COVID-19: Country Journeys
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Country Journeys Summary

The report is based on a time-limited online scan and is being regularly updated. Updates for this week are in purple. The report develops and is updated week-on-week.

The report follows different countries on their journeys through the COVID-19 pandemic, looking at the measures put in place to manage the outbreak and the approaches taken to ease restrictions, and themes emerging across the countries.

On 31 Dec 2019, Wuhan Municipal Health Commission, China, reported a cluster of cases of pneumonia in Wuhan, Hubei Province to the WHO. The genetic sequence of the novel coronavirus was shared globally by China on 12 January 2020. The WHO conducted several fact-finding trips to China and convened an Emergency Committee on 22 January. On 11 March 2020, WHO made the assessment that “COVID-19 can be characterized as a pandemic”; at that point there were 118,000 cases reported globally in 114 countries.1

From 10 March, many regions across Europe and beyond announced lockdowns or measures that effectively amount to lockdowns, in response to the same trigger points that Wuhan experienced, which was that their healthcare systems, especially hospitals, were being overwhelmed. However, there was a high degree of variation in restrictions and how they are carried out in practice. These are also separate from and usually implemented alongside wider travel restrictions.

The word “lockdown” is not a single intervention and has different meanings in different countries. Its implementation may vary in extent, scale and duration. Based on the 1918 pandemic and the COVID-19 experiences in China and Italy, the term is commonly interpreted to include the following social distancing measures:

- Mandatory isolation of ill people and the quarantine of those suspected of having contact with them.
- Closure of schools, non-essential shops, entertainment establishments (though food and pharmacies remain open).
- Bans on public gatherings and large events.

Social distancing, physical distancing, or safe distancing are terms used to describe a set of measures wherein the community is discouraged or prevented from social interactions that may facilitate viral transmission, which intended to stop or slow down the spread of an infectious disease (eg COVID-19). This report uses the term "social distancing" throughout, as this is commonly used in media in Singapore and beyond.

Countries eased restrictions at different times, usually based on where they were on the epidemiological curve, experiencing sustained declines in new reported cases, hospitalisations and fatalities.

Common themes across the countries:

- Lengths of lockdowns and social isolation varies from country to country. Generally, countries that locked down early in their outbreak had shorter periods of enforcing social isolation. Countries (with the exception of Wuhan and Singapore) did not extended the restriction on small social gatherings past 66 days.
- It will take time to determine the impact of easing restrictions on the virus and day-to-day counts should be balanced against averages across days and trend lines. However, some countries that have gradually eased restrictions have sustained low levels of reported infections (Denmark, Switzerland, Germany, Austria). Reopening has been
cautious across most countries. Although some clusters of cases have emerged, at present the case numbers continue to remain low across many countries that have reopened.

There seems to be a difference in the longer-term strategic approach to the pandemic across parts of the world. Most countries coming out of lockdown are avoiding reimposing measures when cases and clusters emerge. However, some countries with clusters of cases reimpose lockdown of areas (eg Seoul in South Korea and areas of Beijing in China).

- “New normal” rather than a return to pre-COVID-19. However, the what this new normal means is highly variable in terms of restrictions from country to country.

- Most countries with lockdowns significantly lowered mobility levels in workplaces, transit stations and retail and recreation. As measures are eased mobility increases gradually, but takes a while to return to baseline levels.

- Measures are increasingly moving towards a more local level of granularity based on local risk levels (eg locking down specific areas or buildings with cases, allowing schools in areas of low case numbers to opt out of mask wearing), rather than full lockdowns.

Specific advice for those in more vulnerable groups is emerging (eg South Korea advises against seniors gathering in packed rooms without windows, saying if they do end up in such settings, they mustn’t eat or sing, and must wear a face mask and use hand sanitizer).

- Need to continually seek to identify areas of vulnerability, such as populations that may not seek healthcare, unseen populations, those fearful of testing and the consequences or those who are marginalised (eg people in nursing homes, migrant workers, homeless, LGBT communities, sex workers, and so on). In addition, continually reviewing and identifying high-risk environments for transmission.

- Lockdown is a political and social issue of contention - some countries have experienced protests against the lockdowns; equally there is a large cohort in the same countries that want restrictions to remain in place longer. Since early June, after nearly 3 months of restrictions and increasing mental health, economic and education impacts, there have been increasing tensions and protests across multiple countries. There have also been large-scale Black Lives Matter protests after the death of George Floyd, a 46-year-old black man who died in Minneapolis after a white police officer pressed his knee to Floyd's neck for almost nine minutes while Floyd was handcuffed face down in the street.

By the end of June, as countries reopen and travel between countries gradually resumes, there has been increasing commentary suggesting increases in cases and clusters could result in widespread outbreaks.

There is a complexity of detail from country to country and across measures. However, there are some common themes within categories:

- **Borders.** Some countries are forming travel arrangements with near neighbours and some are requiring regular testing for commuters across borders. Some air travel restarted for essential business. Air travel arrangements between individual countries, or groups of countries, are being discussed.

- **Tracking, tracing, testing.** High levels of testing – as capacity increases then moving to targeted groups (eg transport and border staff, health workers, groups in high-density shared accommodation) and pooled testing when low levels of infection are suggested.
Most countries are adopting technologies to support tracking and tracing, although businesses also supplement this with contact tracing forms. Discussion ongoing on use of antibody testing.

- **Isolation.** Isolation of potential cases, either in centres or at home (often with supporting technology). In addition, some countries put in place two-week isolation for people joining high-density groups (eg workers dorms, prisons, nursing homes).

- **Masks.** Usually recommended for public places, transport, indoors, crowds and around high-risk individuals. Rarely recommended when outside socially distanced from others not of the same household (guidelines vary from 1m, 1.5m to 2m). There are health and safety concerns regarding mask wearing when undertaking exercise. In China, schools in areas of low cases can opt out of wearing masks. Some countries only advise mask wearing if unwell.

- **Public places and gatherings.** Outdoor areas often in first phase of reopening (beaches, hiking trails and so on). Regular (twice daily) ventilation of indoor spaces is suggested by several countries.

- **Transport.** Often first to reopen, usually with guidance on mask wearing, social distancing and hygiene.

- **Places of worship.** Very few places have reopened places of worship for services, some are open for reflection and pray. Those that do open, usually follow social distancing guidelines, have mask wearing and do not permit singing. There have been clusters of cases emerge from the return to worship.

- **Business.** Electronic payment consistently required. Businesses required to follow safe distancing, mask wearing and hygiene measures. Opening café and restaurants for outside sit-down service is a common approach to early lifting of restrictions in the service sector. Opening of bars and nightclubs is viewed as higher risk and one of the last restrictions to be lifted. There have been clusters in countries that reopened clubs.

There are high-risk industries common across countries, such as meat processing / packing, distribution centres, call centres (this may be due to susceptibility of the environment and ability to effectively social distance or due to them being essential services and open).

- **Education.** More countries are seeking to reopen schools, adopting different models with the goal of preventing or reducing infections. There have been clusters of cases linked to schools after reopening.
## Countries - Summary Table of Easing Measures

The following table is a high-level summary of the countries in the report. It should be noted that where there is reopening it is predominantly with restrictions (although these restrictions are not summarised in the table). The table should be read alongside the narrative country journeys and comes with a caveat that each country’s situation can change day-by-day and much detail underpins the simplification in the table below. The table was last updated on the 12 June 2020. For larger countries with internal jurisdictions the broad approach is summarised.

