



BRIEFING

Location monitoring border arrivals self-isolating under the medium-risk pathway

Date:	10 December 2021	Priority:	High
Security classification:		Tracking number:	2122-2166

Action sought		
	Action sought	Deadline
Hon Chris Hipkins Minister for COVID-19 Response	Agree to meet with officials to discuss this briefing in advance of the 15 November SWC meeting.	13 December 2021

Contact for telephone discussion (if required)			
Name	Position	Telephone	1st contact
Chris Bunny	Joint Head, MIQ	Privacy of natural persons	✓
Christine Stevenson	Chair of BEB		
Bridget White	Deputy CE, MOH		

The following departments/agencies have been consulted

Minister's office to complete:

- | | |
|---|--|
| <input type="checkbox"/> Approved | <input type="checkbox"/> Declined |
| <input type="checkbox"/> Noted | <input type="checkbox"/> Needs change |
| <input type="checkbox"/> Seen | <input type="checkbox"/> Overtaken by Events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |

Comments



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Location monitoring border arrivals self-isolating under the medium-risk pathway

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Purpose

This briefing provides material to seek your direction on compliance monitoring (education, location monitoring, and enforcement) of border arrivals self-isolating under the medium-risk pathway. It outlines lessons on location monitoring gleaned from the Self-Isolation Pilot and the experience of other jurisdictions. It also articulates the complexities associated with location monitoring border arrivals self-isolating under the medium-risk pathway, pertinently: lack of a readily available workforce, enforcement challenges, and inconsistency with the treatment of community cases and close contacts. Alternative options to location monitoring are set out.

Recommended action

The Ministry of Business, Innovation and Employment (MBIE), the Border Executive Board (BEB) and the Ministry of Health (MOH) recommend that you:

- a **Note** that SWC authorised you, in consultation with the Reconnecting New Zealanders Ministerial Group (RNZMG), to make decisions on the detailed settings for the medium-risk pathway, including any potential requirements for active monitoring or enforcement of traveller compliance with self-isolation requirements [SWC-21-MIN-0200 refers].
Noted
- b **Note** that on 24 November, SWC was advised of the importance of ensuring decision-making on international border settings is consistent with domestic settings, and aligned to the COVID-19 Protection Framework, to mitigate health and legal risk [SWC-21-MIN-0200 refers].
Noted
- c **Note** that we do not carry out location monitoring of community cases or close contacts.
Noted
- d **Note** that regulatory models to increase compliance often involve three separate functions: education and engagement, monitoring, and enforcement.
Noted
- e **Note** that our desktop review of compliance monitoring in other jurisdictions, and extrapolation of Self-Isolation Pilot data and settings, suggests that even the 'lightest touch' location monitoring would be cost and resource intensive and that no COVID-19 or border agency has capacity to stand up a dedicated location monitoring workforce by January 16, or to establish its underlying systems.
Noted



f **Note** that subcontracting a private provider of the requisite scale may not be possible at pace, and would require complex information sharing arrangements to be instituted between the New Zealand Customs Service, Ministry of Health, the private provider, and the New Zealand Police, at a minimum.

Noted

g **Note** that officials have proposed the following alternatives to active location monitoring:

- a. automated reinforcement to encourage compliance
- b. only providing border arrivals who do not yet hold My Vaccine Pass to them on completion of self-isolation
- c. creating infringement offences for non-compliance with self-isolation requirements.

Noted

h **Agree** to meet with officials to discuss this briefing in advance of the 15 ^{December} ~~November~~ SWC meeting.

