

# COVID-19 Country Response Analysis – April No. 1

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## Global Situation

**2,019,320 cases (as of 10 am AEST)<sup>1</sup>**

**119,560 deaths**

## Trends

**The global number of new daily reported infections has declined from 94,629 on 10 April to 72,523 on 12 April; however, this may reflect lower testing rates over Easter in Europe and the Americas<sup>2</sup>.**

**Europe:** The number of new daily reported infections have declined steadily since early April in many countries, including Italy, Spain, France and Germany<sup>3</sup>. However, the number of new daily reported infections continues to rise in the UK, Belgium, Netherlands, Russia and Turkey. Austria, the Czech Republic, Denmark and Norway have all announced plans to slowly relax national lockdowns later this month<sup>4</sup>. Luxembourg has one of the highest attack rates in the world (52.4 per 10,000 compared with 25.7 per 10,000 in Italy), which may reflect widespread testing.

**The Americas:** The number of new daily reported infections continues to steadily increase in the U.S., Canada, Brazil, Ecuador and Peru<sup>5</sup>. The number of new infections and hospitalisations in New York State have stabilised while the daily number of deaths remains very high.

**South East Asia:** There was a 9% increase in new daily cases in India on 13 April with smaller increases in Thailand and Indonesia. However, while Indonesia has reported 4,241 cases, it has so far only tested around 27,000 people out of its 270 million population, according to the data from Ministry of Health<sup>6</sup>.

**Western Pacific Region:** Japan and Singapore continue to report high daily new infections, representing a “second wave” in these countries. The daily increase in infections has stabilised in Malaysia and The Philippines. China has reported the highest number of new daily coronavirus cases (108) in nearly six weeks, driven by a rise in infected travellers arriving from overseas.

**Pacific Region:** Most reported cases have been in US and French territories (Guam, French Polynesia and New Caledonia). Fiji has reported 16 cases and PNG two cases.

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<sup>1</sup> Source: [www.coronavirus.jhu.edu](http://www.coronavirus.jhu.edu) 14 April 2020

<sup>2</sup> Source: [www.worldometers.info/coronavirus](http://www.worldometers.info/coronavirus) 14 April 2020

<sup>3</sup> Source: [www.coronavirus.jhu.edu](http://www.coronavirus.jhu.edu) 14 April 2020

<sup>4</sup> <https://edition.cnn.com/2020/04/11/health/european-countries-reopening-coronavirus-intl/index.html>

<sup>5</sup> WHO coronavirus sitrep 13 April 2020. [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200413-sitrep-84-covid-19.pdf?sfvrsn=44f511ab\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200413-sitrep-84-covid-19.pdf?sfvrsn=44f511ab_2)

<sup>6</sup> <https://www.bloomberg.com/news/articles/2020-04-13/indonesia-a-hidden-virus-hotspot-with-new-infections-surging>



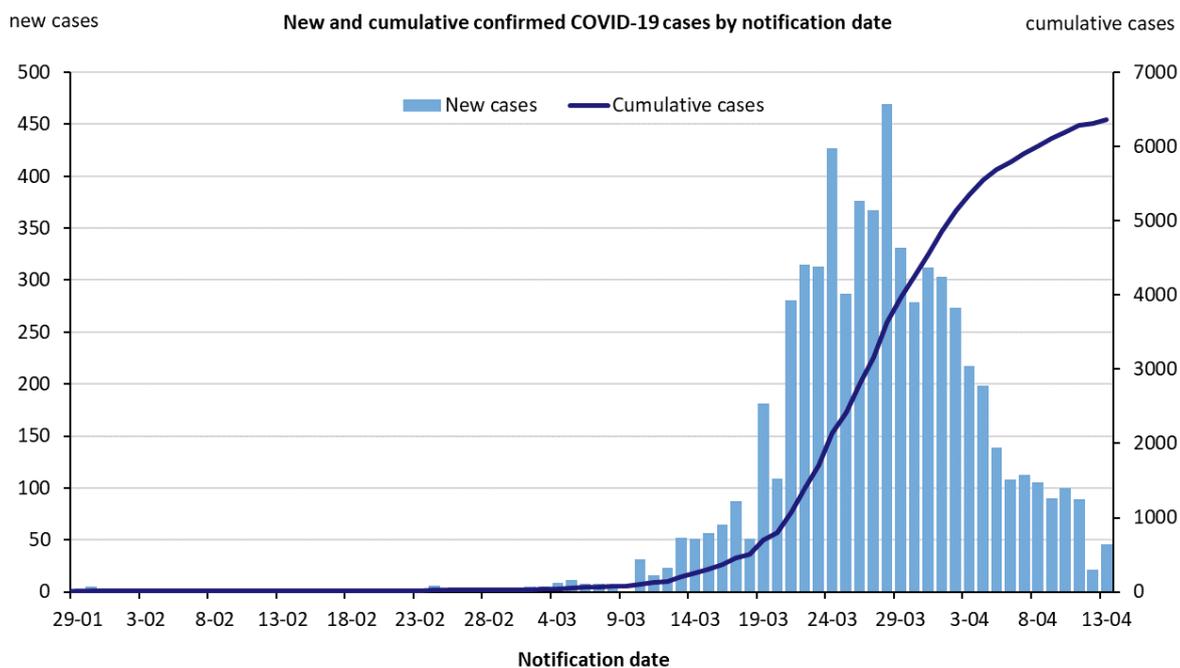
## Australia

**6,394 cases (as of 14 April at 11 am AEST)<sup>7</sup>**  
**61 deaths**

### Trends

The low number of new cases since 11 April may reflect a lower than usual number of tests conducted during Easter. Reported cases on 14 April (28) likely to reflect incomplete data.

