DEPARTMENT OF THE
PRIME MINISTER AND **CABINET**
TE TARI O TE PIRIMIA ME TE KOMITI MATUA

MINISTRY OF
HEALTH
MANATŪ HAUORA

Briefing

BLUETOOTH CONTACT TRACING CARD TRIAL AND NZ COVID TRACER APP IMPROVEMENTS

To: Minister for COVID-19 Response (Hon Chris Hipkins)			
Date	23/03/2021	**Priority**	Medium
Deadline	31/03/2021	**Briefing Number**	DPMC-2020/21-573 HR 20210550

Purpose

1. This briefing:

    a. responds to a request made by Cabinet in August 2020 to report back on the Bluetooth-enabled contact tracing card trials and the possible use of other digital technologies to support more effective contact tracing [CAB-20-MIN-0370]

    b. provides a draft Cabinet paper *Report Back on the Bluetooth-enabled contact tracing card trial and the use of other digital technologies to improve contact tracing* for Ministerial consultation; and

    c. identifies options to encourage more people to scan QR codes more consistently and improve the accuracy of the information linked to QR codes.

Recommendations

1. **Note** that based on the findings from the Bluetooth-enabled contact tracing card trial, officials do not recommend a national rollout of the card, noting that the trialled solution and associated findings would not maximise efficacy for contact tracing across the population.

    Noted

2. **Consult** Ministerial colleagues on the draft Cabinet paper *Report Back on the Bluetooth-Enabled Contact Tracing Card Trial and the Use of Other Digital Technologies to Improve Contact Tracing.*

    YES / NO

3. **Provide** your comments, if any, on the draft Cabinet paper *Report Back on the Bluetooth-Enabled Contact Tracing Card Trial and the Use of Other Digital Technologies to Improve Contact Tracing* to officials by 29 March 2021, in order that the Cabinet paper can be lodged for consideration at the Social Wellbeing Committee on 7 April.

    YES / NO

4. **Note** you asked officials to provide you with options to increase scanning behaviours of the COVID Tracer App. This briefing outlines options that are easy to implement:

    4.1.   s9(2)(h)

    4.2.   promoting use of the App through communications.

Noted

5. **Note** that the Ministry of Health is developing a number of improvements to the App aimed at:

    5.1. increasing the ease of use of the App;

    5.2. reminding people to use the App; and

    5.3. building a sense of participation and reward from using the App.
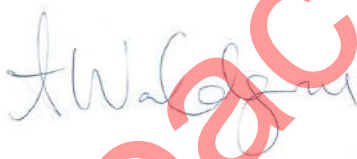
Noted

6. s9(2)(f)(iv)

YES / NO

7. s9(2)(f)(iv)

Noted

8. s9(2)(f)(iv)

Noted

9. **Note** officials will continue to engage with key business stakeholders to ensure clear and accessible communications around the display and location of QR codes.

Noted

(signature)	*(signature)*
Arati Waldegrave **Head of Strategy and Policy**	Shayne Hunter **Deputy Director-General Data & Digital Ministry of Health**
23/03/2021	23/03/2021

Hon Chris Hipkins
Minister for COVID-19 Response

3.1/03/2021

Contact for telephone discussion if required:

Name	Position	Telephone	1st contact
Arati Waldegrave	Head of Strategy and Policy, COVID-19 Group, DPMC	s9(2)(a)	✓
Shayne Hunter	MoH Deputy Director-General, Data and Digital	s9(2)(a)	

Minister's office comments:

☐ Noted
☐ Seen
☐ Approved
☐ Needs change
☐ Withdrawn
☐ Not seen by Minister
☐ Overtaken by events
☐ Referred to

BLUETOOTH CONTACT TRACING CARD TRIAL AND NZ COVID TRACER APP IMPROVEMENTS

Executive Summary

1. Effective contact tracing is critical to isolate COVID-19 cases and that digital technologies have been proven to support and speed up this process.

2. A trial of a Bluetooth-enabled contact tracing card (the Card) was undertaken in 2020. This briefing responds to a request made by Cabinet in August 2020 to report back on the Bluetooth-enabled contact tracing card trials and the possible use of other digital technologies to support more effective contact tracing, as well as testing public sentiment towards their use [CAB-20-MIN-0370].

3. In addition, Ministers have asked for possible options to improve the efficacy of the NZ COVID tracer App (the App) as during periods when there are no active cases in the community and where the perceived risk of transmission is low, we have seen low usage of the App for QR scanning.