Agree / Disagree

Chris Bunny
Joint Head, MIQ
MIQ, MBIE

10 / 12 / 2021

Bridget White
Deputy CE
COVID-19 Response, MOH

10 / 12 / 2021

Christine Stevenson
Comptroller
New Zealand Customs Service
Chair of Border Executive Board

10 / 12 / 2021

Hon Chris Hipkins
Minister for COVID-19 Response

11 / 12 / 2021

Background

Reconnecting New Zealanders to the world

1. On 15 November, Cabinet endorsed a three-step approach to opening the medium-risk pathway [CAB-21-MIN-0474 refers]. On 24 November, the Social Wellbeing Committee (SWC), with Power to Act, noted the proposed timing of these steps:
 - Step 1 – New Zealanders and other currently eligible travellers to and from Australia from 11.59 pm Sunday, 16 January 2022,
 - Step 2 – New Zealanders and other currently eligible travellers to and from anywhere else from 11.59pm Sunday, 13 February 2022, and
 - Step 3 – Fully vaccinated foreign nationals (possibly staged by visa category) from Saturday 30 April 2022 [SWC-21-MIN-0200 refers].
2. On 15 November, Cabinet was advised of expected border arrival volumes under Steps 1-3:
 - Step 1 – Approximately 5,000-6,000 arrivals per week,
 - Step 2 – Additional approximately 10,000-13,000 arrivals per week, and
 - Step 3 – Additional approximately 24,000-55,000 arrivals per week [CAB-21-MIN-0474 refers].

You have delegations for decisions about the medium-risk pathway

3. On 24 November, SWC noted that self-isolation requirements can only be implemented on a high trust basis, given the number of travellers expected under the medium-risk pathway [SWC-21-MIN-0200 refers].
4. SWC also authorised you, in consultation with the Reconnecting New Zealanders Ministerial Group (RNZMG), to make decisions on the detailed settings for the medium-risk pathway, including any potential requirements for active monitoring or enforcement of traveller compliance with self-isolation requirements [SWC-21-MIN-0200 refers].
5. On 15 December, SWC will consider advice regarding detailed settings for the medium-risk pathway, including the matter of compliance monitoring. MBIE will provide advice on location monitoring, and MOH will provide advice on monitoring of COVID-19 testing.
6. In advance of that SWC meeting, this briefing provides you with further advice on location monitoring border arrivals self-isolating under the medium-risk pathway.
7. You will also separately receive joint advice from MBIE and MOH on standard self-isolation requirements, and additional self-isolation requirements for specific groups [MBIE-BR-2122-2097 refers].

Consistency between border arrivals and community cases/contacts

8. Legal professional privilege

9. This advice focusses only on compliance among border arrivals self-isolating under the medium-risk pathway.

The monitoring of those self-isolating needs to be consistent but also proportionate to risk. i.e. if border arrivals are higher risk in some circumstances there is justification for differential treatment. Cf.

10. We do not compliance monitor positive COVID-19 cases self-isolating in the community, or their close contacts. Several overseas jurisdictions combine health and compliance monitoring – and where they do, they usually monitor both border arrivals and community cases/contacts.
11. Legal professional privilege
12. Whilst it may be justified to treat border arrivals differently (eg due to a new variant of concern overseas), Ministers have expressed a preference for consistency at this time, based on public health advice.

Education: compliance materials could be developed

13. Regulatory models to increase compliance often involve three separate functions: education and engagement, monitoring and enforcement. This briefing explores these functions, in turn. Material on monitoring is specific to location monitoring. It does not cover the matter of compliance with testing regimes, which is the subject of further MOH advice.
14. Ensuring that border arrivals self-isolating under the medium-risk pathway understand their requirements and obligations is critical to ensuring compliance. There are a range of means by which border arrivals could be educated on requirements and obligations before they arrive in New Zealand. These include:
 - Ensuring appropriate guidance is made available on Unite Against COVID-19 channels,
 - Screening or providing in-flight reminders,
 - Providing reminders at Airports (eg much like biosecurity posters, posters could be put up in airports setting out key requirements and fines for non-compliance), and
 - Providing Welcome Packs (akin to those provided to people entering MIQ) on arrival (eg physical copies, or emailed versions).
15. The Ministry of Transport is currently engaging with Air New Zealand on the matter of in-flight announcements regarding COVID-19 testing in self-isolation. We are exploring whether such announcements could be expanded to cover broader self-isolation requirements, and consequences of non-compliance. A minimum of four weeks would be required to action this.
16. Agencies will need time to work up any education materials and it is unlikely that much of this would be available for Step 1 (apart from guidance on the Unite Against COVID-19 website) and it may even be challenging to stand up in time for Step 2.