<table>
<thead>
<tr>
<th>Country</th>
<th>Tracking and tracing</th>
<th>Testing</th>
<th>Isolation</th>
<th>Masks and social distancing</th>
<th>Public places and gatherings</th>
<th>Education</th>
<th>Places of worship</th>
<th>Offices</th>
<th>F&amp;B</th>
<th>Bars and clubs</th>
<th>Manufacturing and construction</th>
<th>Borders and international travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>App and contact tracing system, Wearable device to be rolled-out</td>
<td>Testing of suspected cases and priority groups, Some testing of case contacts</td>
<td>Quarantine of cases and of travellers in facilities and allow home-quarantine for 14 days from selected countries</td>
<td>Compulsory in all public places and all outside spaces for anyone aged 2 and over</td>
<td>Groups of 5</td>
<td>Preschools and specific years</td>
<td>All return on 29 June</td>
<td>Reopened with restrictions</td>
<td>WFH if possible, Split-team working, Some have Apps to monitor health</td>
<td>Reopened for groups of 5</td>
<td>Closed</td>
<td>Phased reopening Some have Apps to monitor health</td>
</tr>
<tr>
<td>China</td>
<td>QR health codes and contact tracing</td>
<td>Mass testing populations with cases</td>
<td>Lockdown of areas with cases, Quarantine of travellers</td>
<td>Compulsory in public places</td>
<td>Reopened</td>
<td>Reopening, Mask-wearing optional in low risk areas</td>
<td>Online</td>
<td>Reopened</td>
<td>Close if cases emerge, Take away only</td>
<td>Close if cases emerge, Night markets open</td>
<td>Reopened</td>
<td>Green lanes</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>App and contact tracing system, Testing suspected cases and travellers</td>
<td>Home quarantine with tech monitoring, Community isolation facilities</td>
<td>Compulsory in public places</td>
<td>Reopening, Ban on gatherings of more than 50</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened Night markets open</td>
<td>Reopened</td>
<td>Airport reopening with testing of travellers into city, Cross-border talks for exemptions from quarantine with China</td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>App and contact tracing system, Testing suspected cases, contacts and travellers</td>
<td>Quarantine of cases and of travellers in facilities</td>
<td>In public places</td>
<td>Reopening, Up to 30 people can gather</td>
<td>Reopened</td>
<td>Reopened, up to 30 can gather</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Closed (localities set to determine opening)</td>
<td>Reopened</td>
<td>Domestic flights. Plans to reopen to low risk countries</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>App and contact tracing system, Testing of cases and contacts</td>
<td>Lockdown of areas of cases Home-quarantine with tech to monitor</td>
<td>In public places</td>
<td>Reopened</td>
<td>Reopening and closures linked to specific cases</td>
<td>Reopened</td>
<td>Open</td>
<td>Open</td>
<td>Open and then closed, Night markets likely open (advised closures in Seoul)</td>
<td>Open</td>
<td>Reopening for selected routes.</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Tracking and tracing</td>
<td>Testing</td>
<td>Isolation</td>
<td>Masks and social distancing</td>
<td>Public places and gatherings</td>
<td>Education</td>
<td>Places of worship</td>
<td>Offices</td>
<td>F&amp;B</td>
<td>Bars and clubs</td>
<td>Manufacturing and construction</td>
<td>Borders and international travel</td>
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</tr>
<tr>
<td>Japan</td>
<td>Cluster approach App</td>
<td>Suspected cases</td>
<td>Self-isolation with symptoms and after travel</td>
<td>Masks wearing and social distancing</td>
<td>Reopening</td>
<td>Reopening</td>
<td>Reopening</td>
<td>Some moved online or to small groups</td>
<td>Some stayed open, WFH encouraged. Reopening</td>
<td>Some stayed open or are now reopened</td>
<td>Some stayed open or are now reopened</td>
<td>Closed</td>
</tr>
<tr>
<td>New York, USA</td>
<td>Contract tracing system</td>
<td>Testing for suspected cases</td>
<td>Self-isolation with symptoms</td>
<td>Compulsory on public transport and required in workplaces</td>
<td>Reopening</td>
<td>Reopening</td>
<td>Reopening in Sept</td>
<td>Reopening up to 10 can gather</td>
<td>Reopening</td>
<td>Take away only</td>
<td>Closed</td>
<td>Reopening</td>
</tr>
<tr>
<td>New Zealand</td>
<td>App and contact tracing system</td>
<td>Testing of suspected cases</td>
<td>Self-isolation with symptoms and quarantine of returning travellers</td>
<td>Healthy people in the community are not required to wear a face mask</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened WFH if possible</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Considering reopening to low-risk countries</td>
</tr>
<tr>
<td>Australia</td>
<td>App and contact tracing system</td>
<td>Testing of suspected cases</td>
<td>Self-isolation with symptoms and returning travellers</td>
<td>Masks for those who are unwell or suspected cases</td>
<td>Reopened</td>
<td>Reopening</td>
<td>Reopening</td>
<td>Reopening and close if cases / clusters</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Regional travel allowed. Considering travel to low-risk countries</td>
</tr>
<tr>
<td>Italy</td>
<td>App and contact tracing system</td>
<td>Testing of suspected cases</td>
<td>Self-isolation with symptoms</td>
<td>Masks on public transport</td>
<td>Reopened</td>
<td>Reopening</td>
<td>Reopening in Sept</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>App and contact tracing system</td>
<td>Testing of cases and contacts</td>
<td>Quarantine of cases and contacts</td>
<td>Masks will no longer be mandatory inside public places from 1 July</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopening to selected countries</td>
</tr>
<tr>
<td>Germany</td>
<td>App and contact tracing system</td>
<td>Testing</td>
<td>Lockdown based on specific areas / where clusters are</td>
<td>On public transport, airports and in shops</td>
<td>Reopened</td>
<td>Reopening</td>
<td>Reopening</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopening to selected countries</td>
</tr>
<tr>
<td>Switzerland</td>
<td>App and contact tracing system</td>
<td>Testing</td>
<td>Self-isolation with symptoms</td>
<td>Recommended mask wearing when social distancing not possible</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopening to selected countries</td>
</tr>
<tr>
<td>Denmark</td>
<td>App and contact tracing system</td>
<td>Testing</td>
<td>Self-isolation with symptoms</td>
<td>Mask wearing not advised Social distancing</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopening to selected countries</td>
</tr>
<tr>
<td></td>
<td>Tracking and tracing</td>
<td>Testing</td>
<td>Isolation</td>
<td>Masks and social distancing</td>
<td>Public places and gatherings</td>
<td>Education</td>
<td>Places of worship</td>
<td>Offices</td>
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<td>Bars and clubs</td>
<td>Manufacturing and construction</td>
<td>Borders and international travel</td>
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<tr>
<td><strong>Austria</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>App</td>
<td>Testing</td>
<td>Self-isolation with symptoms</td>
<td>Mask wearing in public places and social distancing</td>
<td>Reopened</td>
<td>Phased reopening</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopened</td>
<td>Reopening to selected countries</td>
</tr>
<tr>
<td><strong>Sweden</strong></td>
<td>Symptom tracker app</td>
<td></td>
<td>Self-isolation with symptoms</td>
<td>Mask wearing not advised</td>
<td>Gatherings of more than 50 not permitted</td>
<td>Stayed open</td>
<td>Online</td>
<td>Stayed open, encouraged WFH</td>
<td>Stayed open with restrictions</td>
<td>Bars and clubs stayed open with restrictions</td>
<td>Stayed open with restrictions</td>
<td>Neighbouring countries have not reopened to Sweden as yet</td>
</tr>
</tbody>
</table>
Countries - Summary Table of Length of Time in Social Isolation

The following table is a high-level summary of the length of time that social isolation was imposed in countries in the report. Defined as the restriction of gatherings of friends and family in social situations.

