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## **The impact of mobile contact tracing technologies in Australia and Aotearoa-New Zealand during COVID-19**

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### **Abstract**

Contact tracing apps have been employed to control and contain COVID-19, with varying consequences for everyday life, and implications for individuals' rights to privacy.

### **Theme**

Securitizing Mobility

### **Keywords**

pandemic, contact tracing, technologies, Australia, New Zealand

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## Introduction

During the COVID-19 pandemic, mobile technologies designed to combat the spread of the virus have become embedded within everyday life. Australia and New Zealand were early adopters of contact tracing technologies, which trace individuals' everyday mobility to monitor and contain infection. This entry examines the use of contact tracing apps in both countries during the pandemic, and their legal and ethical implications for individuals' rights to privacy.

## Contact tracing technologies

Both Australia and Aotearoa-New Zealand designed and adopted bespoke national contact tracing apps in the early months of the pandemic, and for many months, resisted adopting global designs, including the 'Gapple' app.<sup>23</sup> In Australia, a national 'COVIDSafe' app was launched on April 26, and within four months, had over 6 million users. COVIDSafe relies on 'enhanced manual tracing'<sup>4</sup> to assist authorities with identifying and contacting people who may have been exposed to COVID-19.

The app uses Bluetooth technology to record a "cryptographically-encoded handshake" between app-enabled phones that come within two metres of each other for longer than 15 minutes - the relevant data remains on both phones and is then automatically deleted after 21 days.<sup>5</sup> When an individual receives a positive test for COVID-19, health authorities obtain their consent to having the information on their phones uploaded to a national COVIDSafe data store. Authorities then use the affected individual's location history to identify those they have had close contact with – and who also have the app – and contact them with advice.<sup>6</sup>

COVIDSafe is designed to be a passive experience that requires little regular user engagement – and has, therefore, arguably had minimal impact on everyday life.<sup>7</sup> Users simply enter their name and contact details into the app, which traces their location as they go about their daily tasks. Researchers Howell and Potgieter therefore find that the Australian app has a "high ease of use", and provides an important

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<sup>2</sup>Chugh, Ritesh. 2020. By persisting with COVIDSafe, Australia risks missing out on globally trusted contact tracing. *The Conversation*. 1 July 2020. Available online at: <https://theconversation.com/by-persisting-with-covidsafe-australia-risks-missing-out-on-globally-trusted-contact-tracing-141369>. Last accessed 22 December 2020;

Heatley, Dave. 2020. CovidCard carrying Kiwis? *New Zealand Productivity Commission*. 22 July 2020. Available online at: <https://www.productivity.govt.nz/pandemicblog/covidcard-carrying-kiwis/>. Last accessed 22 December 2020.

<sup>3</sup>By December 2020, Aotearoa-New Zealand's Covid Tracer app was adapted to use Gapple technology, using Bluetooth to keep an anonymised record of close contacts. See: Ministry of Health. 2020. *NZ COVID Tracer app*. Available online at: <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-resources-and-tools/nz-covid-tracer-app>. Last accessed 22 December 2020.

<sup>4</sup> Vaithianathan, Rhema, Matthew Ryan, Nina Anchugina, Linda Selvey, Tim Dare and Anna Brown. 2020. *Digital Contact Tracing for COVID-19: A Primer for Policymakers*. University of Queensland: 4 Available online at: <https://issr.uq.edu.au/files/14448/PolicyPrimer.pdf>. Last accessed 22 December 2020.

<sup>5</sup> Howell, Bronwyn E and Petrus H. Potgieter. 2020. A Tale of Two Contact-Tracing Apps – Comparing Australia's COVIDSafe and New Zealand's NZ COVID Tracer. *SSRN*: 6. Available online at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3612596](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3612596). Last accessed 22 December 2020.

<sup>6</sup> Department of Health. 2020. *COVIDSafe app*. Available online at: <https://www.health.gov.au/resources/apps-and-tools/covidsafe-app#how-covidsafe-works>. Last accessed 22 December 2020.

<sup>7</sup> Davidson, John. 2020. COVIDSafe app shows up Big Tech's problems. *Australian Financial Review*. 9 July 2020. Available online at: <https://www.afr.com/technology/covidsafe-app-shows-up-big-tech-s-problems-20200605-p54zx9>. Last accessed 22 December 2020.

complement to other contact tracing processes with little cost to the individual.<sup>8</sup> This passivity is, however, also identified as one of the app's core flaws: Bluetooth connections can experience various disruptions, and iPhone users have experienced particular issues with connectivity.<sup>9</sup> As users are not required to actively engage with the app, these issues may go unnoticed, even while they undermine the app's efficacy.