Monitoring: Lessons from the Self-Isolation Pilot

17. The Self-Isolation Pilot has been operational since 31 October. The last participant will complete self-isolation on 18 December.

18. There has been varying levels of non-response to location monitoring in the Self-Isolation Pilot.¹ Approximately three additional calls² have been made per participant (on top of 3 x daily calls) during their 10-day self-isolation period. Non-responses have been due to participants variously being in meetings, showering, sleeping, undertaking COVID-19 testing at a Community Testing Centre (CTC), or exercising outside. Six spot checks were made during the first two weeks of the Pilot, before operational processes were revised such that spot checks now require MBIE approval.
19. There has only been one instance of 'non-compliance' in the Pilot and that was due to confusion caused by an erroneous email from MOH, where a participant drove themselves to a CTC. This incident was not picked up by location monitoring (as it took place outside of the 3 x daily checks), but by the participant's disclosure.

Extrapolating Pilot data to project workforce needs and costs for location monitoring

20. For illustrative purposes, we have extrapolated Self-Isolation Pilot data to estimate the requisite workforce and costs for monitoring projected border arrivals under Steps 1-3 of the medium-risk pathway, assuming the same settings.
21. Our analysis (see Annex 1) suggests that even the 'lightest touch' location monitoring would be cost and resource intensive.
22. Employing 50 FTE to conduct location monitoring would see less than 25% of border arrivals by Step 3 (projected to be 75,000/week) receive only one 5-minute call during their 7-day self-isolation period (75% of people would receive no call), at a cost of ~\$240,000 per week. Moreover, these calls would be unlikely to provide reassurance that border arrivals have remained in their place of self-isolation.

Monitoring: We have explored options in other jurisdictions

23. Broadly, there are four different types of location monitoring that could be used to ensure compliance with self-isolation requirements: no tech, low tech, high tech, and hands-on.
24. Based on a desktop review of COVID-19 compliance monitoring by international jurisdictions (as set out in Annex 1), each type poses different pros, cons, and cost/workforce implications. These are set out in Table 1, below, alongside enforcement implications (which cut across all types of location monitoring).

¹ The Self-Isolation Pilot uses technology supplied by ZYTE, a New Zealand company, to conduct 3 x daily phone-based location monitoring checks on participants. These checks (conducted by First Security) require participants to share their geolocation and turn on their video to verify their address and identity. Participants are only monitored at the time of the call. First Security completes 'spot checks' where participants do not respond to monitoring calls.

² An additional 215 checks on 79 participants.

Table 1: Pros, cons, and cost/workforce/enforcement implications of location monitoring options

Monitoring option	Pros	Cons	Work required to stand-up option
<p>No tech monitoring (eg physical spot checks)</p>	<ul style="list-style-type: none"> • Does not require phone or internet connectivity • Does not require person to have a smartphone • Does not require that significant resource be invested in tech 	<ul style="list-style-type: none"> • Typically provides lower level of assurance compared to constant location monitoring options • Does not provide real-time monitoring • Significant workforce required to conduct monitoring • Significant enforcement resource required if monitoring identifies non-compliance • May have privacy and information sharing implications 	<ul style="list-style-type: none"> • Set up of significant nationwide workforce required prior to 16 January to make home visits, and develop underlying systems/ processes (alternatively, could focus on certain areas of the country cf nationwide) • Secure funding for FTE and associated costs (eg vehicles, petrol, phones) • Customs/MOH would need to share information on a person's address/place of self-isolation and dates of self-isolation with the monitoring body • Monitoring body would need to establish escalation pathways with NZ Police • NZ Police would need to dedicate enforcement resourcing (eg locating people, charging people, preparing court materials)
<p>Low tech monitoring (eg texts, emails, phone calls)</p>	<ul style="list-style-type: none"> • Does not require person to have a smartphone • Does not require that significant resource be invested in tech 	<ul style="list-style-type: none"> • Typically provides lower level of assurance compared to constant location monitoring options • Does not provide real-time monitoring • No ability to confirm a person is <i>where</i> they say they are • May have no ability to confirm a person is <i>who</i> they say they are 	<ul style="list-style-type: none"> • Set up of significant workforce required prior to 16 January to conduct monitoring • Call centre would need to be stood up to text, email, or call people (initial contact could be automated eg automatic text but any follow up would require a significant workforce)

