prevalence," Dr. Schpero said.

Some of the overburdened hospitals likely did not have enough staff, beds or supplies to safely meet patient needs, Dr. Schpero said. "Those resources did exist elsewhere, but many states have historically not had the infrastructure needed to address capacity constraints across hospitals and to reallocate patients accordingly," he added.

Arizona, Minnesota and Washington, for example, have centralized coordinating hubs to manage transfer requests among hospitals during periods of high surge to help relieve the burden on overwhelmed hospitals. Most of these systems rely on critical care or emergency department nurses and technicians to facilitate patient transfers. "While we haven't followed up on the causal effect these coordinating hubs have on outcomes, in theory, these are the kind of the systems that could help," Dr. Vohra said.

Moving patients from one hospital to another can be quite difficult, and transfer systems require timely data on patient need and bed availability across hospitals. Reporting mechanisms that only update weekly are too slow, Dr. Schpero said: "There needs to be a preexisting agreement across hospitals, either voluntarily or as a function of state law, to share real-time data on hospital capacity and facilitate transfers to ease strain."

Because the urgency of the pandemic has subsided, "now is the time to take stock and invest in policies and practices that capitalize on lessons learned," Dr. Schpero said. "Whether another pandemic arises, or a natural disaster occurs, we shouldn't have to compromise on equitable patient care."

More information: Adam S. Vohra et al, Many Intensive Care Units Were Overloaded While Nearby Hospitals Had Excess Capacity During The COVID-19 Pandemic, *Health Affairs* (2023). DOI: 10.1377/hlthaff.2022.01657

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