The highest number of cumulative cases continues to be among females in their 20s.



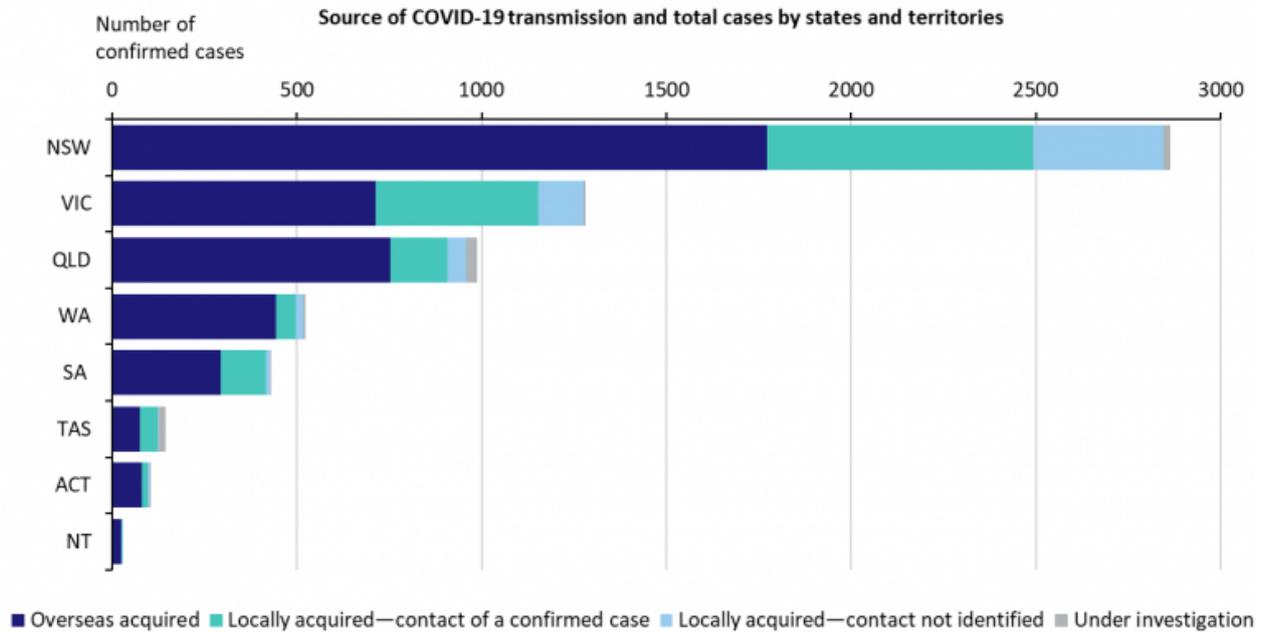
The majority of Australian confirmed cases acquired their infection overseas, including on board cruise ships or associated with recent travel to Europe or the Americas. However, there are a significant number of cases that were locally acquired, either from contact with a known case or an unknown contact. Thus, spatial distancing remains extremely important<sup>8</sup>.

This is illustrated by the cluster of coronavirus cases in northwest Tasmania. Despite the state having the strongest travel restrictions in the country, there has been a cluster of more than 60 new infections, including 43 health workers, in the area around Burnie. Most cases have been linked to the city's two hospitals and more than 5,000 hospital staff and their families are in quarantine.

Victoria has announced broader testing criteria to include all people with symptoms consistent with COVID-19, such as fever, cough and respiratory difficulties.

<sup>7</sup> [www.health.gov.au](http://www.health.gov.au) 14 April 2020

<sup>8</sup> [www.health.gov.au](http://www.health.gov.au) 14 April 2020



## Selected Issues related to COVID-19

### Highly variable case-fatality ratios

Countries throughout the world have reported very different case fatality ratios (CFR) – the number of deaths divided by the number of confirmed cases. Differences in mortality numbers can be caused by:

- Differences in the number of people tested (the denominator): With more testing, more people with milder cases are identified. This lowers the case-fatality ratio.
- Demographics (numerator): For example, mortality tends to be higher in older populations.
- Characteristics of the healthcare system: For example, mortality may rise as hospitals become overwhelmed and have fewer resources.
- Other factors, many of which remain unknown. Studies in China have indicated that comorbidities, such as hypertension, diabetes and heart disease increase the risk of mortality.