		<ul style="list-style-type: none"> • Significant workforce required to conduct monitoring – contact could be automated in certain instances (eg sending automated text messages) • Significant workforce required to follow-up on/escalate non-responses • Significant enforcement resource required • More likely to give rise to bias/discrimination (eg if discretion as to who is followed-up on) • May have privacy and information sharing implications 	<ul style="list-style-type: none"> • Secure funding for FTE and associated costs (eg phones, auto text system) • Establish legislative mechanisms to require people to comply with monitoring (ie respond to calls, etc) • Customs/MOH would need to share information on a person's address/place of self-isolation, contact number/email, and dates of self-isolation with the monitoring body • Monitoring body would need to establish escalation pathways with NZ Police • NZ Police would need to dedicate enforcement resourcing (eg locating people, charging people, preparing court materials)
<p>High tech monitoring (eg apps that incl geolocation, facial recognition, and/or Bluetooth functions)</p>	<ul style="list-style-type: none"> • Typically provides higher level of assurance • Some apps provide real-time monitoring (eg when paired with a wearable Bluetooth device) • May require smaller workforce to conduct monitoring (cf no/low-tech options) 	<ul style="list-style-type: none"> • Typically requires strong phone and internet connectivity • Requires a person to have a smartphone • May require manual set up in central systems • Significant workforce required to follow-up on/escalate non-responses or IT support • Significant enforcement resource required • Tech may be more costly (cf no/low-tech options) • May have privacy and information sharing and collection implications 	<ul style="list-style-type: none"> • Set up of a significant workforce required prior to 16 January to develop or procure the high-tech software and run the tech (even in a hands-off model) • Carry out privacy impact assessments • Establish legislative mechanisms to require people to download and comply with the high-tech software • Secure funding for tech, FTE to procure tech, FTE to monitor • Customs/MOH would need to share information on a person's address/place of self-isolation,

			<p>contact number/email, and dates of self-isolation with the monitoring body</p> <ul style="list-style-type: none"> Monitoring body would need to establish escalation pathways with NZ Police NZ Police would need to dedicate enforcement resourcing (eg locating people, charging people, preparing court materials)
<p>Hands-on monitoring options (eg geo-fencing, ankle bracelets)</p>	<ul style="list-style-type: none"> Typically provides higher level of assurance Provides real-time monitoring 	<ul style="list-style-type: none"> Not feasible at scale Would require large number of devices (eg bracelets) Fitting devices can require 'hands on' management May require manual set up in central systems (eg of geo-fences) Significant workforce required to follow-up on/escalate non-responses Significant enforcement resource required May have privacy and information sharing and collection implications 	<ul style="list-style-type: none"> Set up of a significant workforce required prior to 16 January to develop or procure software and devices Significant nationwide workforce required to fit and remove devices, including home visits to obtain devices Carry out privacy impact assessments Establish legislative mechanisms to require people to comply with monitoring Secure funding for devices, FTE to fit/remove devices, home visits to fit/remove devices (eg vehicles, petrol, phones), FTE to monitor Customs/MOH would need to share information on a person's address/place of self-isolation, contact number/email, and dates of self-isolation with the monitoring body Monitoring body would need to establish escalation pathways with NZ Police

			<ul style="list-style-type: none"> NZ Police would need to dedicate enforcement resourcing (eg locating people, charging people, preparing court materials)
Enforcement	Work required for all options		
Establish mechanisms for reporting non-compliance	May need to institute mechanisms for members of the public to report any instances of perceived non-compliance (eg via call to 105 or via online form submission to the COVID-19 Compliance Centre), and for these reports to be passed through to a) the relevant monitoring body for follow-up, and/or or b) NZ Police for enforcement		
Follow-up on non-responses	Significant nationwide monitoring FTE would be required to follow-up on non-responses to location monitoring, and to ascertain reasons for such (eg could be due to border arrival being unwell, tech problems, or a person being non-compliant)		
Escalation and enforcement of non-compliance	Significant nationwide enforcement FTE required to escalate and take enforcement action re non-compliance. Would likely need to create infringement offences under the COVID-19 Public Health Response (Isolation and Quarantine) Order 2020. Processes and FTE for issuing infringement notices, or charging people with criminal offences, would need to be established – and FTE ringfenced for such purpose (eg preparing court materials)		