Researchers have further observed that COVIDSafe is wholly reliant on public trust in the government: users are only notified of a potential infection when they are contacted by public health officials, and have no means of being immediately notified.<sup>10</sup> Any bad press might therefore lead to a decline in public confidence, and contribute to complacency with using the app. COVIDSafe has already attracted significant negative publicity: a Victorian senator criticised the federal government for being "dishonest" regarding the app's effectiveness,<sup>11</sup> while authorities themselves have conceded that the app has experienced multiple technological glitches.<sup>12</sup> While the Australian app requires little from the public, its dependence on unreliable technology and public trust in the government may continue to undermine its efficacy.

Meanwhile, Aotearoa-New Zealand's national 'NZ Covid Tracer' app, launched on May 20, employs a more active tracing approach.<sup>13</sup> The app encourages users to create a "digital diary" of places they have visited by scanning official QR codes, rather than tracing contact between individuals.<sup>14</sup> From August, all businesses and services, unless exempt, have been required to display official posters displaying QR codes, which they can order from the Ministry of Health, in a prominent place on or inside any vehicle or building used for the service.<sup>15</sup> When users sign up for contact alerts, the app provides automated alerts when they have checked into a location at the same time as a confirmed or probable case of COVID-19, and they are warned to look out for symptoms.<sup>16</sup> Covid Tracer therefore requires a more active approach: users must stay vigilant with their use of the app by automatically checking into every venue they enter. Howell and Potgieter (2020) thus argue that Aotearoa-New Zealand's app has a high operation cost for individuals, who are therefore more "likely to militate against its use."<sup>17</sup> Indeed, in the weeks after Auckland's August cluster outbreak, the app reached a peak of 2.49 million scans in the first week of September.<sup>18</sup> However, by late September, authorities expressed concerns that the

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<sup>8</sup> Howell et al. 2020:19.

<sup>9</sup> Canales, Sarah Basford. 2020. COVIDSafe Still Has Crucial iPhone Issues Nearly 2 Months Later. Gizmodo. 16 June 2020. Available online at: <https://www.gizmodo.com.au/2020/06/covidsafe-still-has-crucial-iphone-issues-nearly-2-months-later/>. Last accessed 22 December 2020.

<sup>10</sup> Vaithianathan et al. 2020: 4, 15.

<sup>11</sup> Grubb, Ben. 2020. 'Dishonest': COVIDSafe app has not detected a single case despite 6 million downloads. The Sydney Morning Herald. 27 June 2020. Available online at: <https://www.smh.com.au/politics/federal/dishonest-covidsafe-app-has-not-detected-a-case-despite-6-million-downloads-20200627-p556s7.html>. Last accessed 22 December 2020.

<sup>12</sup> Taylor, Josh. 2020. Covidsafe app is not working properly on iPhones, authorities admit. The Guardian. 6 May 2020. Available online at: <https://www.theguardian.com/world/2020/may/06/covidsafe-app-is-not-working-properly-on-iphones-authorities-admit>. Last accessed 22 December 2020.

<sup>13</sup> Howell et al. 2020: 19.

<sup>14</sup> Ministry of Health. 2020. NZ COVID Tracer app. Available online at: <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-resources-and-tools/nz-covid-tracer-app>. Last accessed 22 December 2020.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Howell et al. 2020: 11.

<sup>18</sup> Howell et al. 2020: 8.

population was becoming complacent, as the number of scans began to decline.<sup>19</sup> Covid Tracer’s high operation cost may therefore also impede its use in the long-term.

### Legal and ethical implications of tracing mobility

Contact tracing technologies have multiple legal and ethical implications, which have raised considerable concern amongst the general public. Commentators have frequently pointed out that contact tracing effectively serves as a means of “social control”, requiring us to disclose where we are, and who we are with, in return for access to public space.<sup>20</sup> Having our mobility and interactions so closely traced may breach our rights to privacy, which are protected under international law.<sup>21</sup> Members of the community have frequently expressed concerns regarding these rights. A University of Melbourne survey indicates that of those people who do not intend to download COVIDSafe in the future, the majority are concerned about their privacy.<sup>22</sup> Similarly, a poll by The Guardian illustrates that over half of their Australian respondents are concerned about their privacy on COVIDSafe.<sup>23</sup> Meanwhile, a survey conducted by the Social Research Centre further indicates that a significant proportion of people who have not downloaded the COVID-Safe app fear the safety of the app on their phones, don’t trust the government with their data, and don’t want the government tracking them.<sup>24</sup> Although many of us often consent to having our mobility traced by sharing our location data – whether through dating, food delivery, or mapping apps – the COVIDSafe example illustrates individuals’ caution regards having their movements digitally recorded.

