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DIGITAL CONTACT TRACING TECHNOLOGIES IN EPIDEMICS: A RAPID REVIEW

18 AUGUST 2020 - Reducing the transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a global priority. Contact tracing identifies people who were recently in contact with an infected individual, in order to isolate them and reduce further transmission. Digital technology could be implemented to augment and accelerate manual contact tracing. Digital tools for contact tracing may be grouped into three areas: 1) outbreak response; 2) proximity tracing; and 3) symptom tracking. We conducted a rapid review on the effectiveness of digital solutions to contact tracing during infectious disease outbreaks.

The effectiveness of digital solutions is largely unproven as there are very few published data in real-world outbreak settings. Modelling studies provide low-certainty evidence of a reduction in secondary cases if digital contact tracing is used together with other public health measures such as self-isolation. Cohort studies provide very low-certainty evidence that digital contact tracing may produce more reliable counts of contacts and reduce time to complete contact tracing. Digital solutions may have equity implications for at risk populations with poor internet access and poor access to digital technology.

Stronger primary research on the effectiveness of contact tracing technologies is needed, including research into use of digital solutions in conjunction with manual systems, as digital solutions are unlikely to be used alone in real-world settings. Future studies should consider access to and acceptability of digital solutions, and the resultant impact on equity. Studies should also make acceptability and uptake a primary research question, as privacy concerns can prevent uptake and effectiveness of these technologies.

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