Monitoring: There are other options to increase compliance

25. There are alternatives to location monitoring that could be used to potentially increase compliance with self-isolation requirements:
- **Automated reinforcement:** Border arrivals could be sent automated texts or emails at regular intervals (eg to align with the agreed testing regime) that encourage compliance. For example, 'thanks for being part of the Team of 5 Million – please be sure to complete your day 3 RAT test. Call Healthline if you are experiencing COVID-19 symptoms'. Relevant agencies would need to establish information sharing arrangements (eg border arrivals' contact details and dates of self-isolation). This option would also rely on border arrivals having a cellphone or device which can receive emails.
 - **Only providing border arrivals with My Vaccine Pass on completion of self-isolation:** To be registered as fully vaccinated, people who have had approved COVID-19 vaccinations overseas need to apply to MOH to have their vaccinations added to New Zealand's COVID Immunisation Register (CIR) before they are eligible to request My Vaccine Pass. To ensure that border arrivals who have not been vaccinated in New Zealand and are supposed to be self-isolating are not able to enter premises that are required to check vaccine passes, MOH could be directed to refrain from adding border arrivals' vaccinations to the CIR until their self-isolation period is complete. Legal advice would need to be sought on MOH's ability to do so. It is unclear how many border arrivals will have been vaccinated overseas. The utility of this option may decrease as the number of people travelling who have been vaccinated in New Zealand increases (meaning fewer border arrivals who do not yet hold a My Vaccine Pass).
 - **Creating infringement offences for non-compliance:** Enforcement officers (eg NZ Police) could have recourse to penalties for non-compliance with self-isolation requirements set out in COVID-19 Orders, where this is found to have occurred. These infringement offences would sit alongside the standard criminal offence for intentional non-compliance with a COVID-19 Order. This option would ensure consistency between border arrivals and the treatment of community cases and close contacts. Operational implications would need to be worked through with NZ Police.

Monitoring: All tech-based options require phone/internet connectivity

26. Our experience with the Self-Isolation Pilot, and desktop review of location monitoring in other jurisdictions, illustrates that all location monitoring options, apart from spot checks, require phone and/or internet connectivity. More high-tech options require a suitable device (eg smartphone). It cannot be assumed all border arrivals will have such connectivity or devices. In the Self-Isolation Pilot, self-selected participants from the business community have had to update software on their smartphones, and have experienced issues related to cellular coverage even within 50km of Auckland and Christchurch International Airports.
27. It may be justified to focus any location monitoring on people self-isolating in urban areas where cellular connectivity is not an issue. Rural areas may also pose less of a public health risk by virtue of such locations having less population density. MOH's comfort with such approach would need to be confirmed.
28. It is also worth noting that any technology option may take time to stand up, for example South Australia took 6 months from concept to delivery.

Monitoring: There is no readily available workforce to conduct it

29. Our experience with the Self-Isolation Pilot, and desktop review of other jurisdictions, illustrates that a significant workforce would be required to conduct location monitoring of border arrivals self-isolating under the medium-risk pathway.
30. Given the timeframes for Step 1, no COVID-19 or border agency currently has capacity to stand up a dedicated location monitoring workforce in the next five weeks by January 16, or to establish its underlying systems.
31. Subcontracting a private provider to conduct location monitoring would pose a range of challenges. Finding a workforce of the requisite scale at pace may not be possible. Information sharing arrangements would also need to be instituted between MOH, the private provider, New Zealand Customs Service and the NZ Police, at a minimum. Legal, privacy, and security checks would need to be made, and the Privacy Commissioner engaged. These checks would take considerable time, and pose additional complexities.

