

Utilizing telemedicine in the ER can reduce wait times and patient length of stay

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Telemedicine has become more common given the current global pandemic. COVID-19 has limited doctor's office and hospital visits to ensure safety for everyone. But rather than diminish the quality of care, new research in the *INFORMS journal Information Systems Research* finds that increasing wider use of telemedicine in the emergency room (ER) can yield positive results for patients and providers alike.

The study, "Does Telemedicine Reduce Emergency Room Congestion? Evidence from New York State," looks at all [emergency room](#) visits in New York from 2010 to 2014. The researchers found, on average, [telemedicine](#) availability in the ER significantly reduces average patients' length of stay (LOS), which is partially driven by the flexible resource allocation.

Overcrowding in ERs is a common and nagging problem. It not only is costly for hospitals, but also compromises care quality and patient experience. Study authors Susan Lu of Purdue University, Shujing Sun of the University of Texas at Dallas and Huaxia Rui of the University of Rochester say

finding ways to improve ER care delivery is important, as long as it actually works.

"The adoption of telemedicine leads to a larger reduction in ER length of stay when there is a demand surge or supply shortage," said Lu, a professor in the Krannert School of Management at Purdue. "This improvement does not come at the expense of care quality or patient cost."

The authors replicated their findings using annual U.S. [hospital](#) data and found that ER telemedicine adoption also significantly reduced average patients' waiting time, which suggests that the LOS reduction partially comes from the reduction of waiting time.

According to the National Hospital Ambulatory Medical Care Survey, from 2000 to 2015, the number of ER visits in the United States increased by more than 25%. This congestion in the ER can have a number of negative implications from unhappy patients, decreased productivity by doctors because they're overworked, and increased financial costs because of unnecessary tests.

According to information published in February 2019 by the American Hospital Association, 76% of U.S. hospitals use various telemedicine technologies to connect patients and providers.

This research article shows more specifically the impact telemedicine can have in reducing ER congestion and provides positive implications.

"The current pandemic has shown hospitals the great promise of telemedicine application and hopefully the unexpected enrollment of such policies alongside this research can help get the process underway to help more [healthcare facilities](#) utilize this technology in ERs and elsewhere," said Lu. "Policymakers can play a role as well by reducing regulatory barriers that inhibit more expansive use of telemedicine and by creating

incentives that encourage hospitals to more broadly adopt telemedicine in emergency rooms."

More information: Shujing Sun et al, Does Telemedicine Reduce Emergency Room Congestion? Evidence from New York State, *Information Systems Research* (2020). [DOI: 10.1287/isre.2020.0926](https://doi.org/10.1287/isre.2020.0926)

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