The table should be read alongside the narrative country journeys and impacts of lockdowns. The table was last updated on 12 June 2020 from online information; if there are inaccurate statements please do contact the team to correct.

From the selection of countries followed in Country Journeys, Singapore continues to restrict the gathering of friends and family (66 days as at 12 June – only limited visits of parents or grandparents were allowed from June 2 after 56 days), Wuhan maintained measures for 76 days.

New York, Italy, Germany, Czech Republic, Australia, New Zealand and Vietnam all allowed small gatherings by 66 days of lockdown (some far sooner, generally ones that went into lockdown earlier). South Korea, Japan, Hong Kong, Switzerland, Denmark and Sweden permitted small gatherings throughout the period.

<table>
<thead>
<tr>
<th>Country</th>
<th>Lockdown Start date</th>
<th>Days after lockdown social isolation eased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>7 April</td>
<td>53 days - Limited visits of parents or grandparents allowed; 73 days - 5 could meet</td>
</tr>
<tr>
<td>China, Wuhan</td>
<td>23 January</td>
<td>76 days - This is when Wuhan reopened, so assumed social interactions</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Avoided full lockdown</td>
<td>4 could meet throughout and raised to 8 people in May</td>
</tr>
<tr>
<td>Vietnam</td>
<td>1 April – 22 April</td>
<td>22 days</td>
</tr>
<tr>
<td>South Korea</td>
<td>Avoided full lockdown Localised lockdowns</td>
<td>0 days</td>
</tr>
<tr>
<td>Japan</td>
<td>Avoided full lockdown</td>
<td>0 days</td>
</tr>
<tr>
<td>New York, USA</td>
<td>22 March</td>
<td>60 days - From 21 May up to 10 could meet</td>
</tr>
<tr>
<td>New Zealand</td>
<td>26 March</td>
<td>32 days – Bubbles allowed to meet; 48 days – 10 could meet; 64 days – 100 could meet; 75 days – unlimited</td>
</tr>
<tr>
<td>Australia</td>
<td>23 March</td>
<td>53 days – States vary, most allowed small gatherings at this point and expanded as time went on</td>
</tr>
<tr>
<td>Italy</td>
<td>10 March</td>
<td>66 days – approx. when small gatherings allowed</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>12 March</td>
<td>66 days – approx. when small gatherings allowed</td>
</tr>
<tr>
<td>Germany</td>
<td>14 March</td>
<td>64 days – Different households could meet then expanded further</td>
</tr>
<tr>
<td>Switzerland</td>
<td>21 March - Gatherings up to 5 allowed throughout with social distancing</td>
<td>70 days – Groups allowed to meet expanded from 5 to 30</td>
</tr>
<tr>
<td>Denmark</td>
<td>13 March - Gatherings up to 10 allowed throughout with social distancing</td>
<td>87 days – Groups allowed to meet expanded from 10 to 50</td>
</tr>
<tr>
<td>Austria</td>
<td>11 March</td>
<td>51 days – Groups of 10 allowed to meet</td>
</tr>
<tr>
<td>Sweden</td>
<td>Avoided full lockdown</td>
<td>0 days</td>
</tr>
</tbody>
</table>
Demographics

The following section is to be developed further, but demographics are likely to have an impact on the effect of the pandemic on individual countries.

The impact of underlying country demographics on COVID-19 has yet to be fully determined; age is a strong risk factor for severe illness, complications, and death. Fatality is found to be higher for patients with comorbidities (cardiovascular disease, diabetes, chronic respiratory disease, hypertension, chronic kidney disease and cancer). Being overweight and obese is a major risk factor for chronic diseases.

The initial information is based on a quick search of data available that covers all of the countries in the report. From the group of countries in our report, Japan has the oldest population although one of the least obese. Vietnam and South Korea have a lower proportion of older people and some of the lowest levels of obesity. The US has most obese population and one of the oldest.

<table>
<thead>
<tr>
<th>Country</th>
<th>Obesity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>6.1%</td>
</tr>
<tr>
<td>China</td>
<td>6.2%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>N/A</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2.1%</td>
</tr>
<tr>
<td>South Korea</td>
<td>4.7%</td>
</tr>
<tr>
<td>Japan</td>
<td>4.3%</td>
</tr>
<tr>
<td>USA</td>
<td>36.2%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>30.8%</td>
</tr>
</tbody>
</table>

Source: Our World in Data.
The age dependency ratio is the sum of the young population (under age 15) and elderly population (age 65 and over) relative to the working-age population (ages 15 to 64). Data are shown as the number of dependents per 100 working-age population. The more dependents in the population the higher the %.

<table>
<thead>
<tr>
<th>Country</th>
<th>Dependency Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>38.7%</td>
</tr>
<tr>
<td>China</td>
<td>39.5%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>N/A</td>
</tr>
<tr>
<td>Vietnam</td>
<td>43%</td>
</tr>
<tr>
<td>South Korea</td>
<td>37.7%</td>
</tr>
<tr>
<td>Japan</td>
<td>66.5%</td>
</tr>
<tr>
<td>USA</td>
<td>52%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>54%</td>
</tr>
<tr>
<td>Australia</td>
<td>53%</td>
</tr>
<tr>
<td>Italy</td>
<td>58%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>52%</td>
</tr>
<tr>
<td>Germany</td>
<td>53%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>50%</td>
</tr>
<tr>
<td>Denmark</td>
<td>57%</td>
</tr>
<tr>
<td>Austria</td>
<td>50%</td>
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<tr>
<td>Sweden</td>
<td>60%</td>
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Wider Impacts

Fundamentally COVID-19 is a health issue, but as more is understood around true infection rates (through serological testing), case fatality rates, and potential effective treatments then more and more countries are likely to consider the balance of impact of COVID-19 epidemics vs economic realities and wider impacts.

Economics

In terms of economic impact, some comment is provided within country journeys. Globally the lockdowns, travel restrictions, and social distancing measures are likely to result in a dramatic fall in spending (both consumer and business) leading to a recession. UN Conference on Trade and Development forecasts a recession in some countries and that global annual growth will be depressed to below 2.5%, the recessionary threshold for the world economy.6

![Global GDP Growth, 1995-2020](image)

Source: UN7

In April, the World Economic Outlook projects global growth in 2020 to fall to -3 percent. This would make the pandemic lockdown the worst recession since the Great Depression, and far worse than the Global Financial Crisis of 2008/9. The cumulative loss to global GDP over 2020 and 2021 from the pandemic was estimated by the IMF to be 9 trillion dollars.8

Measures taken to control the spread of the virus, such as lockdowns and travel restrictions, have led to supply chain disruptions and a sharp decline in travellers.