Monitoring: Least costly, complex, and rights-limiting option

32. Generally, the level of assurance provided by different monitoring options increases in line with cost, complexity, and imposition on peoples' rights. Our desktop analysis demonstrates that the least costly, complex, and rights-limiting option for location monitoring border arrivals under the medium-risk pathway is likely to be a low-tech option. That is, calling, emailing, or texting border arrivals, with follow-up spot checks for non-compliance.
33. However, given that there is no readily available workforce to conduct location monitoring, regardless of how 'light touch', any such regime would not be available before Step 3 – and not for the full expected volume of travellers. Decisions would need to be taken on whether monitoring would be targeted eg only non-New Zealand Citizens or Residents; only in dense urban areas; and only a small sample (eg 1/1000).
34. Decisions on a relevant agency would also need to be taken immediately and funding made available, in order to stand-up such regime (eg procure and contract providers, work through legal risks, determine operational processes).

Enforcement: MOH and NZ Police need to share information

35. Beyond the monitoring of people, and performing associated functions (eg assisting with tech-related issues), monitoring requires that significant resource be invested in escalation and enforcement of any non-response.
36. The New Zealand Police has advised it is unable to enforce self-isolation requirements of expected border arrivals under Steps 1-3. Beyond significant resource implications, and consequent trade-offs, NZ Police has raised concerns about its ability to obtain information from MOH (eg as to where people are self-isolating in the community, or their COVID-19 status), and, consequently, cannot satisfy requisite evidential thresholds for charging purposes.
37. If you, in consultation with RNZMG, seek to introduce any form of location monitoring, MOH and NZ Police will need to establish robust information sharing arrangements, which may take time.

Next steps

38. SWC will finalise settings for the medium-risk pathway, including the matter of compliance monitoring, on 15 December. We require your direction on location monitoring in advance of this meeting. Agencies are available to meet with you to discuss these matters.

Annex 1: Extrapolation of Self-Isolation Pilot data

	Pilot (3 calls/day)	Stage 1+2 (1 call per day)	Stage 1+2 (1 call every 2 days)	Step 3 (1 call/2 days)	Step 3 (50 FTE fixed)
Estimated number travellers per week	25	20,000	20,000	75,000	75,000
Number of calls per traveller per day	3	1	0.5 (ie every other day)	0.5 (ie every other day)	0.03 ³
FTE	1.5	400	200	750	50
Total estimated weekly cost (rounded)	\$10,000 per week	\$2.2 million per week	\$1.1 million per week	\$3.2 million per week	\$240,000 per week

³ In practice, this would likely result in less than a quarter of travellers receiving just one phone call during their stay.

Annex 1: Compliance monitoring – international jurisdictions (based on desktop review)

Option	Jurisdiction	Functionality	Technology required	Cost (relative to Pilot)	Workforce (relative to Pilot)	Issues/limitations + lessons
No/low-tech monitoring						
ZYTE phone-based monitoring checks + escalation follow-up by First Security	New Zealand – used in Self-Isolation Pilot	<p>Person called 3 x daily</p> <p>Person asked to share geolocation at time of call</p> <p>Security personnel verify identity of person at time of call by comparing pre-provided picture of participant with person on screen</p> <p>Security personnel follow-up on non-responses by 1) conducting further calls, and 2) deploying guards to conduct spot checks</p>	<p>Smartphone</p> <p>Cellular (internet and phone) coverage</p>	~\$10,000/week for 25 people	1.5 FTE/ ~25 people week	<p>Only monitors person at time of calls. Non-compliance otherwise undetected (eg participant drove to CTC undetected)</p> <p>Issues re cellular coverage, even within 50km of AKL and CHCH Intl Airports</p> <p>Issues re participants needing to update smartphones</p> <p>Significant time invested in following up on non-responses – people report missing checks due to being outside, in the shower, sleeping, in meetings, etc.</p>
Home visits	Victoria, Australia	<p>People entering Victoria are required to self-isolate for 72 hours.</p> <p>The target is to do at least one physical check of their address over that time</p> <p>Victoria has found that 85% of people are compliant and where they should be when visited, the other 15% receive a straight police referral</p> <p>Approximately 1,000 people arrive across the border every day, which requires a resource of 600 FTE</p>	None	Likely similar to Pilot	Likely similar to Pilot	Home visits are resource intensive
NHS Test and Trace – texts/ emails/ calls/ spot-checks	England and Northern Ireland	<p>Some travellers are required to quarantine at home/ in a specified place on entry</p> <p>Contact tracers from NHS Test and Trace contact people daily,</p>	Cellular (internet or phone) coverage	Likely higher than Pilot	Likely higher than Pilot	<p>Contact via text/email/phone provides limited level of assurance</p> <p>Spot checks are resource intensive – separate in-person</p>