4. Current coverage for Bluetooth tracing using smartphones i.e. the percentage of population with phones that have Bluetooth activated is around 27%. Just over 20% of the population are actively scanning QR codes.

5. To be effective, these technologies have a high reliance on interoperability, coverage, uptake, correct use, as well as a need for social and cultural acceptance.

6. The Card trialled in Rotorua worked as expected, s9(2)(f)(iv)

7. This leaves the App as the primary technology solution for the population to support contact tracing. Relying on the App leaves a gap between those with access to the necessary technology and those without. Many Māori and priority (often vulnerable) communities do not have access to digital devices and will require support and resources to equitably access contact tracing technologies.

8. The briefing identifies a number of relatively straightforward initiatives to improve the speed and completeness of QR scanning and increasing the number of Bluetooth activated phones for tracing.

9. This briefing also identifies options that require further policy work, s9(2)(f)(iv) Officials welcome a conversation with you to discuss which of these options to take forward.

10. Note that while these options may improve scanning behaviours, contact tracing information, and Bluetooth tracing, officials consider that the impact of these will be relatively small and incremental. Nonetheless, we consider these to be quick and easy to implement and recommend progressing these.

11. The Ministry of Health (the Ministry) is also working to encourage the use of the App, through continued public communications, ongoing App improvements, and increasing engagement by providing more information in the App and other techniques that could encourage usage.

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12. Adopting the insights and learnings gained from the card trials including the co-design and engagement approach developed with Te Arawa, will contribute significantly to success for ongoing initiatives and strengthen the Māori-Crown relationship.

Report back on Bluetooth enabled contact tracing card trial and the use of other digital technologies to improve contact tracing

13. The Contact Tracing Technologies Prototype Research Programme (the Programme) was established to explore the prospective use of Bluetooth enabled contact tracing cards (the Card) through technical and community trials.

14. A trail of a Bluetooth-enabled contact tracing card was undertaken in Rotorua during 2020. The Programme engaged in a partnership with Te Arawa for the community trials, with a stated intent to align to the Principles of Te Tiriti o Waitangi. The success of the trial design and engagement with Te Arawa confirms a community-led roll out can achieve high uptake among Māori, and potentially other priority populations.

15. The card trialled worked as expected. A limitation with the card is that it is not interoperable with other Bluetooth contact tracing technologies (e.g., the App).

16. Based on the findings from the trial, officials do not recommend a national rollout of the card, noting that the trialled solution and associated findings would not maximise efficacy for contact tracing across the population.

17. This leaves the App as the primary technology solution for the population to support contact tracing. Relying on the App leaves a gap between those with access to the necessary technology and those without. Many Māori and priority (often vulnerable) communities do not have access to digital devices and will require support and resources to equitably access contact tracing technologies.

18. The COVID-19 context has changed since the App was first released and the COVID Card first mooted. Contact tracing has vastly improved, aided by technology such as the National Contact Tracing System (NCTS) and the App (of which there are over 2.7m users, 51% who have turned on Bluetooth tracing).

19. As the situation continues to evolve, new opportunities are emerging e.g., proof of vaccination, that require digital capability, further reinforcing the need to ensure equity around digital inclusion.

20. The Programme resulted in a number of valuable insights supporting contact tracing and other future initiatives. Together with the key insights, the equity and co-design reports from the Programme inform our ambition for a strengthened Māori Crown relationship in developing and implementing accessible technologies to aid contact tracing.

21. The Programme, and resulting development of an equity-based approach, will form the basis for better partnerships, true codesign and increased trust in delivering initiatives involving Māori and priority (often vulnerable) communities.

22. s9(2)(f)(iv)

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s9(2)(f)(iv)

NZ Contact Tracing System

The contact tracing system is a core part of the 'Stamp It Out' pillar of the elimination strategy

25. While contact tracing does not prevent people getting the virus, it supports public health workers to quickly establish the parameters of an outbreak and break chains of transmission. Rapid and effective contact tracing is important across all Alert Levels as it reduces the likelihood of a potential community outbreak becoming widespread.

