

Using a Bluetooth-enabled CovidCard to support contact tracing

July 2020

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WHY INVESTIGATE A COVIDCARD?

- Effective contact tracing is a critical component of the strategy to isolate COVID-19 in New Zealand, by identifying close contacts, isolating them quickly, and stopping the spread of the virus.

Technology can support manual tracing

- Digital technology can complement contact tracing by speeding up the process, filling in memory gaps, and recording contact with strangers. It could also allow contact tracers to access information more rapidly, which can improve the chances of self-isolating potential cases of COVID-19 quickly.
- A Bluetooth-enabled device can automatically detect when it is close to another Bluetooth-enabled device. A Bluetooth solution that automatically registers contacts may be the easiest solution for individuals where it only requires minimal steps by the user.
- Other countries are using Bluetooth mobile apps, an approach that should not be ruled out, but has challenges. These include achieving uptake and restrictions on some phones' Bluetooth function that limit the effectiveness of apps. Apps based on the new Google-Apple exposure notification framework provides a privacy-centric solution that could be used to notify people that they may have been in contact with a Covid-19 positive case.
- The Ministry of Health is leading the assessment of Bluetooth apps for contact tracing.

Officials are investigating a Bluetooth-enabled CovidCard

- As directed by Cabinet, the Government Chief Digital Officer (GCDO) has worked with the Public Private Partnership group (PPP) to investigate a Bluetooth-enabled CovidCard to support contact tracing.
- The main purpose of introducing the CovidCard would be to improve contact tracing so New Zealand can manage the risk of an outbreak without needing to go into higher alert levels.

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WHAT IS A COVIDCARD?

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- A CovidCard is a Bluetooth-enabled card that automatically logs interactions with other cards based on hardwired proximity parameters (a close contact algorithm).
- A CovidCard would detect and record contacts, storing only the information necessary for contact tracing. Personal details consisting primarily of cardholder's contact details would be stored in a database.
- When a person tests positive, data is uploaded from the card. Human contact tracers would access contact details from the card and identify close contacts to notify them that they may have been exposed. Close contacts can then isolate themselves and public health authorities can follow up with these people, including doing any necessary testing.

WHAT HAS BEEN DONE?

- The PPP have provided officials with their report on the feasibility of the cards for contact tracing in New Zealand and assessment of other Bluetooth solutions.
- These findings are based on extensive product development testing in Waikato and a small-scale feasibility field trial at Nelson Hospital.
- The report recommended the national rollout of the CovidCard at an estimated cost of \$98.5 million in the first year and \$64 million in the second year.
- The PPP recommend that the Government consider deploying the CovidCard in advance of relaxing border settings.

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WHAT DOES THE INITIAL WORK SHOW?

ADVANTAGES

- The CovidCard could complement manual tracing, making contact tracing faster and more accurate.
- The CovidCard is designed for contact tracing, so it does not have the restrictions on use of Bluetooth function of some mobile phones.
- Individuals would not require a smartphone or app skills to use the CovidCard, making it accessible to everyone.
- The CovidCard does not collect location data.

DISADVANTAGES

- The CovidCard is still an unproven high-cost technology, with Government likely to have to bear the costs to encourage high uptake.
- Large-scale distribution effort would be needed for the CovidCard to be effective and there is a long implementation time (5-6 months). If deployment is targeted, then this could happen more quickly.
- There is uncertainty about whether New Zealanders would wear the CovidCard as intended (on a lanyard), or at all.
- As with all new contact tracing technology, the CovidCard and associated systems would need to be incorporated into existing contact tracing systems.
- CovidCards are designed to last 12 months.
- Like apps, the CovidCard has limitations in its ability to accurately measure distance, which may provide false positives that will need to be dealt with.
- Unlike an app, the CovidCard cannot be upgraded once deployed.

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NEXT STEPS

Further investigation on CovidCard feasibility

- A technical independent review of the PPP's report is underway to complete the proof of concept work regarding the technology. This involves the Defence Technology Agency (DTA), National Cyber Security Centre (NCSC) and Ministry of Health (MoH).
- Options for an expanded trial of the CovidCard are being investigated to confirm that they work as intended at a level of scale, along with examination of the value of the information collected for contact tracing, and its epidemiological benefit.
- The GCDO is leading the completion of this proof of concept work. DIA are aiming to complete this by late July 2020.

Work on implementation options

- Further progress on this work is dependent on the outcome of the proof of concept work.
- In parallel, MBIE will lead the development of design options for implementing the CovidCard. This will include policy settings, any legislative changes, any governance arrangements that would be required, and consideration of operational deployment. It will also include ensuring adequate privacy and security controls are in place to protect personal information in the central database.
- Following proof of concept, the PPP will undertake further product development, including the development of algorithms to determine close contacts and manage power usage in the cards.
- MBIE are currently leading a second phase of work which involves advice on whether to proceed with CovidCard and how to implement it.
- If Ministers decide to proceed with the CovidCard, MBIE would lead implementation.
- Work is also underway to provide advice on what a small-town trial would look like, including options for implementation.