		<p>using text messages, email or phone calls</p> <p>If staff carrying out checks believe a person is breaching quarantine rules they may escalate to a private contractor to conduct an in-person visit. (Note: Mitie awarded £90m contract for ~10,000 compliance checks per day)</p> <p>Non-compliance is escalated to the Police</p>				<p>checks have been conducted on people isolating together on the same day via personnel travelling from different parts of the country</p> <p>Potential for bias/discrimination</p>
'Lookouts' and calls/ emails/ spot-checks	Canada	<p>Royal Canadian Mounted Police (RCMP) work with the Public Health Agency of Canada (PHAC) Canada Border Services Agency (CBSA), and other law enforcement partners work together to conduct 'lookouts'</p> <p>If a border agent suspects that a returning traveller is not going to comply with rules, CBSA flags this with PHAC, which then asks RCMP to follow up</p> <p>RCMP runs a national operations centre which acts as a dispatch centre for all police agencies in Canada, referring follow-up calls to local police</p> <p>All arrivals are otherwise required to report their arrival at their place of self-isolation via the ArriveCAN app or by calling a toll-free number</p> <p>People required to quarantine receive live or automated calls to answer questions re compliance</p> <p>If the initial call from goes unanswered or if they have an indication the traveller is not complying, local police are asked to follow up</p>	Cellular (internet and phone) coverage	Likely similar to Pilot	Likely similar to Pilot	<p>Resource intensive regime to conduct lookouts and spot-checks</p> <p>Potential for bias/discrimination</p>

		<p>People are also emailed reminders of requirements</p> <p>People may receive in-person visits from a designated screening officer</p>				
Tech-based monitoring						
Jupl Self Isolation App + escalation follow-up by Matrix Security	New Zealand – used by Ian Taylor while participating in the Self-Isolation Pilot	<p>Geo-fence established around place of self-isolation</p> <p>Quarantine wristband issued to continuously track location via pairing with App using GPS and cellular location data (note multiple bracelets can be paired to one app)</p> <p>Scheduled questionnaires can be set up to ensure compliance and check-in re health etc</p> <p>24/7 monitoring by call centre</p> <p>Alerts triggered if participant breaches geo-fence boundary or attempts to remove wristband or goes offline</p> <p>Matrix Security notified of and takes action on breaches</p>	<p>Smartphone</p> <p>Cellular (internet or phone) coverage</p> <p>Quarantine wristband</p>	Likely higher than Pilot	Likely higher than Pilot	<p>Geo-fencing requires manual set-up by administrators in central system</p> <p>Smartphone and App to be online at all times – strong cellular coverage required</p>
<p>Home Quarantine South Australia mobile app + follow up by SA Police</p> <p>(Note app also provides daily symptom checks and access to health/wellbeing resources - supported by SA Health)</p>	South Australia	<p>The app performs several geolocation and live face recognition check-ins at random intervals each day. After receiving a notification prompting check-in, people will have 15 minutes to respond</p> <p>If a person misses a check-in they receive a follow-up phone call from the Home Quarantine Support Team. If they miss this phone call, a compliance officer may visit their approved address</p>	<p>Smartphone</p> <p>Cellular (internet and phone) coverage</p>	Likely similar to Pilot	Likely similar to Pilot	<p>App doesn't track location outside of check-ins</p> <p>Each person requires their own smartphone and app</p>
Home Quarantine Check In via SMS and weblink	Queensland	<p>People are sent a daily SMS randomly, and must respond by following the link in the SMS and completing a web form</p>	<p>Smartphone (but if don't have smartphone contacted via regular phone call)</p>	Likely higher than Pilot	Likely higher than Pilot	<p>App doesn't track location outside of check-ins</p>

