

# EHR Data is as Effective as COVID-19 Contact Tracing Methods

Christopher Jason

Researchers found a 10.1 percent transmission risk percentage with EHR data, which was on par with traditional contact tracing methods.

Extracting household patient EHR data proved to be as effective at tracking transmission as COVID-19 contact tracing, according to a research letter [published](#) in *JAMA Network Open*.

Because COVID-19 is primarily transferred by person-to-person contact through respiratory droplets in households, researchers aimed to find out if healthcare professionals could leverage EHR home address data to identify COVID-19 risk factors and estimate transmission risk.

Researchers analyzed EHR COVID-19 data between exposed children and adults from Mass General Brigham between March and May 2020. Researchers compiled data from all patients registered at the addresses of index cases but excluded patients who did not have at least one health system visit within the last 60 months.

Overall, researchers evaluated 7,762 index cases between 17,917 at-risk individuals. Using EHR data, researchers found a 10.1 percent overall household infection risk, or 1,809 COVID diagnoses. This transmission risk percentage was consistent with traditional contact tracing, the study authors wrote.

"Independent factors significantly associated with higher transmission risk included age greater than 18 years and multiple comorbid conditions," the study authors wrote. "In sensitivity analyses limiting the maximum size of the household to as small as 2 persons, the calculated transmission risk increased to only 13.8%."

Although EHRs proved to be useful to track COVID-19 patients, relying on home address EHR data was also a major limitation, wrote the research team. The study authors said leveraging home address data could lead to undercounting and overcounting household members.

There currently isn't a great fix for that issue, but nevertheless, the researchers contended the EHR-based strategy was effective.

"Although we acknowledge that contact investigations are the standard approach for estimating household transmission risk, we believe that the consistency of our results with these approaches suggests that our approach may provide a more efficient method for risk estimation and household contact identification," the study authors explained. "Moreover, our sensitivity analysis indicated that the results were qualitatively similar when restricted to smaller households."

Overall, EHR data could support COVID-19 control efforts, so as long as adequate infrastructure is in place to put this to scale.

Developing, implementing, and assessing a plan for EHR systems and public health information systems require a boost in health IT, governance, and overall strategy, according to a separate study [published](#) in *The Journal of the American Medical Informatics Association (JAMIA)*.

**COVID-19** response efforts have included the collection and analysis of individual and community EHR data from healthcare organizations, public health departments, and socioeconomic indicators. But those resources haven't been deployed the same way in all healthcare organizations, the researchers stated.

An analysis of COVID-19 response efforts from 15 healthcare organizations that saw delays in correctly understanding, predicting, and mitigating the COVID-19 spread highlighted some pitfalls.

The research team determined a number of steps that could help organizations in the current and future steps to mitigate the pandemic. The researchers' recommendations may also help in future public health crises.

Health IT infrastructure needs to support public health that leverages EHR systems and associated patient data, but it cannot be developed and implemented right away, the researchers wrote.

Additionally, having better control of the timeliness of data analysis will be essential. Because analytic methods do not always give real-time results, it is easy to overlook or underuse EHR data.

Researchers also found public health information infrastructure does not currently support larger-scale integration. Due to this issue, health organizations have been largely unable to gather information during the pandemic because it requires multiple data submissions to a number of agencies.