These sentiments carry additional salience within certain communities. Members of Sydney’s Uighur community have reported feeling under surveillance by contact tracing technologies, which have triggered their memories of living under social control in China.<sup>25</sup> Many are fearful that their data may be accessed by the Chinese government and used against their families.<sup>26</sup> Many have also reported feeling a sense of mistrust towards the wider community, and fear being reported to authorities for any

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<sup>19</sup> Morton, Jamie. 2020. Covid-19 coronavirus: Experts concern over app use drop-off. *NZ Herald*. 23 September 2020. Available online at: <https://www.nzherald.co.nz/nz/covid-19-coronavirus-experts-concern-over-app-use-drop-off/KZQ65GI3GJQ2ABXQ7OTMUGGBZ4/>. Last accessed 22 December 2020.

<sup>20</sup>Iveson, Kurt. 2020. The trade-offs ‘smart-city’ apps like COVIDSafe ask us to make go well beyond privacy’. *The Conversation*. 17 May 2020. Available online at: <<https://theconversation.com/the-trade-offs-smart-city-apps-like-covidsafe-ask-us-to-make-go-well-beyond-privacy-138296>>. Last accessed 4 May 2021.

<sup>21</sup> Article 12 of the Universal Declaration of Human Rights, and Article 17 of the International CCPR, protect against arbitrary interference with individuals’ privacy.

<sup>22</sup>Garrett, Paul, John White, Simon Dennis, Daniel Little, Amy Perfors, Yoshi Kashima and Stephan Lewandowsky. 2020. *Attitudes of Australians to the Government’s COVIDSafe contact tracing app*. Melbourne: University of Melbourne. Available online at: <https://psychologicalsciences.unimelb.edu.au/chdh/news/attitudes-of-australians-to-the-governments-covidsafe-contact-tracing-app>. Last accessed 22 December 2020.

<sup>23</sup>Farr, Malcolm. 2020. Guardian Essential poll: suspicions about tracing app offset by approval of Covid-19 response. *The Guardian*. 27 April 2020. Available online at: <https://www.theguardian.com/australia-news/2020/apr/28/guardian-essential-poll-suspicions-about-tracing-app-offset-by-approval-of-covid-19-response>. Last accessed 22 December 2020.

<sup>24</sup>Social Research Centre. 2020. *Increasing COVIDSafe App*. Canberra: Social Research Centre. Available online at: <https://www.srcentre.com.au/our-research/life-in-australia-reports/covidsafe-update>. Last accessed 22 December 2020.

<sup>25</sup>Amin, Mridula. 2020. The coronavirus surveillance that’s triggering memories for Sydney’s Uyghur community. *ABC News*. 14 May 2020. Available online at: <https://www.abc.net.au/news/2020-05-14/nsw-uyghur-community-triggered-by-coronavirus-surveillance/12244836>. Last accessed 22 December 2020.

<sup>26</sup>Ibid.

perceived breaches of regulations.<sup>27</sup> Media coverage of COVID-19 outbreaks and contact tracing provide additional evidence of a rise in community mistrust. In July, several media outlets reported that three young women who had travelled from Queensland to Victoria to attend a party had tested positive for COVID-19, provoking a barrage of criticism across the country.<sup>28</sup> In August, The Sydney Morning Herald reported the case of a Sydney man who had a “weekend bender”, visiting 7 bars and restaurants in the inner-city.<sup>29</sup> This coverage is not without prejudice: critics point out that the women who travelled to Victoria were racialised; a fact that attracted racialised hostility towards African communities on social media.<sup>30</sup> This rise in mobility surveillance has therefore seeped into civil society, as ordinary people increasingly assume the task of monitoring others’ compliance – particularly that of racialised peoples – with governmental restrictions. In this environment, it is easy to imagine that many are fearful of having their rights to privacy impinged through mobile technologies.

Both countries have, however, taken various steps towards protecting individuals’ personal information. In May, a legal framework of privacy protections, overseen by the Office of the Australian Information Commissioner, was established under Part VIIIA of the *Privacy Act 1988*. The legislation prohibits anyone being required to download or use the app, limits the purposes for which data from the app can be collected, used or disclosed, and requires data to be deleted when it is no longer needed.<sup>31</sup> In Aotearoa-New Zealand, only personal information and contact details are provided to the Ministry of Health, while all other information is only stored on users’ phones, and digital diary entries are automatically deleted after 60 days.<sup>32</sup> New Zealand’s Ministry of Health further released a ‘Privacy Impact Statement’, which assesses the risk to individuals’ privacy as low.<sup>33</sup> Civil Liberties NZ chairperson Thomas Beagle however expresses concern that these privacy measures are not protected by law, and should be legislated for stronger protection.<sup>34</sup> Critics further point out that a decentralised

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<sup>27</sup>Ibid.