26. Our current settings for contact tracing are:

    a) Contact tracing is performed by Public Health Units (PHUs) and the National Investigation and Tracing Centre (NITC) with the ability to delegate work between the organisations. The PHU uses a case interview as the primary source of information on the case's movements over a period of two weeks from the time they became infectious. This information is supplemented by other sources such as scans recorded in the App, written logs, work and personal diaries and banking statements. All of this is recorded in the NCTS.

    b) National Contact Tracing Solution: the NCTS is the IT platform used to support and document contact tracing process. It is accessible to PHUs, the NITC, contracted call providers, and enables the end-to-end management of the confirmed case, their contacts, and clusters.

    c) National Investigation and Tracing Centre: the NITC leads and coordinates the management and delegation of contacts across the contact tracing system, and the PHUs lead in relation to management of contacts.

NZ COVID Tracer App supports the broader contact tracing process

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27. Digital technologies support the contact tracing process by improving the timeliness of the initial communication to contacts, filling in memory gaps, and recording contact with individuals that are not known to the case.

28. The App enables users to create a digital diary of their movements and provide up-to-date contact details. It allows users to scan QR codes to record where they have been and add notes regarding who they have met with. It also records proximity to other App users via anonymous Bluetooth. The App stores all Bluetooth and location data locally on the user's phone. The Ministry cannot identify any App users and cannot contact them directly but does receive the total number of scans associated with a location of interest or Bluetooth matches.

29. Delivering notifications through the App as part of the contact tracing case investigation process potentially improves the speed of a contact being identified, thereby isolating potential cases of COVID-19 more quickly and getting ahead of a potential outbreak before it spreads.

30. Everyone is encouraged to keep a record of where they have been, and part of the App has been designed to make it easy for people to keep a record of where they have been and to receive notifications about possible exposure events.

31. At all Alert Levels, workplaces and public transport are legally required to display QR codes that App users can scan. The legal definition of a workplace means that most commercial, community and faith- or culture-based premises are included.

Current issues and risks with the use of the App

Low App usage

32. During periods when we have no active cases and the perceived risk of transmission is low, we have seen low usage of the App (for example around 500,000 in the middle of January 2021). This can make identifying contacts and providing advice on isolation and testing more difficult.

33. Usage peaked at 2.5 million scans per day during the August outbreak, and during the February 2021 Alert Level changes has averaged at approximately 1.5 million scans per day.

34. Research completed in late 2020 estimated that with 2.4 million downloads of the App, the majority of adults with suitable smartphones have the App, of which around half have Bluetooth enabled. However, given current scanning rates, only around 30% of registered users) are using it to scan.

Risks of inconsistent use of the App

35. There is an operational impact from poor quality data entered by businesses when generating a QR code. Inaccurate or incomplete data can slow contact tracing efforts considerably.

36. When someone becomes a case, contact tracers need a complete and accurate record of the places and times that they have visited for the period of two weeks from the time they can became infectious. The more people scan, the more likely tracers are to have this information available quickly, in a standardised digital format that is integrated with the NCTS.

37. This allows contact tracers to provide advice quickly and directly to those people and ask them to isolate and test. This is also possible even if the case themselves did not scan in at a location; however, it is a more resource intensive, manual process.

Risks of incomplete data

38. There can be a range of data issues caused by incomplete records, or improper use of QR codes, slowing down the process of generating a push notification to any contacts who have also scanned into the same location at the same time.

39. Some businesses have multiple QR codes for the same location. This means it is possible that a case will scan one QR code, while someone in the same location at the time will scan another. The system is not set up to relate these codes to each other and therefore a potential case would not be notified via the App.

40. Some businesses have incomplete or omitted after-hours contact information, which can slow down the process of notification after a case is discovered. Cases can be identified out of working hours and if the details are not up to date, then the public is notified before businesses are, which can lead to confusion and lack of clarity for the business about what they should do.

Lack of wide-scale scanning

41. Research has shown that frequent reminders from the Prime Minister, the Minister for COVID-19 Response, and the Director-General of Health and a number of targeted advertising campaigns have only resulted in small temporary increases in scanning, but the average number of scans after that continued to plateau.

42. Research completed as part of the Programme carrying out the Card trials on New Zealanders' attitudes towards contact tracing technologies found that:

    a) A majority of New Zealanders think contact tracing is important and are supportive of using technology to make this effective and efficient.

    b) 60% reported that they are likely to use either the App or wearables. 14% report that they would not use technology for contact tracing, leaving a further 27% who may yet be convinced.

    c) When there is active community transmission nearby, compliance is likely. The difficulty is when the proximity of risk seems further away, fewer people do not feel a need to keep records of their movements.

    d) Risk also relates to age, in that younger people do not perceive the risk of COVID-19 to be so high, so are more resistant to adherence to public health measures; whereas older people are at greater risk from COVID-19 so are more receptive and more likely to take protective steps.

    e) There is a key concern about data privacy and this concern is greater among Māori.

    f) Some people find the scanning process too slow.