Small businesses are especially susceptible to the negative economic effects of a pandemic. US estimates suggest that 25-40% of small businesses never reopen following a major disaster.9,10

Countries have put in place economic support packages to try to mitigate some of the impacts of the pandemic, with many announcing additional support packages as time goes on.
**Mental Health**

The country journeys comment on information on the impact of the pandemic on mental health. Overall, the pandemic has led to feelings of fear and anxiety: fear of falling ill, fear of health facilities and becoming infected there, fear of being separated from family and friends in quarantine, fear of job losses and financial hardship, to name but a few.\(^\text{11}\)

Up to a third of people may have symptoms of anxiety and depression as a result of the pandemic, with many having difficulty sleeping.\(^\text{12}\)

The age of social media and rolling news coverage can lead to intense feelings of anxiety as well as the spread of false information that can increase stress.\(^\text{13}\) People spending more than three hours focusing on COVID-19 a day are at higher risk of generalised anxiety.\(^\text{14}\)

Studies also highlight the increase in post-traumatic stress related to the COVID-19 pandemic, both in the general population and more so in high-risk groups like those placed in quarantines and health workers.\(^\text{15,16}\)

The pandemic has also led to an economic crisis within countries and globally, resulting in job losses, businesses closing and uncertainty going forward. Job losses and financial hardship disproportionately affect lower income and younger groups and can cause anxiety, depression and suicide.\(^\text{17,18}\)

The pandemic has also led to lockdowns and social isolation and loneliness, which can increase the risks of premature mortality, and the magnitude of the risk exceeds that of many leading health indicators (eg obesity, substance abuse, physical inactivity and so on). Age was found to be a factor with adults under 65 being more negatively affected.\(^\text{19}\)

Social isolation is more strongly associated with poor health conditions and behaviours in younger adults compared to older age groups.\(^\text{20,21}\) However, each country context is different; within Singapore there is concern that older adults that live alone and are unable to connect in the online space may be confused over rules and increasingly vulnerable to feeling displaced and lonely.\(^\text{22}\)

Recognising the substantial impact of the pandemic on mental health, in March 2020, the UN published an “Interim Briefing Note Addressing Mental Health and Psychosocial Aspects of COVID-19 Outbreak”.\(^\text{23}\) WHO has also published a short report on mental health and psychosocial considerations during the COVID-19 pandemic.\(^\text{24}\)

In May, a Lancet Editorial identified the lack of focus on those with severe mental illness who would usually receive community support, or on the problems faced on inpatient mental health units.\(^\text{25}\)

**Families**

The risk of increased domestic violence with lockdowns has become a global concern; in April 2020 UN chief Antonio Guterres called on governments to include protections for women and girls as a key part of COVID-19 countermeasures, stating that “for many women and girls, the threat looms largest where they should be safest: in their own homes”.\(^\text{26}\)

Increased time spent together during lockdowns can put strains on the marital relationship. In China, the city of Xi’an, in central China, and DaZhou, in Sichuan province, both reported record-high numbers of divorce filings in early March, leading to long backlogs at government offices.\(^\text{27}\)
**Education**

Most governments around the world temporarily closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic. UNESCO states that school closures carry high social and economic costs for people across communities. Their impact however is particularly severe for the most vulnerable and marginalised children and their families. The resulting disruptions exacerbate already existing disparities within the education system but also in other aspects of their lives. For example, an additional 10 days of school can significantly increase test scores on knowledge by 1%. UNESCO outlines further impacts that include: interrupted learning, social isolation, challenges to exams and gaining qualifications, poor nutrition as many children rely on school meals, confusion and stress, economic costs as working parents are more likely to miss work to look after children, strain on health systems if health workers with children have to stay home to look after children.

**Health Care**

Many countries in the world postponed non-urgent healthcare services to expand capacity for COVID-19 patients. In addition, many patients are choosing not to attend healthcare facilities, possible through fear of becoming infected with COVID-19 or not wanting to burden healthcare. Delayed care can lead to the obvious direct health implications but also mental health impacts of stress and anxiety.

A modelling study from the University of Birmingham suggests that globally, over 28 million elective surgeries have been cancelled as a result of the COVID-19 pandemic (each extra week of disruption is associated with 2.4 million cancellations). Orthopaedic surgery is most commonly cancelled, but estimates suggest 38% of global cancer surgery has been postponed or cancelled. The backlog could take 45 weeks to clear.

Additional impacts on delays in screening and chronic disease management are outlined in individual country journeys.

**Public Opinion and Behaviour**

The following YouGov graphs present survey results from countries in the report (where available).
YouGov COVID-19 tracker: government handling

% of people in each country who think the government is handling the issue of coronavirus "very" or "somewhat" well.

YouGov COVID-19 tracker: perceived national improvement

% of people in each country who think the coronavirus situation is getting better in their country.

YouGov COVID-19 behaviour changes tracker: Wearing a face mask when in public places

% of people in each country who say they are Wearing a face mask when in public places.

YouGov (2020)
Individuated Country Journeys

Singapore

Background

Singapore is highly connected. Singapore’s Changi Airport is a key air hub, with more than 68.3 million passengers each year. Of the five million people who left Hubei before Chinese New Year, over 10,000 flew to Singapore. Some stayed while others went on to other destinations. It was no surprise when Singapore recorded its first case on January 23, a Chinese national from Wuhan.

Singapore’s first rise in cases was a result of travellers returning from areas with established community spread (Europe, US and ASEAN countries). From April 9, reported cases surged due to identification of infections in the high-density migrant worker dormitories. There was also increasing numbers of unlinked cases in the community.

As at 22 June, Singapore had reported 42,095 confirmed cases and 26 deaths directly attributable to COVID-19 and a further 11 tested positive for COVID-19 but were classified as deaths from other causes (eg death from a cerebral haemorrhage / coronary thrombosis).

The data released for the first quarter of 2020 found that excess deaths in Singapore was 5-9% higher in 2020 compared to the historical average of 5 years previously for the months of January to March. Further analysis is being undertaken.

Worldometer (2020)

COVID-19 by Press Release Date of cases.
Cases can be a facet of testing; hospitalisations can be used as an indicator to view outbreak level. Hospitalisations were above 1000 from April through to May 19, it took approx. another 10 days to dip below 500 cases in the hospital at May 29. As at June 21 cases in hospital had not yet fallen below 150.
Mobility
Through April and May mobility data remained 60%-70% lower than baseline for retail and recreation, transit stations and workplaces.44

Seroprevalence
Antibody testing of 1,100 of health workers conducted between February and early April 2020 found no antibodies. Studies from 774 blood samples taken as part of routine care found no antibodies as of the last two weeks of March 2020. Testing of a sample of 300 people who were close contacts of cases found 2.5% had antibodies.45

Lockdown Summary
On 23 Jan, Singapore held its first multi-ministry task force meeting to provide leadership to the response to the COVID-19 situation.46

Early measures included:
- Temperature and travel screening at border points, schools, workplaces, health facilities, tourist attractions, religious places and events.
- Identification of possible cases at public healthcare facilities and Public Health Preparedness Clinics.
- Identification of potential cases at entry points, including swab test checkpoints for suspected cases at Changi airport with a 3 to 6 hour result turnaround.
- Contact tracing of cases and their contacts, mobilising Ministry of Health staff, the police and other partners.
- Quarantine Orders and Stay-Home Notices to isolate suspected carriers or the close contacts (violation of a SHN resulted in one case in the removal of visa status and barred re-entry).
- Travel declarations at schools and workplaces.
- Daily updates from the Ministry of Health and advisories across all sectors.
- Daily messages to the public from a Government WhatsApp group and constant messaging on hand washing and what to do if unwell.
- Parallel messaging through non-tech platforms (eg cartoons, print-media, posters).
• Rebuttal of fake news (in one case invoking the Protection from Online Falsehoods and Manipulation Act).

• Funding of research and development related to COVID-19.

• From mid-Feb businesses were encouraged to consider split-shift working, put in place safe distancing measures and increased cleaning and support working from home where possible. These were subsequently converted into formal measures through Mar.