		<p>To be marked as compliant each day, people must respond to the web form link within 10 minutes of receiving the SMS, and be within their quarantine location vicinity (nominated home quarantine address) – the system uses geolocation services</p> <p>A person who fails to respond to any compliance check via SMS web link message, or is outside an acceptable location range of their residence without reasonable excuse, receives a phone call from an officer of the Queensland Government. If they don't respond to this phone call, they're referred for a compliance visit by an emergency health officer</p> <p>If they are found to have broken the rules, they may be taken to government arranged hotel quarantine for the remainder of their quarantine period, at their own expense</p>	Cellular (internet and phone) coverage			
MySOS app	Japan	<p>Travellers download a tracking app called MySOS and turn on their GPS location and "check in" to register their location</p> <p>There is no scheduled time for push notification, but they are sent a few times a day. When a notification is received, the returnee presses the "I'm Here!" button as soon as possible</p> <p>Travelers may receive random video-calls (by an operator or AI)</p>	<p>Smartphone</p> <p>Cellular (internet and phone) coverage</p>	Likely similar to Pilot	Likely similar to Pilot	<p>Travelers aged 13 + are required to rent a smartphone at the airport at personal expense if they do not have one.</p> <p>App doesn't check location outside of check-ins</p> <p>SI locations without Wifi require traveller to rent a Wifi router at the airport</p>
<p>Phone calls and in-person check-ups</p> <p>OR</p> <p>Electronic monitoring device (EMD) + app</p>	Singapore	<p>Travelers serving a Stay Home Notice are subject to on-site or electronic compliance checks (SMS, phone/video calls)</p> <p>For phone/video compliance checks, travellers will only be asked to provide the last four digits of his/her Identity Card or Travel Document for verification</p>	<p>Smartphone</p> <p>Cellular (internet and phone) coverage</p> <p>OR</p>	Likely similar to Pilot	Likely similar to Pilot	<p>Issues re cellular coverage</p> <p>Each person requires their own smartphone and app</p>

		<p>OR</p> <p>EMDs are issued to low-risk travellers above 12 and are outside Dedicated Facility. All location data is transmitted via end-to-end Domestic encryption and can only be accessed by authorised government officials for investigation.</p>	<p>Smartphone, cellular coverage and an EMD wrist band (wrist bands are designed to be disposable but can be reused if user sends back to Immigration and Checkpoints Authority)</p>			
Electronic Digital Fence	Taiwan	<p>People required to undergo home quarantine have their location monitored via cellular signals from their phones. Venturing too far from homes triggers the alert system, and calls and messages are sent to the person ascertain their whereabouts</p> <p>Police responsible for following up in person if someone leaves their home. Use Police data base to track people listed under quarantine orders – go out to public places (e.g. a night club) and check for individuals who are subject to these orders</p> <p>Digital fencing is complemented by random health-checks, community policing and phone calls from health officials and public authorities to ensure compliance</p>	<p>Smartphone capable of sharing location data - individuals who did not have a cell phone capable of sharing location data are provided with one at the border</p> <p>Cellular (internet and phone) coverage</p>	Likely higher than Pilot	Likely higher than Pilot	<p>Resource intensive</p> <p>Privacy implications due to tracking people via their phone number</p>
Stay Home Safe app	Hong Kong	<p>People eligible for home quarantine are fitted with an electronic wristband that has a QR code. Travellers scan the QR code in the Stay Home Safe app which links the two together. Wristband must be worn for the duration of quarantine</p> <p>If a change is detected in your location without permission, the Government will take further actions, such as conducting spot checks, making a prosecution or issuing a wanted warrant</p>	<p>App</p> <p>Wristband</p> <p>Smartphone with Bluetooth, Wifi and location service functions turned on</p> <p>Cellular (internet and phone) coverage</p>	Likely higher than Pilot	Likely higher than Pilot	<p>Each person requires their own smartphone and app</p> <p>Requires phone and internet coverage</p>