43. s9(2)(f)(iv)

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Options to increase use of the App

45. The research into use of the App demonstrates that there are a variety of factors that affect use of the App, e.g. privacy concerns, access and motivation. To be most effective, interventions to improve scanning rates should target those underlying factors and drivers.

QR Codes in Businesses

46. The current requirement is for businesses to display QR codes in a prominent place at the main entrance. This means that the desired scanning behaviour can be paired with the act of entering a business or workplace. This is an important factor in starting a habit.

47. As the QR code posters send people subtle cues about whether scanning is important, there is scope to send stronger messages to people entering businesses. We recommend adding greater specificity in the Alert Level Requirements Order around the location, quality and quantity of QR codes.

48. s9(2)(h)

    s9(2)(f)(iv)

49. This intervention is a simple change that can be made easily and may encourage those "passive noncompliers" who simply haven't made it a habit to scan.

50. s9(2)(f)(iv)

Technological solutions to incentivise use of the App

51. There are a number of potential improvements to the App that would incrementally:

    a) increase the ease of use of the App;

    b) remind people to use the App; and

    c) build a sense of participation and reward from using the App.

52. The Ministry will continue to enhance the App with these incremental improvements as part of a continuous business improvement loop.

Mandatory scanning

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53. [s9(2)(g)(i)] to make scanning QR Codes with the App mandatory, we have covered off the benefits and risks of such an approach for completeness.

54. Compulsory keeping of a contact tracing record could be required with a section 11 order under the COVID-19 Public Health Response Act 2020 by:

    a) requiring businesses and services to have systems and processes to ensure that so far as reasonably practicable a contact tracing record is created; and/or

    b) requiring individuals to keep a contact tracing record so far as reasonably practicable.

55. Mandatory scanning of the QR Codes using the App is likely to increase the rate and consistency of scanning behaviour, however, the effectiveness of mandatory behaviour is also likely to be reliant on the enforcement of the requirement noting that when consequences for not complying are low, behaviour will decrease rapidly.

56. There are several issues associated with mandatory scanning including:

    a) research has shown that as many as 20% to 30% of people would not comply anyway.

    b) It would be impractical to enforce mandatory record keeping requirements on individuals as it is not outwardly evident whether an individual has complied (unlike with face coverings

    c) Compulsory QR code scanning requires individuals to have to download the App onto their smartphone [s9(2)(f)(iv)]

    d) A requirement to download and use a specific app contravenes Apple and Google's terms of service and would likely result in the App being removed from both platforms. Note that a broader record keeping requirement, where using the App is one of several record keeping options, would not contravene the terms of service of Apple or Google.

There are risks associated with a mandatory approach

57. Breach of legal obligations created by section 11 Orders is subject to infringement offence penalties and possible criminal prosecutions. Crown Law advises that before creating a legal obligation in a section 11 Order, such as an obligation to scan a QR code, you would need to be satisfied that it is an appropriate measure to meet the purpose of the Act. You would also need take into account the public health advice on appropriate measures, as well as the enforceability of the measure and the ability of individuals to comply with it. It would be impractical to enforce mandatory record keeping requirements on individuals as it is not outwardly evident whether an individual has complied (unlike with face coverings).

58. Should the requirement be placed on business and services to enforce mandatory scanning, then:

    a) retail and hospitality staff, in particular, are likely to receive abuse from some customers;

    b) enforcement assistance may be sought to manage resulting public behaviour, likely requiring additional security staff, and demands on Police resources; and

    c) it would be difficult for Police to establish failure to comply with the record keeping requirement as enforcement officers would require access to an individual's App, or in the vast majority of cases, the individual would no longer be present or identifiable by the time Police responded to a report of non-compliance.

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59. Other issues to consider include:

    a) the potential risk that requiring scanning or record keeping upon entering a business or service could create more queues and congregating at entrances, exposing people to greater risk of transmission.

    b) alternative options such as manual registers are not privacy protective as prior entries are visible to other users. Unsecured personal information exposes people to unwelcome contact, fraud or even identity theft.

    c) almost everyone will contravene the requirement at some point. Creating an offence for forgetting a phone when popping out and forgetting to do a manual entry later seems problematic.

    d) The risk of undermining the current high level of social license and public trust for the restrictive measures that are currently in place as part of the broader COVID-19 response.

    e) unintended consequences, for example, future positive cases that have not kept records may not want to present for testing or tell contact tracers where they have been or who they have been with out of fear of being in breach of the mandatory record-keeping requirement.