After rises in cases from travellers returning from other countries at the end of Mar and early Apr, there were additional measures put in place: a ban on tourists and short-term visitors; 14-day self-quarantine for returning residents; workplace measures; closing pubs and entertainment outlets; closing clubs for children; and enforcing social distancing in restaurants and shops. However, people were still free to go to shops and restaurants, and schools and transportation remain open.

The surge in cases in the migrant worker community alongside increasing unlinked community cases led to Singapore instigating a “circuit-breaker”. The April four week “circuit breaker” measures involved the closure of non-essential shops, workplaces and services, as well as the population staying home (only going out for food and exercising at parks at a safe distance). Private social gatherings of any size, in homes or public spaces, were not permitted - first-time offenders may face a fine of up to $10,000, jail of up to six months, or both. Subsequent offences carry a fine of up to $20,000, jail of up to 12 months, or both.

Quarantine measures, testing and healthcare support were also put in place around migrant worker dormitories, due to increasing cases.

Due to continuing cases in the migrant worker dormitory communities the “circuit breaker” measures were extended for another month through May and then at the end of May most of the measures were extended for a further month to the end of June.
Exit Strategy

On 19 May 2020 the Multi-Ministry Taskforce announced that Singapore will ease measures in a three-phased approach.

**S'pore's circuit breaker ends June 1**
Singapore will enter 3 phases - safe reopening, safe transition and safe nation.

**PHASE 1**
From June 2, will take at least 4 weeks

- **Some businesses** will reopen with measures in place.
- **Households** can have 2 visitors a day - must be children and/or grandchildren from the same household.
- **Pri 6, Sec 4 and 5 students** to attend school daily. Other students alternate between home-based learning and school.
- **Pre-schools** will reopen fully by June 10. Student care centres will also resume.
- Places of worship to reopen for private worship only.
- **Marriage solemnisations** can take place in-person, with 10 people attending.

**PHASE 2**
Over a few months

- **F&B dine-in** will be allowed. Retail outlets, gyms, fitness studios, tuition and enrichment centres will reopen.
- **All students** will return to school.
- **Sports, recreation and outdoor facilities** will reopen, with safe management practices.

**PHASE 3**
S'pore enters a 'new normal' until a vaccine is available

- **Social, cultural, religious** and **business** gatherings or events would have resumed, with limited crowd sizes.

Straits Times (2020)\(^53\)

On 15 June, phase 2 was announced. Summarised below.
S'pore starts phase 2 of reopening

Most activities can resume from June 19 when phase 2 of Singapore's Covid-19 reopening starts, with safe distancing rules in place:

What will be allowed

**DINE-IN**
- F&B dine-in can resume, but each table can sit only up to 5 people
- Safe distancing of at least 1m

**SOCIAL GATHERINGS**
- Gatherings of up to 5 people allowed
- Within the home, each household may receive up to 5 visitors

**RETAIL OUTLETS**
- Retail outlets can reopen. Malls and large outlets must prevent crowds or long queues

**SCHOOLS**
- Students to return to school daily from June 29

**SPORTS FACILITIES & WELLNESS**
- Sports, parks and other public facilities, such as gyms, to reopen. Same for facilities in condos and clubs
- Personal wellness services, such as spas, can resume

**HEALTHCARE**
- Services, including health screening and aesthetic procedures, can resume
- Visits allowed at nursing homes and elderly residential facilities

**HOME-BASED SERVICES**
- Tuition and enrichment lessons can resume, except for singing or voice training classes.

Straits Times (2020)
Tracking, tracing, testing

The TraceTogether App was launched on 20 Mar, to facilitate contact tracing after cases are reported. By 8 May, 25% of the population had downloaded the app (75% is needed for it to be effective). From 12 May, businesses that were allowed to open (hairdressers, grocery stores and food outlets for take-away only) had to put in place the government’s SafeEntry system. Customers either have their national ID scanned to enter and exit the premises or they register by scanning a business-specific QR code on their mobile phones and access. Temperature screening is also undertaken.

On 5 June, it was announced that a wearable device (‘token’) for contact tracing may be issued to everyone in Singapore due to technical difficulties that had prevented TraceTogether from working well on iPhones. The introduction of portable contact tracing led to an online petition over privacy; more than 37,000 people signed by June 7.

TraceTogether tokens issued at the end of June to those without phones are able to support the tracing technology. Older people will be prioritised for receipt of the tokens first.

COVID-19 tests ordered by the doctors at Singapore's polyclinics and clinics are fully subsidised by the government.

As part of easing some measures, Singapore announced that it was ramping up testing capacity towards the goal of 40,000 tests a day. The three purposes of testing were stated as (a) to find those who are positive, (b) to conduct surveillance to understand the overall transmission landscape, and (c) to look for those who are negative and to allow them to go back to work. Testing will also be prioritised for nursing homes, front-line medical workers in hospitals and migrant workers (as they work and live in larger groups). Serological testing will also be used to determine whether people have recovered from the infection.

As at 19 May, it was reported that over 281,000 tests on 191,000 unique individuals had been carried out since the start of the epidemic in Singapore (49,000 tests per million people). In June, testing of contacts of cases also occurred to identify some asymptomatic cases.

As at June, there were close to 200 swab and send home clinics (flugowhere.gov.sg) and four screening centres strategically located across the island. Testing capacity in June was at around 13,000 a day, still with the aim to get to 40,000 in the future.

Since the start of the outbreak, testing was prioritised for certain age groups and those with underlying conditions. In June, testing was still being prioritised for certain groups as well as people diagnosed with acute respiratory infection when they visit the doctor, with priority given to: seniors above 65 years old, healthcare workers, and increased to include (from June) educational institutions and students who are aged 13 and older.

From 22 June, testing criteria was expanded to include people aged 45 and over attending primary care with an acute respiratory infection. Close contacts of confirmed cases will also be tested.

On 22 June, Prof Leo Yee Sin, Executive Director of Singapore’s National Centre for Infectious Diseases reflected that initially they had assumed that COVID-19 was like SARS and would mainly infect people from symptomatic individuals. If she could turn back time, they would quickly advise the public to take extra caution earlier and to contact trace earlier.

She also outlined that communication technology is more advanced since the SARS outbreak, hence communicating with experts worldwide becomes easier and makes research and decision making much faster.
Isolation

As at 21 May, all Singapore Citizens, Permanent Residents and Long Term Pass holders entering Singapore are required to serve a 14-day self-isolation at dedicated Stay-Home Notice (SHN) facilities.67

By the end of Apr, there were 18,000 bed spaces for isolation and care needs, with another 23,000 planned.68

- Hospital isolation wards and dedicated COVID-19 intensive care facilities
- Community care isolation facilities for mild cases
- Community recovery facilities for people who remain well at the end of the 14th day after being diagnosed and who do not require further medical care
- Swab isolation facilities for people awaiting the result of a swab test, to prevent the potential spread of Covid-19 in the wider community
- Migrant worker dormitory isolation facilities for those who tested negative. The purpose is to stop the possible spread of other illnesses. They are isolated for five days.

Regional “bubbles” within Singapore are being considered to aid containment of future outbreaks.69

Masks

From April 14 it became mandatory for everyone to wear a mask when they step out as part of stricter measures to curb the further spread of the coronavirus, with $300 fines for those who do not wear a mask.70 The government has distributed reusable masks to the population twice. Masks are required when outside, on public transport, taxis, and private hire cars, walking to or at markets, at all workplace premises, public places and gatherings.71

In early June, both face mask and face shield were initially allowed after “circuit breaker”. This was later amended to only specific groups allowed to wear face shields in place of face masks (eg teachers, children below 12 years old of age).72

Prior to mask wearing being mandatory, just over 20% would wear a mask when in a public place, after April 14 this rose to 90%.73

Public places and gatherings

From 19 June (73 days after the “circuit breaker” was imposed), groups of 5 can meet.74

From June 19, parks, sports and other public facilities, including stadiums, swimming pools, golf courses, playgrounds, bowling centres and fitness studios, will also be able to reopen. This applies to similar facilities in private settings such as condominiums and clubs.75

On 23 June the general election was announced, to be held on July 10.
Singapore GE: Campaigning dos and don'ts

The Elections Department has issued preliminary campaigning guidelines for the next election should it take place during phase 2 of the Covid-19 reopening.