The global CFR (based on official data on cases and deaths) is 5.9% (compared with 3.4% reported in Hubei province in China):

- The highest CFRs have been recorded in Italy, the UK and Belgium, all greater than 12%. Sweden, which has not implemented strict distancing measures, has a relatively high CFR of 8.4%.
- The CFR in the US is 4%. The CFR in hard hit New York State is 5.2%. The CFR is lower in those states, such as Washington and California, which introduced spatial distancing early.
- Indonesia has the highest CFR (8.7%) in the Asia Pacific region; however, cases may be under-reported.
- Australia's low CFR is most likely due to the high proportion of cases in young people.

The following table provides CFR data from a sample of countries. Note that the Gulf countries United Arab Emirates and Qatar have among the lowest in the world, probably due to high quality health care facilities. Moreover, most cases have been among migrant workers that tend to be relatively young.

	Cases	Deaths	CFR (%)
Italy	159,516	20,465	12.8
UK	88,621	11,329	12.7
France	136,779	14,967	10.9
Spain	170,009	17,756	10.4
Indonesia	4,577	399	8.7
Sweden	10,948	919	8.4
Iran	73,303	4,585	6.3
Brazil	23,430	1,328	5.7
China	82,160	3,341	4.1
US	585,469	23,592	4.0
New York State	195,031	10,056	5.2
California	22,787	641	2.8
Germany	130,072	3,194	2.4
Turkey	61,049	1,296	2.1
South Korea	10,537	217	2.0
Australia	6,359	61	1.0
Qatar	3,231	7	0.2

### Prevalence of asymptomatic cases

The proportion of the asymptomatic population that is infected with the SARS-Cov-2 virus is an important public health indicator that would help guide policies on lifting distancing measures.

At this stage, there is not a lot of information globally about the proportion of infected people that are asymptomatic. This is largely due to strict testing criteria that focus on symptomatic cases and inadequate testing kits to conduct population prevalence surveys.

- For example, in New York State, 478,357 people have been tested of whom 195,031 have tested positive for the coronavirus<sup>9</sup>. This extremely high positivity rate of 41% indicates that testing has been skewed towards symptomatic individuals.

<sup>9</sup> <https://covidtracking.com/data> 14 April 2020

Based mainly on data from China, so far, pre-symptomatic is a much more common category than asymptomatic. About 75% of people who tested positive in provinces other than Hubei without showing symptoms turn out to be pre-symptomatic, displaying coughing, fatigue, fever and other signs of COVID-19 in a later follow-up examination<sup>10</sup>.

- A study in a nursing home in Washington State found that 56% of those who tested positive were asymptomatic (or pre-symptomatic) on the day of testing<sup>11</sup>.
- Wu Zunyou, China's chief epidemiologist, said asymptomatic cases accounted for 4.4 percent of the total confirmed patients. Source not yet confirmed.

Austria recently conducted a population study of SARS-CoV-2 virus prevalence<sup>12</sup>. The study found that 0.32% of the sample was infected. If this rate was extrapolated to the total population, the number of infected Austrians at the time of the study (4-5 April) would have been three times the number officially reported. However, the sample size of 1,544 resulted in a wide 95% confidence interval -- between 0.12% and 0.76%.

## Policy implications

1. There are strong signs that spatial distancing has led to declining daily rates of infection in many countries around the world, with some exceptions, such as the UK and US.
2. This trend is clear in Australia; however, the cluster of cases in northwest Tasmania is a stark reminder that the declining trend can easily be reversed if mitigation measures are not strictly adhered to.
3. The highly variable case-fatality ratios in different countries are difficult to interpret at this stage because the epidemics in different countries have been so different. It does appear that widespread early testing, case-finding and isolation have been associated with low CFRs in Germany, South Korea, Luxembourg, and Singapore.
4. High quality health care facilities in Saudi Arabia, Qatar and UAE have most likely led to very low CFRs in those countries.
5. Australia has an almost unique opportunity to prepare its health system for subsequent spikes in infection. This is not the time to relax distancing measures.
6. There is also an opportunity to conduct population prevalence studies in Australia. Both the US NIH and the University of Michigan are about to conduct such studies in the US. The NIH study will conduct antibody tests to assess past infections. The Austrian study shows the need for a higher sample size if the SARS-CoV-2 prevalence is expected to be lower than 0.5%.
7. Australia should carefully monitor the impact of the relaxation of mitigation measures in Norway, Czech Republic and Austria.

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<sup>10</sup> [https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-01apr2020-final.pdf?sfvrsn=573dc140\\_2](https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-01apr2020-final.pdf?sfvrsn=573dc140_2)

<sup>11</sup> MMWR 3 April 2020. April 2020. [https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e1.htm?s\\_cid=mm6913e1\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e1.htm?s_cid=mm6913e1_w)

<sup>12</sup> <https://www.bloomberg.com/news/articles/2020-04-10/austrian-study-shows-coronavirus-cases-more-than-3-times-higher>