60. Mandatory record keeping may also impose additional privacy risks, particularly for people who are not able or willing to use the App. Manual registers (e.g. logbooks) are frequently used by businesses as an alternative to the App. These are not privacy protective as prior entries are visible to other users. Unsecured personal information exposes people to unwelcome contact, fraud or even identity theft.

61. The Privacy Commissioner's view is that existing statutory protection is sufficient for information being collected for the purpose of contact tracing.

62. Any decision to mandate requires further consideration and advice in relation to implementation and enforcement issues.

Options to enhance contact tracing data

63. Feedback from the contact tracers at the Ministry suggests the business information connected to the QR codes is not always of good quality. Officials suggest a review of the system to understand the problem in greater detail as a first step. A focus on improving the Auckland information would help greatly.

64. It would be beneficial to engage further with industry bodies like Retail NZ and the Chambers of Commerce to better understand if businesses are experiencing any issues with registering and creating QR codes. Ensuring the guidance to businesses is clear about the requirements.

65. s9(2)(f)(iv)

66. s9(2)(f)(iv)

Consultation

67. The Ministry of Health and the Department of the Prime Minister and Cabinet jointly prepared this briefing. Officials consulted with two parts of the Ministry of Business, Innovation and Employment: the Economic Development and Transitions Branch, and Health and Safety Policy team. Crown Law Office have reviewed this advice, and provided feedback which has been incorporated. The Ministry of Justice has been engaged on previous work on this matter.

68. The Cabinet paper has been drafted jointly by the Ministry of Health and the Department of Internal Affairs.

Next steps

69. Subject to your approval of the draft Cabinet paper, the next step is Ministerial consultation. Consultation with agencies will take place concurrently. Any feedback is asked to be sent to officials by 29 March 2021 and a final version of the paper will be prepared. The Cabinet paper is due to be lodged with the Cabinet Office by 1 April 2021, to be considered by the Social Wellbeing Committee on 7 April 2021, and Cabinet on 12 April 2021.

70. Officials at the Ministry of Health will review the business registration database for QR codes to identify any missing or inaccurate information e.g. businesses that have not recorded out of hours contact details. If this review revels that certain categories of businesses have less correct information than others, officials will develop a plan to target those types of businesses.

71. Officials will continue to engage with key stakeholders to ensure businesses receive clear and accessible communications and support around meeting their requirements for the display and location of QR codes.

Compliance

72. As noted above, there are some compliance and enforcement challenges. We have worked with the Health and Safety Policy team at the Ministry of Business, Innovation and Employment on WorkSafe's role in supporting business compliance.

73. s9(2)(f)(iv)

74. As well as the New Zealand Police, the Director-General has authorised the following groups to carry out functions and powers as enforcement officers:

    d) WorkSafe inspectors

    e) Aviation Security officers

    f) Customs officers

    g) members of the Armed Forces

    h) COVID-19 Enforcement Officers (Maritime Border)

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Communications

75. In light of the recent outbreaks in Auckland, officials are considering whether more targeted interventions, including enhanced communications, for the Auckland context could be worthwhile. Officials will consider consolidating advice, particularly in Auckland, to ensure that there are clear and consistent messages about life in Alert Level 1.

76. As noted from recent research, education and support, not just communication is far more likely to increase uptake and proper use of technologies to support contact tracing.

77. Should you agree to the recommended proposals outlined in this paper officials will provide you with separate advice on implementation and communications.

Appendix One withheld in full under 9(2)(f)(iv)

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s9(2)(f)(iv)

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Appendix 2 – Talking points – report back on contact tracing card trial

- In August 2020, Cabinet agreed to further testing and a field trial of a Bluetooth-enabled contact tracing card to inform advice on a national roll out and noted the need to explore other possible digital technologies to improve contact tracing and test public sentiment.

- Effective contact tracing is critical to isolate COVID-19 cases.

- Digital technologies can support and speed up this process, but there are a variety of factors that are important to the success of any digital solution.

- Solutions need to be interoperable, have wide coverage, be used correctly, and they need to be socially and culturally acceptable.

