

How UCSF researchers used EHR data to trace hospital infections to an emergency room CT scanner

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Researchers at the University of California, San Francisco, used previously untapped data buried in EHRs to pinpoint the source of a particularly nagging hospital-acquired infection.

The culprit? A CT scanner in the emergency department.

The UCSF researchers used time and location stamps in the system's EHR to track the movements of more than 86,000 hospitalized patients over a three-year period. The results, [published](#) in JAMA Internal Medicine, showed patients who passed through the emergency department's CT scanner within 24 hours after a patient with Clostridium difficile (C. diff), were twice as likely to become infected. Nearly 4% of patients who were exposed in the scanner became infected within two months.

Although previous studies tracking C. diff transmission have focused on a single hospital floor or even a hospital bed recently vacated by an infected patient, the UCSF study tracked nearly 435,000 patient movements throughout the entire hospital, which helped them build a comprehensive map of potential hotspots.

"If we just look at transmission in their room, we're missing potential opportunities for disease transmission," Russ Cucina, M.D., senior author on the study and chief health information officer at UCSF, said in a [release](#). The researchers plan to continue exploring EHR data to track patient movements.

Time stamps in EHRs have shown to be increasingly valuable to researchers. A recent [study](#) out of Oregon Health and Science University found that time-stamp data can be helpful in evaluating physician workflows.

Providers have also [leaned](#) on EHRs to prevent infections like sepsis, although some experts have [voiced](#) concern that relying on electronic screenings could actually increase resistant superbugs by leading to increased use of broad-spectrum antibiotics.