

## COVID-19 Global Trends & Analyses: May Update 6

Period 14-15 May

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### Global trends<sup>1 2</sup>

- While the number of daily new cases continues to decline in Spain, Italy, France, Germany and Turkey, the current hotspots are **Russia** (and neighbouring Belarus and Ukraine); **Latin America** (especially Brazil, Peru, Ecuador, Chile, Mexico, Colombia and the Dominican Republic); **South Asia** (India, Pakistan and Bangladesh); and the **Gulf countries** (Saudi Arabia, Qatar, UAE and Kuwait).
- **Brazil** reported 13,761 new cases and 835 deaths on May 14, the second highest of both daily indicators in the world after the US.
- **Iran** is experiencing a sustained "second wave" of new cases, leading to the reintroduction of restrictions in some geographic areas.
- The ten countries with the highest per capita attack rates are: Spain (490 per 100,000), Ireland (482), Belgium (473), Singapore (463), United States (425), Italy (368), Switzerland (357), United Kingdom (347), Sweden (274) and Portugal (274). These figures may reflect testing rates, although the UK and Sweden have relatively low testing rates.
- The first confirmed case was reported in a large, crowded **Rohingya refugee camp** in Cox's Bazar in Bangladesh.
- The cumulative global case-fatality ratio (CFR) is 6.7%.
- In Canada, **Quebec province** and the city of Montreal have become the nation's hotspot, equivalent to New York State and New York City in the U.S. Of the entire country's 70,000 cases and 5,000 deaths, the city of Montreal with two million people has reported 20,000 cases and more than 2,000 deaths, or about 64% of the entire province's death toll. Provincial data show that about 82% of those who have died lived in seniors' residences – most of them public.
- **Australia** reported 30 new cases (21 in Victoria) on May 15, the highest number of daily new cases since April 19. The total number of reported cases has now surpassed 7,000.
- Australia's cumulative testing rate is now 3,700 per 100,000, which is ranked #16 in the world among countries reporting more than 5,000 cases.

### Summary - International experience with tracing apps

- The MIT Technology Review Covid Tracing Tracker has identified 25 digital contact tracing initiatives globally. So far, 15 countries have launched their apps and several are piloting them.
- Many concepts for digital contact tracing are currently being pursued globally. There are significant data protection concerns by the public, especially in the case of central storage of these data. Approaches to completely decentralised communication from smartphone to smartphone sometimes struggle with the limitations of the Bluetooth standard and the iPhone operating system "iOS". Apple and Google have announced that they are working on a solution. Germany is awaiting this solution before it launches its app.
- Most countries currently using apps have chosen the decentralised approach, with the exception of South Korea and the UK.
- Those countries that have published data on the proportion of their populations that have downloaded the app have all reported less than 40%, ranging from less than 20% in Austria, 20% in Norway, 25% in Singapore, 38% in Iceland, and 40% on the Isle of Wight where the UK is piloting its NHSX app. This compares with around 30-35% for COVIDSafe in Australia.
- A number of countries, including Iceland, Norway and Singapore, have commented that their apps have had a very limited impact on contact tracing and that personal tracing by trained contact tracers has been more valuable.

<sup>1</sup> <https://coronavirus.jhu.edu/data/new-cases>

<sup>2</sup> <https://www.worldometers.info/coronavirus/#countries>



## Observations with policy implications for Australia

### International experience with tracing apps

Countries that have used voluntary tracing apps include South Korea, Singapore, Austria, Iceland, Norway, Cyprus, Czech Republic, Netherlands, Poland, Finland, India, Iran, Ghana, Turkey and Australia<sup>3</sup>. China and Israel have used technology to (involuntarily) follow the movements of known cases via their mobile phones. Several US states are considering the use of the app developed by Apple-Google but none has yet introduced them. The UK is piloting the use of a tracing app on the Isle of Wight. Germany is almost ready to launch their app. Experience with tracing apps in some of these countries is reviewed here.

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A critique of tracing apps in Foreign Policy pointed out that apps do not reflect the most common ways that people are infected either by being in close proximity to a cough or sneeze, or by picking it up from a surface. The first could happen in an instant, say in a supermarket aisle, while the second could occur hours later when you unpack your groceries<sup>4</sup>.

When a person tests positive for the coronavirus, tracking apps notify other people who have been near the infected person in recent weeks. Singapore's tracking app is supposed to notify all people who have been within 2 metres of an infected person for at least 30 minutes, while Australia's app claims to notify people who have been within 1.5 metres for at least 15 minutes. Since Bluetooth can't actually be used reliably to measure distances, these figures suggest "an illusory precision".

The inconsistency between what the apps measure and how the virus spreads puts governments in a bind. Set the time window too narrow, and the app will classify millions of people as possibly infected, requiring the government to track down everyone who has ever passed a coronavirus carrier on the street. Set the time window too wide, and the app will flag too few exposures to the virus.

**South Korea** early on created a public database of coronavirus cases that provides extraordinarily detailed information about every infected individual, including their exact movements around the country. The database is constantly updated using location information from payment card transactions, mobile phone signal data, and closed-circuit TV footage. This government database made possible the development of apps such as *Corona 100m*, which was launched on February 11 and, using government data, alerts users when they come within 100 metres of a location visited by an infected person.