Findings

- The Bluetooth card trial that took place in Ngongotahā, Rotorua in November 2020 had strong uptake; 1191 people took part, half of the eligible population.

- The card worked technically, but it isn't interoperable with any other systems currently in use and would need to be fully mandated for the entire country to achieve the coverage and uptake needed to be effective.

- That even with a mandate the expected uptake would only be between 70% and 80%.

- Therefore, national rollout of the card isn't recommended.

- Importantly for future work, the trial also found that the community-based approach taken in this case, is critical for building support for public health initiatives, particularly in Māori and priority (often vulnerable) communities.

Next steps

- The NZ COVID Tracer app now has over 2.7m users and since Bluetooth functionality was added in December over 51% have enabled it.

- There is a gap between those who have access to the NZ COVID Tracer app and those who do not, and this has implications for the contact tracing process, s9(2)(f)(iv) (and other often vulnerable) populations.

- As the COVID situation continues to evolve, new opportunities are emerging that require digital capability, further reinforcing the need to ensure equity around digital inclusion. A potential emerging requirement is proof of vaccination to support travel across borders.

- s9(2)(f)(iv)

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- s9(2)(f)(iv)

Communications

- The Ministry has committed to report back on the results of the trial and next steps to the participants in the Ngongotahā community. We are working with Te Arawa on plans to formally thank the trial community and advise on progress in the coming weeks, and subsequently formally advise any decision made by Cabinet.

- It is important that any communications for the deployment of contract tracing technologies is linked to wider efforts to eliminate COVID-19. The Ministry of Health and the COVID Response Group (DPMC) will lead any future work on education and communications for compatible solutions such as interoperable smartphones and wearables.

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Appendix 3 – A3 – How does COVID Tracer help?

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How does COVID Tracer help?

Accuracy: **A** Bad **A** Ok **A** Good — **A** Accuracy
Speed: **S** — **S** Speed

Contact Tracing is characterised by how quickly we can find the right people to self-isolate. Therefore we need to know where you have been and who you have been in contact with.
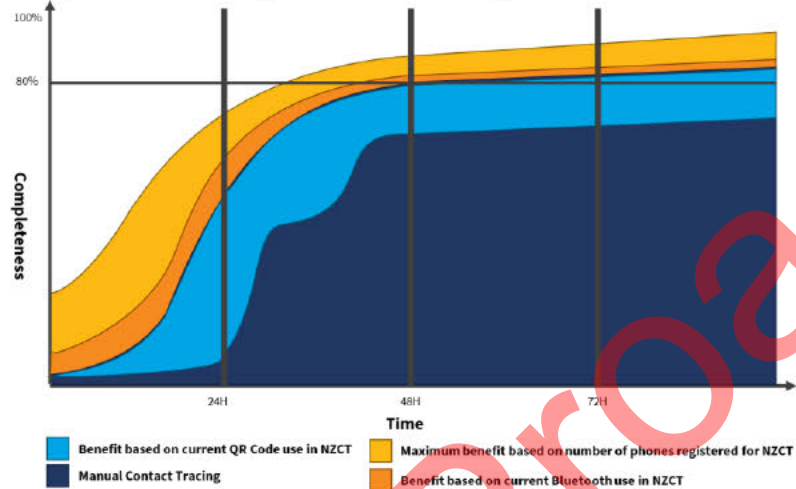
People Cases & Contacts	**Places** Cases & Contacts	**Contact Details** Cases & Contacts
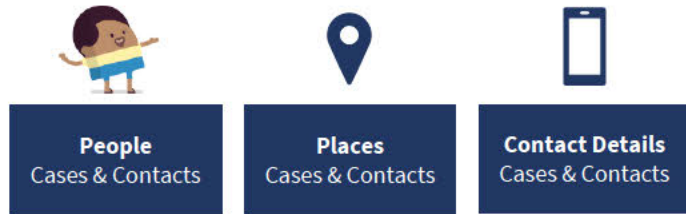
Human systems like Contact Tracing almost always have a trade off between speed and accuracy.