1. No physical rallies
   - Candidates can hold e-rally livestreams and other campaigning activities online
   - They can use, if they wish, venues provided by Govt for candidates to livestream to their declared platforms

2. More airtime on national TV for parties & candidates
   - Constituency political broadcast (New):
     - 3 mins per SMC candidate; 12 or 15 mins for GRCs
     - To be aired on MediaCorp Ch5
     - This is in addition to the 2 party political broadcasts on 19 TV/radio channels

3. Walkabouts & door-to-door campaigning
   - Allowed but no more than 5 people per group, no mixing between groups
   - Each group should remain at least 1m apart from other groups
   - Minimise physical contact, such as avoid shaking hands

4. No gathering of supporters
   - Supporters should not gather at nomination centres or at assembly centres on Polling Day
   - They can follow proceedings on TV/Internet

5. Perambulating vehicles
   - Allowed for campaigning, but candidates cannot speak/livestream/broadcast music or videos
   - No thank-you vehicular processions after Polling Day
   - Banners & posters allowed

Source: Straits Times (2020)76

Transport

Transport has continued throughout, with some reduction in service. Masks are required.
From 8 June, essential business travel between Singapore and China will be permitted under a “fast lane” agreement. Travellers on both sides will be exempt from rules that require everyone else to serve quarantine periods of up to 14 days. However, travellers must agree to be tested and bear the costs. If they are found to be infected they will be hospitalised and will have to pay for their own treatment.77

The strict border closure resulted in difficulties for pass holders returning to their homes in Singapore if they were outside of the country when the borders were closed.78 From June 17, residents and pass holders were allowed to self-quarantine for 14 days at their homes but only if returning from Australia, Brunei, Hong Kong, Japan, Macau, mainland China, New Zealand, South Korea, Taiwan and Vietnam (and had been in one of these countries for the last 14 consecutive days before their entry).79

From 22 June, transits from Hong Kong, Chongqing, Guangzhou, Shanghai, Osaka and Tokyo were added to an approved list that already includes cities in Australia and New Zealand. Transfer permitted only between SIA group flights and not with those of other airlines.80

Places of worship

From 2 Jun, places of worship reopened for private worship (individual prayer or up to 5 members of the same household). 5 households will be allowed in the religious site, subject to adequate safe distancing measures put in place.81

From 19 June, cemeteries will be open for visiting. Safety measures will still be emphasized like mass and group size. From 19 June, 20 people will be allowed to be present at weddings, cremations, burial services and wakes.82

From 26 June, Muslims were able to return to most mosques for prayers, but limited to 50 people per session. Mosques will provide two half-hour prayer sessions on Friday, with half an hour interval to ensure safe crowd management. Without booking, they will not be allowed into mosques. Each person will be allowed to book only one slot for Friday prayers every three weeks. Enhanced safe distancing management measures will also be in place. Seniors age 60 and above and children below 12 are strongly discouraged from attending. Religious talks and lecture will continue to be conducted online.83

Business

Prior to “circuit breaker” business continuity plans and safe distancing measures were enforced. Allowing businesses to return to workplaces comes with similar measures that were in place in Mar with the addition of mask wearing and SafeEntry tracking.

Migrant workers are required to download FWMOMCare mobile app, and record their temperatures twice daily, and state if they have a cough, sore throat, runny nose, or shortness of breath. If the worker reports any symptoms a doctor will be alerted and contact the worker within 30 minutes to provide a teleconsultation. Workers are also required to have TraceTogether app.84 SGDormBot (Chatbot) with artificial intelligence technology was implemented at six migrant worker dorms, to allow doctors to monitor migrant’s health in real time. The bot reminds residents to monitor their temperature, heart rate and oxygen level using their native language.85

From 19 June food and beverage outlets and retail reopened with social distancing measures, masks and limited to groups of 5. Live music and television and video screenings are not allowed in all food and beverage outlets, and they have to cease liquor sales and consumption at 10.30pm. Karaoke outlets, bars, nightclubs, cinemas, theatres as well as libraries, museums and other large cultural and entertainment venues remain closed. All
healthcare services reopened and visitors allowed to nursing homes. Home tuition services (e.g. music) allowed from 19 June.86

From 19 June (73 days after the “circuit breaker”) work from home was still the default where this is possible.

On the first weekend of retail reopening (June 20 and 21), Enterprise Singapore deployed more than 600 safe distancing ambassadors and enforcement officers at 95 shopping malls, covering more than 12,700 businesses.87

Education

See diagram above. Prior to reopening pre-schools, 16,000 staff were tested; this detected 8 cases.88 From June 2, year groups rotated in school and home-based learning.

From 29 June all school children can return to school.89

Issues

There have been unexpected challenges, common to other countries. Most evident would be the panic buying of masks, groceries and commodities when Singapore raised its alert levels (DORSCON). There has also been a rescheduling of some of the normal healthcare delivery, and the consequent health costs for the rest of the patient population is unknown.

The main concern has centred around the migrant worker community. Singapore has around 1,400,000 migrant workers, of whom some 284,000 construction workers are in high density accommodation such as dormitories (workers are mainly from India and Bangladesh).90 As at 25 May, 93% of cases were from the migrant worker community.91

There was an early case of a migrant worker with COVID-19 (case number 42), the 19 close contacts were isolated and tested, additional cleaning and temperature taking was also put in place. However, in hindsight, wider testing of the migrant worker communities may have identified the emerging outbreak in this community earlier.92

“The government was really focused on fighting COVID-19 on two battlefronts: community transmission and imported cases, but it overlooked the vulnerabilities of this third front that’s now glaringly obvious to everyone” Jeremy Lim, co-director of global health at the National University of Singapore’s Saw Swee Hock School of Public Health.93

Singapore, from the beginning of the COVID-19 case reporting, has presented cases in terms of different groups – “imported”, “cases residing in dormitories”, “work pass holder”, “work permit holders”, “Singaporean/permanent resident”.94 There has been comment around the segregation of the groups physically and in policy terms (particularly migrant workers in dormitories), promoting a sense of the “other”.95 National Development Minister Lawrence Wong reportedly stated that in Singapore there are “two separate infections,” only one was circulating “in our own community.”96

In response to the outbreak, Singapore is building new worker dormitories to new standards - single beds with 1m spacing between (compared to bunk-beds now), a bathroom to 5 workers (15 currently), 15 sickbay spaces for every 1000 workers (1 currently).97

Gavin Yamey, Associate Director for Policy at the Duke Global Health Institute stated that “If we forget marginalised communities, if we forget the poor, the homeless, the incarcerated… we are going to continue to see outbreaks. This will continue to fuel our epidemic.”98

Culture, Community and Youth Minister Grace Fu has stated that the pandemic situation has increased tensions between foreigners and locals, citing the incident of foreigners gathering outside on 16 May (images were widely circulated on social media) that led to a “visceral
reaction” from locals. Senior Minister of State Janil Puthucheary also noted that racial fault lines and xenophobia are likely to be exacerbated as the economic situation worsens.99

Penalties for non-compliance with the rules are enforced. Social distancing infringements carry an instant $300 fine, with the possibility of court if more egregious. For each charge of breaking COVID-19 regulations, there is the possibility of being jailed for up to six months, fined up to S$10,000, or both. Foreigners who violate safe distancing rules may have their work passes revoked.