<sup>28</sup>ABC News. 2020. *Three Queensland women charged over alleged false border declarations*. 30 July 2020. Available online at: <https://www.abc.net.au/news/2020-07-30/coronavirus-queensland-three-women-charged/12508498>. Last accessed 22 December 2020.

<sup>29</sup>Aubusson, Kate. 2020. Sydney’s new cluster fears after Covid-19 case has big weekend. *The Sydney Morning Herald*. 6 August 2020. Available online at: <https://www.smh.com.au/national/nsw/sydney-s-new-cluster-fears-after-covid-19-case-has-big-weekend-20200806-p55jan.html>. Last accessed 22 December 2020.

<sup>30</sup>Smee, Ben and Amanda Meade. 2020. Naming Brisbane women risks ‘a second wave of Covid-related racial hostility’: commission. *The Guardian*. 30 July 2020. Available online at: <https://www.theguardian.com/australia-news/2020/jul/30/naming-brisbane-women-risks-a-second-wave-of-covid-related-racial-hostility-commission>. Last accessed 14 January 2021;

Southerton, Clare. 2020. Queensland’s coronavirus controversy: past pandemics show us public shaming could harm public health. *The Conversation*. 31 July 2020. Available online at: <https://theconversation.com/queenslands-coronavirus-controversy-past-pandemics-show-us-public-shaming-could-harm-public-health-143699>. Last accessed 14 January 2021.

<sup>31</sup>Australian Government, Office of the Information Commissioner. 2020. *The COVIDSafe app and my privacy rights*. Available online at: <https://www.oaic.gov.au/privacy/covid-19/the-covidsafe-app-and-my-privacy-rights/>. Last accessed December 2020.

<sup>32</sup>Ministry of Health. 2020. *Privacy and security for NZ COVID Tracer*. Available online at: <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-resources-and-tools/nz-covid-tracer-app/privacy-and-security-nz-covid-tracer>. Last accessed 22 December 2020.

<sup>33</sup>Ministry of Health. 2020. *COVID-19 Contact Tracing Application: Privacy Impact Statement*. 15 May 2020. Available online at: [https://www.health.govt.nz/system/files/documents/pages/nz\\_covid\\_tracer\\_pia\\_18\\_may\\_2020.pdf](https://www.health.govt.nz/system/files/documents/pages/nz_covid_tracer_pia_18_may_2020.pdf). Last accessed 22 December 2020.

<sup>34</sup>Braae, Alex. 2020. What you need to know about the government’s new contact tracing app. 20 May 2020. *The Spinoff*. Available online at: <https://thespinoff.co.nz/business/20-05-2020/what-you-need-to-know-about-the-governments-new-contract-tracing-app/>. Last accessed 22 December 2020.

model, such as that employed by ‘Gapple,’ that keeps all data on users’ own devices, is safer than both countries’ centralised models.<sup>35</sup>

Still, not everyone is particularly concerned about their privacy. Research in Aotearoa-New Zealand suggests that individuals are comfortable with sharing their data “if they see value in it for themselves, their family and community; and if they trust that their data will be kept secure”.<sup>36</sup> Australians have also illustrated a willingness to suspend their rights to privacy through other means: while they have not been introduced, some have suggested introducing ankle monitors and returning international travellers in quarantine,<sup>37</sup> with apparently little concern for these measures’ potential dangers, e.g. their potential for disproportionate impact on racialised and minoritised peoples. These events perhaps again point to the wider community’s trust – whether or not it is deserved – in public institutions.

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<sup>35</sup>Sadler, Denham. 2020. Mixed finding on COVIDSafe privacy: Research. *InnovationAus*. 12 July 2020. Available at: <https://www.innovationaus.com/mixed-finding-on-covidsafe-privacy-research-2/>. Last accessed 22 December 2020.

<sup>36</sup>Vaithianathan et al. 2020: 11.

<sup>37</sup>Visontay, Elias. 2020. Australians stranded overseas willing to wear ankle bracelets while quarantining to return home. *The Guardian*. 23 September 2020. Available online at: <https://www.theguardian.com/australia-news/2020/sep/24/australians-stranded-overseas-willing-to-wear-ankle-bracelets-while-quarantining-to-return-home>. Last accessed 22 December 2020