A S Fast & wrong	or	**A S** Neither accurate or slow	or	**A S** Slow and accurate

Technology has the ability to increase Contact Tracing **speed through automation** and **accuracy through standardisation.**

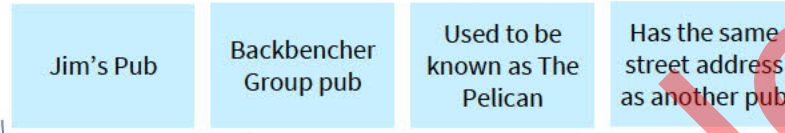### Representative Graph – Contact Tracing Performance

Completeness (vertical axis: 100%, 80%) vs Time (24H, 48H, 72H)

- Benefit based on current QR Code use in NZCT
- Manual Contact Tracing
- Maximum benefit based on number of phones registered for NZCT
- Benefit based on current Bluetooth use in NZCT

Problem 1 Places

PHU staff talking to cases and contacts **A S**

| Jim's Pub	Backbencher Group pub	Used to be known as The Pelican	Has the same street address as another pub

S **A**

QR Code Poster
GLN: 1111111111111
Name: Jims Pub
Address: 123 Molesworth Street, Wellington
Contact Details: Jim 021 021021021

This is stored on the phone. Collecting locations of interest from cases that use NZCT takes 1 hour. From those who don't it takes 8 hours.

Problem 3 People

Often we go to places where we don't know the people who are nearby

A S Case

Nightclubs	Festivals	Public Transport
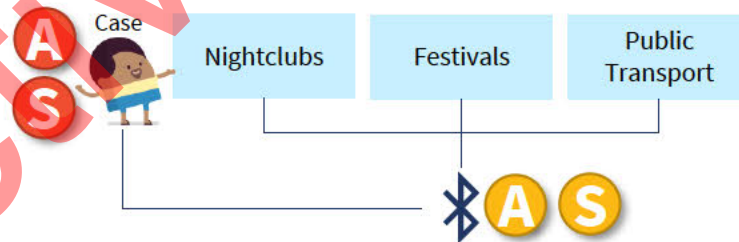
Bluetooth **A S**

Anonymous Bluetooth handshakes let us tell others remember who we are without revealing our personal details

This is stored on the phone.
The first time we used this we found someone we didn't find with our normal process.

Problem 2 Contact Details

A S
NHI
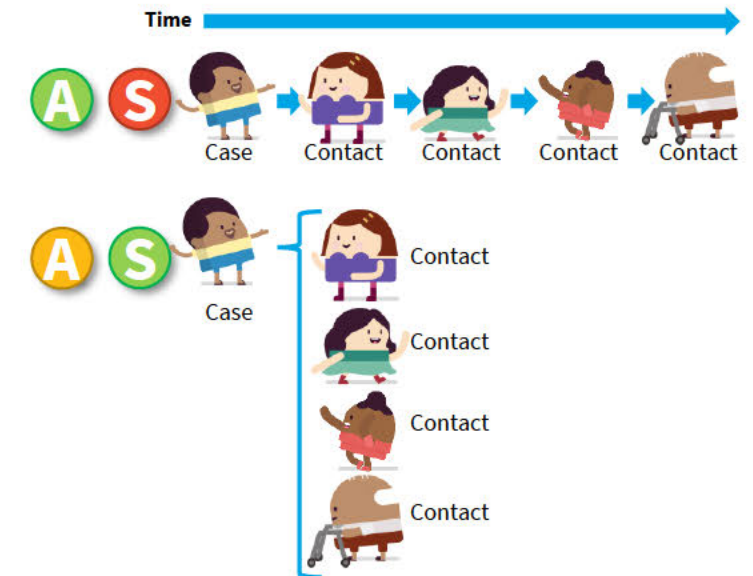Health system administrator completed
Updated when ill

A S
NZ COVID Tracer
User updated
Only those with NZCT and only on sign up

This is stored by the Ministry of Health. Standard practice for Contact Tracers is to check this to sse if there are updated details for cases and contacts

Problem 4 Speed

Time →

A S Case → Contact → Contact → Contact → Contact

A S Case — Contact, Contact, Contact, Contact

This happens on the phone as the data is stored on the phone. Fast notifications reduce transmission. There is a risk we automatically notify the wrong people too many times and they stop paying attention.

How does COVID Tracer help?

Trust and Social License

What we know

- Most people don't realise that their place and people data is only stored on their phone and not with the Ministry
- 10% of people have said they won't participate
- People are still concerned about their privacy
- Compliance increases with age
- Registrations are under represented in Māori and Pacifica
- Enforcement of scanning would be practically impossible and would lead to wilful disobedience (Reactance Theory)
- Our app is a one size fits all model

What we are doing

- **COVID Card Trials**
  Tells us that co-design results in willing participation (on own terms)

- **Digital Inclusion for Contact Tracing**
  Could get wider societal benefits based on inclusion being an enabler

- **Clearer stories in the app on where the data lives**
  Currently diary and personal information shown on the same tab – suggests they are stored in the same place

- **Role of Rippl**
  Should we support Rippl at events to minimise effort for check in?