- As of 21 Mar, 89 work passes had been revoked for breaching entry approval and Stay-Home Notice (SHN) requirements.100
- In April, 24 foreign workers had work passes revoked and were deported and permanently banned from working in Singapore after gathering outside.101
- There have been jail sentences and fines for those breaking Stay at Home orders.102
- On 3 June nine (mostly foreign) students were fined between S$2,500 and S$4,500 on Wednesday for gathering at an apartment.103
- On 16 May, six foreigners were charged with gathering outside on 16 May.104

Businesses have also been subject to enforcement of the rules. Businesses reopened on June 2 and in the first week 58 fines were issued for failure to comply with rules on safe management (have employees work from home when possible, safe distancing of at least one metre at workplaces and storefronts, and sector-specific requirements).105

Government leaks have also been prosecuted. Under the Official Secrets Act, an offence of wrongful communication of information carries a jail term of up to two years and a fine of up to S$2,000. As at June 15, four people have been arrested for three different leaks of information (sharing daily numbers before official release, sharing a media release regarding school closures before official release, and sharing dates of possible phased reopening).106

Public Opinion

In May, YouGov reported that 74% of Singaporeans felt that the government has handled COVID-19 well. 14% think the government has done very well and 60% think they have done fairly well. 17% think they have handled the issue fairly badly, and 6% think they have handled it very badly. The remaining 3% are undecided.107

The outbreak of COVID-19 infections in the migrant worker dormitories highlighted the high-density, crowded and poor living conditions of low-wage foreign workers. In a YouGov poll, 87% of Singaporeans agree that migrant worker living conditions need to be more strictly regulated – with 60% strongly agreeing and 27% slightly agreeing. 65% of Singaporeans felt that government is doing enough for migrant workers during the epidemic. Older Singaporeans (aged 55 and above) are much more likely to be satisfied with government measures than younger Singaporeans (aged 18 to 24) (69% vs. 53%). 21% are undecided, and the remaining 14% felt that the government is not doing enough.108
Economic Impact

The IMF forecasted that Singapore’s GDP will be minus 3.5% in 2020 and 3% in 2021.\textsuperscript{109} At the end of May Singapore’s Ministry of Trade and Industry forecast the Singapore economy will shrink by 7 to 4 per cent, worse than the 4 to 1 per cent decline predicted at the end of Mar.\textsuperscript{110,111} Job losses are forecast to be from 45,000 to 200,000 for 2020.\textsuperscript{112}

The government has announced multiple multi-billion-dollar economic packages to reduce the impact to businesses and households from the pandemic. Unity, Resilience, Solidarity, and Fortitude Budgets amount to close to SG$100 billion (around 20% GDP), much of which was drawn from national reserves.\textsuperscript{113}

By June 30, 95,000 employers to get $450 million in wage credit payouts - the Government will co-fund 20% of qualifying wage increases to more than 800,000 Singaporean employees up to $5,000 a month.\textsuperscript{114}

In June it was reported that the number of people working, excluding maids, fell by 25,600 in the three months to March 31 this year - the biggest quarterly contraction on record. This does not take into account those that have been under-employed during this time who have seen wages cut (eg taxi, food and beverage operators open for only take away).\textsuperscript{115}

Wider impacts

More families have sought counselling for marital conflicts and family violence during the “circuit breaker”.\textsuperscript{116} From April 7 to May 6, there were 476 police reports filed for offences associated with family violence, a 22% increase compared to the average.\textsuperscript{117}

Many hospital elective procedures and health screenings were postponed from Feb to free up capacity (eg aesthetic services, cataract surgery, joint replacement surgery), as was non-essential primary care and community nursing services. Some will restart from Jun.\textsuperscript{118}
Mental health support organisations have seen an increase in people seeking help. Surveys have also found that around a quarter were experiencing low moods and anxiety.\textsuperscript{119}
China

The following Country Journey provides a summary overview of China and then goes on to explore the journey of Wuhan, Suifenhe, Shanghai.

Background

In 2019 there was an emerging cluster of people with atypical pneumonia in Wuhan, Hubei Province.

On 30 Dec Dr Li Wenliang, 34, a doctor at a Wuhan hospital, privately messaged a group of doctors highlighting concern around a virus that seemed similar to SARS, this message was then shared more widely.\(^{120,121}\)

Returning back to 31 Dec 2019, Wuhan Municipal Health Commission reported the cluster of cases of pneumonia to the WHO. A novel coronavirus was eventually identified (it was not until 11 Feb that the virus was officially named by the WHO – the virus is severe acute respiratory syndrome coronavirus 2 “SARS-CoV-2” and causes the coronavirus disease “COVID-19”). On 1 Jan 2020, WHO set up an Incident Management Support Team, putting the organisation on an emergency footing to focus on dealing with the outbreak. On 4 Jan 2020, WHO reported on social media that there was a cluster of pneumonia cases in Wuhan.\(^{122}\)

On 10 Jan, the first death and 41 confirmed cases of the novel COVID-19 viral infections were reported in China.\(^{123}\)

On 11-12 Jan, China publicly shared the genetic sequence of COVID-19.\(^{124}\)

On 20-21 Jan, WHO experts from its China and Western Pacific regional offices visited Wuhan. 22 Jan, WHO issued a statement that there was evidence of human-to-human transmission, but that more investigation was needed to understand the full extent of transmission.\(^{125}\)

By 20 Feb, total of 75,465 confirmed cases had been reported in China, most in Hubei province.\(^{126}\)

During January and February, case reporting in China followed the pattern outlined in the graph, predictable rises and declines.

As at June 22, China had reported 83,378 cases and 4,634 deaths.
Worldometer (2020)

Categorisation of cases in China changed several times, some were diagnosed with CT scans early on, this changed to only laboratory confirmed cases being added to the case counts. Similarly, there were changes in classification around symptomatic and asymptomatic cases. Data transparency from China was identified as a concern by both academics and political leaders across the globe.

On 17 Apr, Wuhan increased its death count from COVID-19 by 50%, adding 1,290 fatalities. Stating that these were deaths that occurred outside of hospitals.

In Apr there were a surge in cases in Suifenhe, the city close to the Russia-China border due to travellers returning from Russia. As of 13 Apr, Suifenhe reported 322 imported cases, out of a total of 872 cases and 13 deaths. This led to containment measures being put in place.

In Jun, a cluster of cases emerged in Fengtai, Beijing, that had also spread to neighbouring areas. Feng Tai Qu was categorised as a high-risk area and nearby Xicheng Qu and other areas as medium-risk.
On 16 Jun Beijing restricted movement in 30 housing estates where cases had been found, ordered all schools in the area to close, entertainment outlets to close, people to work from home or stagger shifts and required that people leaving the city must be tested for the virus. Initial reports suggested cases were linked to food markets, eleven were shut and almost 300 others deep cleaned. On Jun 17, it was reported that cases from Beijing were linked to cases in other provinces (Zhejiang, Hebei, Sichuan, Liaoning).

China believes that the virus strain from Beijing is one from Europe or US. China initially raised concern that the virus may have come from contaminated frozen fish (salmon from Norway) and halted imports. WHO stated that the suggestion infections were caused by the importing or packaging of salmon was only a "hypothesis" that needs to be explored.

