

New Zealand and much of the world is now under an unprecedented lockdown. [Public health experts say](#)

this is the best way to suppress the spread of the virus. But how long will such a lockdown be socially sustainable?

As someone who's worked in the mobile device software industry and now lectures on business analytics at the University of Auckland, I'd argue technology could play a bigger role in ensuring more New Zealanders [stay home](#) to save lives.

Data analytics, based on our [mobile phone usage](#), would allow us to provide a mixture of incentives and gentle [nudges](#) to do the right thing, while also supplying crucial information for health researchers.

But using mobile phone data can be a threat to personal privacy: critics rightly warn that once tracking systems are put in place, those in power have little incentive to remove them. While we need to act quickly to stop the virus spread, we also need to [respect personal privacy](#).

So what more could New Zealand be doing to use our phones and our love of the internet to fight COVID-19?

Read more: [*As NZ goes into lockdown, authorities have new powers to make sure people obey the rules*](#)

Using big data for the greater good

Different nations have chosen different models to fight coronavirus – and some of those approaches clash with our values in New Zealand.

While some point to the success of China's lockdown of Wuhan as a model of how to stamp out transmission, the scenes of people literally [welded inside](#) their apartment buildings shouldn't be forgotten. Clearly, that is not what we want our society to look like.

But the social problem we face in New Zealand now is a classical liberal dilemma: pitting individual rights to free movement and privacy against those of the community. Right now, given the scale and severity of COVID-19, it is currently the right choice to prioritise community health and safety over individual rights.

That means some of our normal concerns about digital privacy may have to be temporarily overridden in favour of a greater good. However, we must remain true to our liberal traditions and continue to try to balance individual and community rights.

What New Zealand can learn from overseas

Europe has strong privacy laws but has also [endorsed the use of personal data](#) in a limited set of circumstances to fight the spread of the virus.

While the United States and Europe struggle with containment, [Singapore](#) seems to have escaped some of the worst effects of the virus. Tracking information voluntarily provided by [a contact tracing app on mobile phones](#) has made it possible to find people who have been in contact with infected people.

Other nations are beginning to [implement similar solutions](#) but valid concerns about privacy remain.

Tracking applications on phones or using the data mobile network operators collect could allow authorities to trace the prior movements of people found to be infected, and test those they came into contact with. Israel has implemented a system designed to [protect user privacy](#).

Crucially, both [Singapore](#) and [Israel](#) have committed to making their software freely available through copyright-free, open-source licences. This means software developers wouldn't have to

start from scratch in implementing similar solutions here in New Zealand.

Read more: [Why Singapore's coronavirus response worked & what we can all learn](#)

Safeguards and time limits on digital surveillance

We can and should take advantage of this opportunity. Until recently, the adoption of such [tools for surveillance would be unprecedented](#) and concerning for many, myself included. Before the crisis, tech companies' use of big data to monitor and track people's everyday habits was increasingly coming under scrutiny by legislators across the globe.

To gain acceptance, the public needs to have confidence that more intrusive data collection is necessary for public health, that it will not have negative effects for them or enrich others at their expense, and that it will be shut down after the crisis.

Any system implemented in New Zealand needs to have a clear end date, with public reporting and independent oversight. For instance, that public reporting could be done via [the new cross-party committee](#) led by opposition leader Simon Bridges, which is scrutinising the government's response to COVID-19. Once the crisis is over, the program needs to be shut down.

What kind of tracking and targeted public health prompts might be possible in New Zealand?

Mobile phone companies can use standard GPS and triangulation between phone towers to track your location when you're out. One possible idea would be for mobile phone network providers to use their real-time data to text message people who appear to be a long way from home – in breach of the [level 4 lockdown rules](#), unless you're working for an [essential business](#).

These automated messages would be sent by an algorithm if certain criteria were met, and could remind people of lockdown rules and let them know their choices have consequences for others.

It appears that New Zealand is already exploring how it can use software in these kinds of ways. As [Stuff has reported](#), the director-general of health has been holding early talks with the private sector – including software developers and mobile network operators – about using technology in the fight against COVID-19.

Read more: [*Privacy vs pandemic: government tracking of mobile phones could be a potent weapon against COVID-19*](#)

Free data, discounted internet: ideas to keep people home

Incentives could also encourage New Zealanders to follow social distancing rules.

Modern analytics allow us to target incentives at specific individuals or groups deemed to be at higher risk of flouting the level 4 rules. One idea worth considering would be paying internet and mobile service providers to offer discounts or other incentives for people staying home: such as free mobile data at home for those who don't have wifi, subsidised internet for those working or studying from home, or game subscriptions or access to online classes.

Such incentives would likely be paid for out of the public purse. But targeted analytics could minimise costs while maximising the health benefits for us all – potentially ending New Zealand's lockdown sooner.

These types of policies could also have positive economic effects. For instance, at a time when some of those households might have difficulty paying internet or phone bills, such incentives could enable some lower-income people to stay employed by having more opportunities to work from home, or provide children without current internet access at home with the ability to keep

learning while schools are closed.

These are just a few ideas that could be effective. The difference between ideas such as these and those employed by surveillance states is that they use analytics to nudge people to make better choices, rather than relying solely on policing people in a heavy-handed manner.

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