- **Language Review**
  This should help us improve participation in non-pakeha communities

Technical Limitations

What we know

- Our use of an Android and iPhone app requires we comply with the Terms of Use of the App Stores – with a special subsection regarding COVID apps. This restricts us from taking an approach that encroaches on privacy
- Our use of the Exposure Notification Framework (Bluetooth) puts further restrictions on our design to minimise user privacy risks (precluded from using location data)
- The app works on phones from as far back as 2012 (iOS)
- Bluetooth wasn't designed to measure distance
- GPS is accurate to 15m outdoors and doesn't identify the place (cell tower data is even less accurate)

What we are doing

- **Better analytics to understand use and bugs**
  Limited by decentralised model, although can provide local feedback to the user.

- **Automated testing to reduce problems being introduced**
  Some of the code is inherited and with Bluetooth, it uses locked down APIs so need to physically test it works every release

- **A/B Testing to measure the impact of our changes**
  Commonly used when testing behavioural changes to an app. Is a new skill set for our developers and MoH – will help us maximise upside to behavioural change

Motivation

What we know

- QR Codes aren't cool for younger people
- New Zealanders only see risk when COVID-19 is in the community
- It is hard to know how your role as a member of the community contributes to Contact Tracing
- Sometimes QR codes are hard to scan
- Encouraging more scans can lead to perverse incentives
- People's motivations differ widely and what works for some won't work for others (Reactance Theory)
- The best apps often have a single core purpose

What we are doing

- **A light to shine on QR codes**
  Risk with this making it harder to scan (if turned on during the day with glare off glass and laminated posters

- **Streaks**
  So you know you are completing your diary regularly.

- **Re-organised diary space to show you gaps**
  Highlights gaps in a history to be filled

- **Reminder notifications to complete your diary**
  Set an alarm to remind you of checkins

- **NFC scanning instead of QR Codes**
  Wider testing of this instead of QR Codes (closer range, but less effort)

- **Statistics to help you know how your scans contribute**
  Showing current case numbers/days since a case, NZ ranking,

Updated: 8/3/2021

Appendix 4 – Segmentation of potential users

This table shows the motivations (for or against scanning) and the behaviour patterns (compliant and non-compliant), and is being used to inform officials' thinking about how to best reach people.

Table 1: Segmentation Analysis	
Type	**Drivers**
Pro-social compliers People who know what to do, have the resources to do it and actively want to do the right thing.	• Promotion and encouragement of desired behaviour. • Create an identity known as "QR code scanners" and start to build a social movement. • Promote the efficacy of good contact tracing records. • Conveying appreciation for scanning/record keeping.
Willing but not able People who want to do the right thing but have other barriers preventing them (e.g. phone not compliant, don't understand what is required, confused, afraid)	• Clear messaging about what's required. Build awareness of why it's important to scan when risk is low (ie before risk presents). Link contact tracing to elimination strategy – preparing for it. • Reduce barriers to access (readily accessible QR codes, fast app). Address language and cultural barriers. • Be clear about other opportunities to create records for contact tracing e.g. free diaries.
Passive non-compliers People with low knowledge or understanding and little interest in improving it. May be ill-informed about wider risks and distrustful of government but can be won over with support and encouragement.	• More intensive encouragement to start building a habit. Give immediate and positive feedback to form and reinforce habit e.g. sounds, incentives, prompts from venues • Address the "why" or "what's in it for me" • Factual information about use of data, and the link to elimination strategy – prepare for it and stamp it out. • Emphasise social norms around consistent usage. Encourage community leaders to be "champions" of scanning. • Emphasise benefits to both individual, family, community and wider society.
Active Resisters People who know what is expected of them – but actively resist these behaviours (e.g. because they believe Covid-19 a hoax / a breach of civil liberties etc)	• Most difficult to respond to. • Emphasise social norm of usage within their local community – rather than at a national level). Encourage community leaders to be "champions" of scanning. • Articulate costs and benefits of behaviour for others. • Factual information e.g. about uses of data. • May need to resort to formal sanctions to enforce compliance in high risk situations.