

Digital contact tracing alone may not be miracle answer for COVID-19

August 19 2020, by Liane Topham-Kindley



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In infectious disease outbreaks, digital contact tracing alone could reduce the number of cases, but not as much as manual contract tracing, new University of Otago-led research published in *The Cochrane Library* reveals.

Senior Research Fellow in the Department of Preventive and Social Medicine, Dr. Andrew Anglemeyer, led this systematic review of the effectiveness of [digital technologies](#) for identifying contacts of an identified positive case of an infectious disease, in order to isolate them and reduce further transmission of the [disease](#).

The team of researchers summarized the findings of six [observational studies](#) from outbreaks of different infectious diseases in Sierra Leone, Botswana and the U.S. and six studies that simulated the spread of diseases in an epidemic with mathematical models.

The results of the review suggest the need for caution by [health authorities](#) relying heavily on digital contact tracing systems.

"Digital technologies, combined with other public health interventions, may help to prevent the spread of infectious diseases but the technology is largely unproven in real-world, outbreak settings," Dr. Anglemeyer says.

"Modeling studies provide low certainty of evidence of a reduction in cases, and this only occurred when digital contact tracing solutions were used together with other public health measures such as self-isolation," he says.

"However, limited evidence shows that the technology itself may produce more reliable counts of contacts."

Overall, the team of researchers from New Zealand, the U.S., the UK and Australia conclude there is a place for digital technologies in contact tracing.

"The findings of our review suggest that to prevent the spread of infectious diseases, governments should consider digital technologies as

a way to improve current contact tracing methods, not to replace them," the researchers state.

"In the real world, they won't be pitted against each other, the technology would hopefully just augment the current contact tracing methods in a given country."

They recommend governments consider issues of privacy and equity when choosing digital contact tracing systems.

"If governments implement digital contact tracing technologies, they should ensure that at-risk populations are not disadvantaged and they need to take privacy concerns into account. The COVID-19 pandemic is disproportionately affecting ethnic minorities, the elderly and people living in high deprivation. These health inequities could be magnified with the introduction of digital solutions that do not consider these at-risk populations, who are likely to have poor access to smartphones with full connectivity."

Contact tracing teams in the studies reviewed reported that digital data entry and management systems were faster to use than paper systems for recording of new contacts and monitoring of known contacts and possibly less prone to data loss.

But the researchers conclude there is "very low certainty evidence" that contact tracing apps could make a substantial impact on the spread of COVID-19, while issues of low adoption, technological variation and health equity persist.

Accessibility or privacy and safety concerns were identified in some of the studies. Problems with system access included patchy network coverage, lack of data, [technical problems](#) with hardware or software that were unable to be resolved by local technical teams and higher staff

training needs including the need for refresher training. Staff also noted concerns around accessibility and logistical issues in administering the systems, particularly in marginalized or under-developed areas of the world.

The research, published today by *The Cochrane Library*, a collection of high-quality, independent evidence to inform healthcare decision-making, has been carried out as the COVID-19 pandemic shows no signs of waning and the World Health Organization and more than 30 countries are exploring how digital technology solutions could help stop the spread of the virus.

More information: Andrew Anglemeyer et al. Digital contact tracing technologies in epidemics: a rapid review, *Cochrane Database of Systematic Reviews* (2020). [DOI: 10.1002/14651858.CD013699](https://doi.org/10.1002/14651858.CD013699)

Provided by University of Otago

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