

Charting the effect of COVID-19 lockdowns worldwide

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Less than four months after the first confirmed case of COVID-19 in China, the global pandemic has killed more than 90,000 people and shutdown societies in Europe, America and Asia.

The creep of coronavirus across Australia caught many people off guard despite weeks of [warnings](#).

Politicians were confident the 200 confirmed COVID-19 cases were under control on March 13 and told Australians [they were going to the football](#) on Saturday.

The borders were closed on March 20, [blocking all foreigners](#). Thousands of businesses were forced to shut on March 23 as coronavirus cases topped 1600. [A week later](#), people leaving home "unless absolutely necessary" risk fines and jail.

These charts track the number of new cases and deaths each day and are updated regularly with data from [Johns Hopkins University](#).

The pandemic is still accelerating after taking 67 days from the first reported case to reach 100,000 infections. It took 11 days for the second 100,000 cases, four days to add another 100,000 and just three days to reach 400,000 on March 25. A week later, there were more than a million cases.

The pace of this pandemic is hard to understand because psychologically we struggle with exponential increases. Psychologists call this 'exponential growth bias'.

People tend to think along linear growth lines (1, 2, 3, 4) even when it doesn't describe the reality unfolding before us. Exponential increases mean the numbers may double every few days.

Italy was the first European country to go into regional lockdowns, culminating on March 8 with confinement of 16 million people in the north. But it took a while for people to respect the rules, with Italian police issuing more than 175,000 fines for breaking quarantine.

On March 10, the entire country was locked down. On March 24, the maximum penalty for Italians caught leaving their home for no good reason was lifted to €3000 (around \$5500), up from €206 (\$375).

Social restrictions and quarantines have been introduced gradually in most countries over several days and weeks, which means tracking exactly when lockdowns began is not possible. But the lag between when widely applied lockdowns begin and daily new infections and deaths decline is roughly a month.

The three-to-four week lag correlates with China's lockdown of Hubei province, the birthplace of the virus, on January 23.

China was overwhelmed for more than a month, but extreme lockdowns – including a ban on all transport into and out of Wuhan with no exceptions for personal or medical emergencies – ‘flattened the curve’.

China has started lifting restrictions, with people allowed to leave Wuhan for the first time on Wednesday.

The first case detected in Canada came on the same day as Australia’s first, January 25. Some Canadian provinces began restrictions – such as closing bars – before Australia acted and up until late March, Canada had fewer coronavirus cases. But Canadian Prime Minister Justin Trudeau resisted putting the country into a nationwide lockdown like the UK did on March 23 and Australia did a week later.

Canada closed its border with the world's largest infected population in the USA on March 21, but travel for work and to transport goods has continued.

The United States, where infections are now more than twice the number seen anywhere else in the world, has no nationwide lockdown.

Some cities, counties and states – including California and New York state – have put restrictions on citizens since mid-March, but the virus has spread widely.

[President Donald Trump expressed outrage](#) on March 24, refusing to "close the country", saying he “would love to have the country opened up, and just raring to go, by Easter”.

But Mr Trump has changed his stance recently, warning Americans on Sunday to prepare for the "toughest week" of the coronavirus pandemic.

Most Americans are now living under stay-at-home orders or other forms of lockdown imposed by state governments.

Politicians in Italy, the UK, Sweden and America all mistakenly believed they could let COVID-19 sweep through the community, withstand a few weeks of hospitals being overloaded and then cases would fall due to herd immunity, Flinders University Professor of Medicine Nikolai Petrovsky said.

"Too many commentators made incorrect comparisons between COVID-19 and influenza," Professor Petrovsky said. "The whole concept of easily achieving herd immunity was always completely spurious and would mean accepting over 60 million deaths globally and 250,000 deaths just in Australia.

"If we controlled the rate to 10,000 infections per day in Australia, it would take 5.7 years (to develop herd immunity)."

The United Kingdom is about two weeks behind when Italy hit 100 cases.

In places where stringent precautions and high rates of testing have been implemented, such as in Taiwan and South Korea, the epidemic curves have been relatively flat.