



Government Digital Services briefing

Hon Kris Faafoi
Minister for Government Digital Services

Title: CovidCard Proof of Concept Work Update and Trial Options

Date: 15 July 2020

Key issues

We briefed you on 30 June 2020 about the investigation into the CovidCard and noted further work would be required to assess its technical feasibility, epidemiological benefit, and if it would work in a real-world environment. This work is now underway with results due by the end of July 2020.

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For a larger trial to be effective, the security and privacy system around the data collected by the cards will need to be in place before a trial takes place. This is to ensure the data collected by the cards will be held securely and destroyed after the trial ends. Completing such a trial to coincide with the completion of the independent assessment at the end of the month is not feasible.

The Ministry of Business, Innovation and Employment are leading work around implementation options for the card and associated policy work. The decision to undertake further trials should be considered in relation to that work.

Action sought	Timeframe
Discuss with GCDO officials the initial results of the independent CovidCard assessment work and approach to further trials; and Forward a copy of this briefing to the Prime Minister's Office	By Monday 20 July 2020

Contact for telephone discussions (if required)

Name	Position	Direct phone line	After hours phone	Suggested 1 st contact
Nigel Prince	GCDO Covid Response Lead	9(2)(a)	9(2)(a)	✓
Michael Woodside	Policy Director	9(2)(a)	9(2)(a)	
Return electronic document to:	Nathan Mountfort, 9(2)(a)			
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Purpose

1. This briefing provides an update about the current proof of concept work for the CovidCard that the GCDO is leading, and sets out options for a further larger trial.

Background

2. We briefed you on 30 June 2020 about the investigation into the CovidCard. We noted that further work is needed on proof of concept to ensure that:
 - the card is technically feasible;
 - adds value to the contact tracing process, and has epidemiological benefit; and
 - would work if deployed at scale in a real-world environment.
3. The Ministry of Business, Innovation and Employment (MBIE) is leading work to assess implementation options for the card and associated policy work. They are separately briefing you on high-level design implementation options.
4. The Public Private Partnership Group (PPP) delivered their report on the card in early June. This included their assessment of the card in terms of its technical feasibility and epidemiological value. The assessment was based on research, a closed field trial at Nelson Hospital, and significant product development testing in Waikato.
5. The GCDO has since been working with the Defence Technology Agency (DTA), Ministry of Health, PPP, and the National Cyber Security Centre (NCSC) within the Government Communications Security Bureau (GCSB), to test the findings of the PPP's report. This work will be completed at the end of July 2020.

Technical feasibility assessment update

6. DTA has undertaken an independent technical assessment of the card. The DTA's draft report found that the card can collect contact data, that the battery would last for one year, and that the card meets reasonable security and privacy expectations.
7. 6(a) 
8. DTA recommended that a professional consultant should be approached to confirm its view about the integrity of the card's security. It also suggested that further testing of the cards should be carried out, such as a 21-day test to assess battery life.
9. The DTA also noted that the cards will generate some false positives due to the nature of the contact detection mechanism. To mitigate this, DTA recommends that contact duration information also be stored on the cards.
10. Further work is underway with the PPP to discuss whether some of the issues that were raised in the DTA report can be addressed. This includes how to reduce the impact of false positives through how the card data is categorised (e.g. casual versus close contacts) when it is incorporated into the National Contact Tracing System (NCTS).

Assessment of epidemiological benefit and value to contact tracing

11. An independent assessment of the epidemiological value of the card as outlined in the PPP's report is underway, with discussions held with the Ministry of Health regarding the health modelling approach.
12. A workshop has been held with the Ministry of Health's contact tracing experts to discuss how the data from the card can add value to the existing contact tracing approach. Work is underway to determine how the card data would integrate with existing data and systems to support manual contact tracing. The results of this work are due by the end of July 2020.

Further trial options

13. The decision to continue exploring the card and whether to undertake further trials should be considered alongside the MBIE briefing on implementation design options for the card and associated policy work (MBIE briefing 2021-0159 refers).
14. If deployment of the card is considered a potential option then further trials would be useful to refine the hardware, test integration with the contact tracing system, and test how well the card would perform in a real-world environment.
15. There are four options in terms of further trials:
 - 15.1 No further trial(s) and Ministers decide on deployment (or not) based on information available following completion of MBIE's policy options work and the independent proof of concept assessment;
 - 15.2 Closed field trial (product development testing) only;
 - 15.3 Combination of a closed field trial and larger scale community field trial;
 - 15.4 Larger scale community field trial only.
16. The recommended approach, if this work is to continue, would be the combination of a closed field trial and larger scale community field trial.

Closed field trial to refine the cards

17. This trial would be like the Waikato product development testing and would focus on the technical aspects of the cards, including the performance of the card when not worn on a lanyard in different settings, and the mitigation of false positives.
18. A closed trial is required to refine the technical aspects of the cards. This must be done in a closed setting so that ground truth data can be gathered to determine if the cards are recording information accurately.
19. The trial would be designed to validate the final production card specification and could be done in parallel with the larger field trial.

Larger field trial

20. The purpose of the larger field trial would be to see how the card performs in a real-world setting and to test the contact tracing download process for the cards and how the data integrates with the NCTS.
21. The recommendation is that the trial be done in a small community with around 250-300 participants. Each participant would receive a card with a few cards picked at random to be COVID-19 cases. The cardholder would be interviewed as if they were

undergoing contact tracing and then this would be compared against the data captured on the card.

22. Any trial larger than 300 cards is considered too challenging to manage logistically and would not provide any significant further benefit in terms of analysis and testing the contact tracing process.

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24. Initial internal discussions are underway to determine a suitable community for the trial should one proceed. We consider that there would be merit in promoting the trial to a group that was digitally excluded to test uptake / usage. Some public consultation would have to be done prior to beginning a trial.

25. This trial could also provide the opportunity for market research to test the public's willingness to carry a card for the purposes of contact tracing. Enabling an assessment of behaviours around the card, such as how frequently people wear the card which would help determine the card's feasibility.

Roles and responsibilities

26. If further trials are to take place, a lead government agency for this work will need to be determined. This agency would have oversight of the trials and responsibility for reporting back to Ministers.

27. Either this lead agency or another agency would need to be responsible for collecting the data from the cards used in the larger trial and translating it into a format that is usable to contact tracers.

28. This agency will also be responsible for ensuring robust security and privacy settings are in place, to ensure the data collected by the cards will be held securely and then destroyed after the trial ends.

29. The PPP will also need to be a core player in any trials for these to be effective given its expertise on the card hardware 9(2)(j) The University of Otago may also be involved given its involvement in the initial Nelson trial.

Cost and timing

30. Previously \$1 million of funding was provided via the Innovation Fund for the initial work around the card. This funding was used as part of the independent assessment.

31. Work is underway to assess the cost of the recommended further trials option. To undertake the trial in a robust manner and ensure the necessary privacy and security protections are in place, it is estimated this work will take at least two to three months.

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Next steps

34. GCDO Officials will provide you with the results of the independent assessment of the CovidCard by 31 July 2020. If there is desire to proceed with further work (such as trials), we can work with MBIE to deliver a Cabinet paper for Cabinet approval and to secure the necessary funding. We would then support MBIE's work on any implementation phase and further requests for funding as necessary.

Recommendations

35. We recommend that you:

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| a) | discuss with GCDO officials the initial results of the independent CovidCard assessment work and approach to further trials; | Yes/No |
| b) | forward a copy of this briefing to the Prime Minister's Office. | Yes/No |



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