

Pilot Program Using Telemedicine to Decrease Emergency Room Wait Times

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Emergency department (ED) overcrowding has been a major issue nationally for 20 years and continues to increase in severity. To address this issue, a pilot study has been launched at UC San Diego Health System's ED to use telemedicine as a way to help address crowding and decrease patient wait times. The study is the first of its kind in California to use cameras to bring on-call doctors who are outside of the hospital to the patient in need.

"This telemedicine study will determine if we can decrease wait times while reducing the number of patients who leave the ED without being seen by a physician," said David Guss, MD, principal investigator and chair of the department of emergency medicine at UC San Diego School of Medicine. "With the ED physicians on site and an added telemedicine physician, patient care may be significantly expedited. If the use of a telemedicine evaluation can be shown to be safe and effective, it may shift how care in the emergency department is delivered."

The study, called Emergency Department Telemedicine Initiative to Rapidly Accommodate in Times of Emergency (EDTITRATE), brings telemedicine doctors to patients when the ED becomes busy. An offsite doctor is paged who then remotely links to a telemedicine station to see patients. With the aide of an ED nurse, these patients are seen based on arrival time and level of medical need. All patients must sign a consent form to participate in the study.

Guided by high fidelity sound and video, the telemedicine physician can examine a patient's eyes, ears, nose, throat and skin, as well as listen to heart and lung sounds through the module. Laboratory and imaging tests can be ordered and results reviewed. Physician ordering and documentation is accomplished through an electronic medical record. As a final step, the onsite attending physician reassesses the patient to confirm findings and actions, as well as address any unanswered patient questions.

"Working in an emergency department opened around the clock, you never know who may come through the door, so you are constantly faced with the challenge of matching staffing resources with the demands for care," said Guss. "Some emergency departments have placed a physician in

the triage area to expedite care, however, if there is low demand for service during these times, an underutilized physician creates an unneeded expense.”

To add to the challenge, when an on call physician is needed to augment provider resource, there can be delays in making the call or significant delay until the physician arrives. With a telemedicine doctor, the wait is just minutes.

“ED overcrowding increases patient risk and decreases patient satisfaction with emergency services,” said Vaishal Tolia, MD, MPH, FACEP, emergency medicine physician at UC San Diego Health System. “Implementing telemedicine in the emergency department setting may improve the overall experience for both patients and medical staff.”

Six rooms in the Hillcrest ED can currently accommodate the telemedicine module, and the project can be activated during the busiest times, Monday through Friday.

The study is supported by a \$50,000 University of California Health Quality Improvement (CHQI) grant awarded to Tolia this year.

“We will continue to use the CHQI grant to enhance the efficiency of the project and train staff,” said Guss. “Our goal is to eventually expand this project to our emergency department in La Jolla, and if the study proves successful, potentially see it deployed in other hospital emergency departments across the nation.”

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