It is difficult to find data on the proportion of South Koreans who have downloaded the app; however, numerous media reports indicate that more than one million downloaded it in the first three weeks after its release. **In a country with a population of 51 million and a high rate of smartphone ownership, this seems low.**

**Singapore's TraceTogether**, released on March 20, is a more limited coronavirus tracking app than South Korea's. It keeps a record of close contacts between the phones of registered individuals without registering where those interactions occurred. Unlike South Korea's database, it is optional, and **only about 25 percent of the population has signed up**. It uses a phone's Bluetooth function to detect and log every instance when two people (or at least their phones) come close enough to each other for Bluetooth to recognize the signal.

In a post on Singapore's Government Digital Services page, Jason Bay, the agency's senior director, stated that since Bluetooth-based contact tracing solutions do not, by themselves, record location/environment data, this information needs to be obtained through other means — a human-led contact tracing interview<sup>5</sup>.

The experience of Singapore's contact tracers suggest that contact tracing should remain a human-fronted process. Contact tracing involves an intensive sequence of difficult and anxiety-laden conversations, and it is the role of a contact tracer to

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<sup>3</sup> <https://www.technologyreview.com/2020/05/07/1000961/launching-mittr-covid-tracing-tracker/>

<sup>4</sup> <https://foreignpolicy.com/2020/05/12/coronavirus-tracking-tracing-apps-cant-work-south-korea-singapore-australia/>

<sup>5</sup> <https://blog.gds.gov.tech/automated-contact-tracing-is-not-a-coronavirus-panacea-57fb3ce61d98>



explain how a close contact might have been exposed — while respecting patient privacy — and provide assurance and guidance on next steps<sup>1</sup>.

**Iceland's** app, called **Rakning C-19**, uses GPS data to build a map of where users have been. If a user is diagnosed with coronavirus they are asked by Iceland's Directorate of Health to share that data to help identify anyone who might have come into contact with them. The app was launched in early April, a little over a month after the first confirmed case of COVID-19 on February 28. According to MIT Technology Review's Covid Tracing Tracker, it has the largest penetration rate of all contact trackers in the world, having been downloaded by 38% of Iceland's population of 364,000<sup>6</sup>.

But despite this early deployment and widespread use, one senior figure in the country's covid-19 response says the real impact of Rakning C-19 has been small, compared with manual tracing techniques like phone calls<sup>7</sup>. "The technology is more or less ... I wouldn't say useless," says Gestur Pálmason, a detective inspector with the Icelandic Police Service who is overseeing contact tracing efforts. "But it's the integration of the two that gives you results. I would say it [Rakning] has proven useful in a few cases, but it wasn't a game changer for us."

**Norway's** tracing app **SmitteStoppe**, launched on April 18, provides authorities with anonymous data on how users are moving in society, in order to measure the effectiveness of coronavirus containment measures. To achieve this, the app uses a combination of Bluetooth technology and a smartphone's location features to track a user's movements and their proximity to anyone who is later confirmed to be infected.

The Norwegian Institute of Public Health said that as of 28 April, 1.5 million people had downloaded the app, but only 899,142 were actively using it - representing **just 20.5% of over-16s** in the test zones. This equates to **a drop-out rate of 40%**.

In **Austria**, a hybrid solution is currently being used, in which communication between the devices is still carried out centrally via servers, but all contact data is stored locally on each user's mobile phone. The **Stopp Corona** app was the first to be rolled out in the EU and is operated by the Austrian Red Cross not the government.

If a user later suspects he or she has come down with covid-19 or has received a formal diagnosis, that information can be uploaded from the app to alert others, anonymously, that they may have been exposed. If users want to stop being tracked, they can simply delete the app and the data. No central database exists. Three weeks after its launch, only **400,000 people had downloaded the app in a population of 8.9 million**.

In the **UK**, the app **NHSX** under development and testing relies on a centralised model. In this model, the contact-matching happens on a remote computer server. Users self-diagnose via a questionnaire. The UK's National Cyber Security Centre has said this will enable it to catch attackers trying to abuse the self-diagnosis system. Critics have warned that the NHS is taking a big gamble in choosing to alert app users when they have been in contact with someone who has merely reported symptoms. It could make the app fast and effective - or it could mean users become exasperated by a blizzard of false alarms<sup>8</sup>.

A trial of the app began on the Isle of Wight on May 5. Although almost 80% of residents said they would download the app in an online survey, by May 10 **only 40% had downloaded NHSX**<sup>9</sup>.

**Germany** has rejected the UK model and will soon launch a decentralised app. Its app will trigger alerts only if users test positive for Covid-19. Those users who test positive will be given a verification code by State Departments of Health that must be entered into the app before it anonymously flags them as being a risk to others. SAP and Deutsche Telekom - which are co-developing Germany's app - were waiting for Google and Apple to release a software interface before they could complete their work.

<sup>6</sup> <https://www.technologyreview.com/2020/05/07/1000961/launching-mittr-covid-tracing-tracker/>

<sup>7</sup> <https://www.technologyreview.com/2020/05/11/1001541/iceland-rakning-c19-covid-contact-tracing/>

<sup>8</sup> <https://www.bbc.com/news/technology-52650576>

<sup>9</sup> <https://www.telegraph.co.uk/news/2020/05/10/concern-coronavirus-contact-tracing-app-downloaded-just-40-per/>