On 19 June the Chief Epidemiologist reported that Beijing has controlled the epidemic as the city has seen a decline in confirmed cases. Research and sampling have been conducted at the market, which showed that infected seafood vendors outnumbered vendors with positive results in beef, mutton and other sections. Those seafood vendors tend to show COVID-19 symptoms earlier than other workers. The seafood section was also found to be more contaminated by the virus.
June 19, Dongcheng district is requiring all graduating students in junior and senior high schools to get tested before they can take the entrance exams.142

June 19, Security inspection stations have been set up on the city's highway toll booths, giving departure permission only to travellers with recent negative test reports.143

On 22 June, China announced a nationwide campaign to inspect all fresh products coming from "high-risk countries". This came after closing a Pepsi plant and banning some chicken imports from the US, stating cases had been found linked to these localities.144

**Lockdown**

On 23 Jan 2020, a lockdown in Wuhan and other cities in Hubei province was announced. Wuhan was the first city put in lockdown in China, followed quickly by other cities and regions. During the full lockdown, all residents were not allowed to leave their homes. Daily amenities and food were delivered to the doorstep by district council members.145

From 28 Mar 2020, China closed its borders to non-Chinese citizens. China initially allowed nationals to return, this was mainly through the land border with Russia as flights were restricted. However, this resulted in an influx of COVID-19 cases at the borders and the hospital systems becoming reportedly overwhelmed. The land border to Russia was closed on 7 Apr.146

16-24 Feb there was a WHO-China Joint mission, which included experts from Canada, Germany, Japan, Nigeria, Republic of Korea, Russia, Singapore and the US. The Joint Mission report outlined the knowledge to date around the virus and also praised China’s response.147 The report drew four major conclusions:

1. “In the face of a previously unknown virus, China has rolled out perhaps the most ambitious, agile and aggressive disease containment effort in history. The strategy that underpinned this containment effort was initially a national approach that promoted universal temperature monitoring, masking, and hand washing. However, as the outbreak evolved, and knowledge was gained, a science and risk-based approach was taken to tailor implementation. Specific containment measures were adjusted to the provincial, county and even community context, the capacity of the setting, and the nature of novel coronavirus transmission there.”

2. “Achieving China’s exceptional coverage with and adherence to these containment measures has only been possible due to the deep commitment of the Chinese people to collective action in the face of this common threat. At a community level this is reflected in the remarkable solidarity of provinces and cities in support of the most vulnerable populations and communities. Despite ongoing outbreaks in their own areas, Governors and Mayors have continued to send thousands of health care workers and tons of vital PPE supplies into Hubei province and Wuhan city.”

3. “China’s bold approach to contain the rapid spread of this new respiratory pathogen has changed the course of a rapidly escalating and deadly epidemic. A particularly compelling statistic is that on the first day of the advance team’s work there were 2478 newly confirmed cases of COVID-19 reported in China. Two weeks later, on the final day of this Mission, China reported 409 newly confirmed cases. This decline in COVID-19 cases across China is real.”

4. “China is already, and rightfully, working to bolster its economy, reopen its schools and return to a more normal semblance of its society, even as it works to contain the remaining chains of COVID-19 transmission. Appropriately, a science-based, risk informed and phased approach is being taken, with a clear recognition and readiness of
the need to immediately react to any new COVID-19 cases or clusters as key elements of the containment strategy are lifted.

In China, the lockdown of Wuhan was the most extreme in terms of scale and scope. China later went on to shut down parts of other cities in a more tailored approach as cases emerged (eg in Beijing in June).

**Exit Strategy**

The mantra, “resuming work, resuming production”, overarched the reopening approach. However, there are micro-policies in areas of China and also an individual's own restrictions are based on their individual risk.\(^{148}\)

**Tracking, tracing, testing and isolation**

The Alipay Health Code is a health monitoring and QR colour code system that generates individualised QR codes in three colour codes of green, yellow or red. The codes are refreshed daily based on an individual’s current location, travel history, basic health information, and the individual ticking a box to indicate if they have been in contact with an outpatient or anyone hospitalised in the last 14 days.\(^{149,150}\) QR colour codes are refreshed daily.\(^{151}\) Residents who want to go outside, to use public transport or to enter public spaces have to download a QR code or get a special pass to prove they are healthy (green code).\(^{152}\) People may lose their green code if they went somewhere that a confirmed case had also visited and then face controls on their movement.\(^{153}\)

China’s National Health Commission launched a WeChat mini program for citizens to see the infection risk level of an area. The program also allows users to check if they used the same public transport as the confirmed cases during the last two weeks. Like the QR code system, “green” are low-risk areas, “yellow” are medium-risk areas, and “red” are high-risk areas. Risk levels are assessed based on the number of new cases. This system affects the colour code given to individuals.\(^{154}\)

- **Low-risk areas** – areas with no confirmed cases or no new confirmed cases for 14 consecutive days.

- **Medium-risk areas** – those with new confirmed cases within 14 days, but the total new cases are no more than 50; or with cumulatively more than 50 confirmed cases, but no cluster epidemic within 14 days.

- **High-risk areas** – those where the cumulative number of confirmed cases have exceeded 50 cases, and a cluster epidemic was recorded within the last 14 days.

Areas were cases emerge are subjected to mass testing efforts. In May and June mass testing was carried out on Wuhan, Mudanjiang and Ezhou.\(^{155}\) Doctors, nurses and healthcare staff also get tested.\(^{156}\)

Although restrictions are easing, many provinces and cities still have in place community ‘close-off’ style management which means: \(^{157}\)

- A reduction of exit/entry access to the community.

- Access control of visitors and visiting vehicles: ID check/registration, temperature measurement at gate, delivery service is to be picked up at the gate of community etc.

- If there are confirmed cases in a certain community, there might be a closure of certain units/areas for quarantine depending on the severity of the local outbreak.

- Isolation of people with mild symptoms in centres instead of their homes.\(^{158}\)
In high-density accommodations (e.g., worker dorms, prisons, nursing homes) new joiners have to undergo 14 days quarantine and COVID-19 testing. Visitors are encouraged to tele-visit or practice contactless visiting.\textsuperscript{159}

All arriving international passengers are tested to screen for the coronavirus, expanding a programme that previously only applied to those coming from heavily affected countries.\textsuperscript{160}

From 28 Mar, all inbound travellers undergo 14-days strict quarantine at designated facilities or at home. COVID-19 testing is reported to be undertaken of travellers.\textsuperscript{161,162}

Entrances to hospitals are split into different sections (Triage and Fever clinics) with strict management of visitors.\textsuperscript{163}

China has a mass testing approach to areas with confirmed cases. For example, testing all of Wuhan in May.\textsuperscript{164} Also mass testing in Beijing in June in response to 67 cases identified.\textsuperscript{165}

In June Beijing increased testing capacity to 300,000 tests per day compared with 40,000 in March. Beijing took samples from 2.95 million people between June 12 and June 22.\textsuperscript{166} Beijing deployed almost 7,000 medical staff and volunteers. However, in June laboratories struggled to keep up with processing the samples, creating backlogs, with results taking as long as 10 days to be returned. The government has advised residents to “be rational” about tests, saying that only those from high-risk areas or who are planning to leave the city need to be swabbed.\textsuperscript{167}

**Masks**

China published guidelines on 17 Mar, stating that masks should be worn in crowded places, such as offices, shopping malls, restaurants, meeting rooms and workshops, lifts and public transport. Also, that people should wear a mask and keep a spare mask (surgical mask for one-time use) and wear it when in higher-risk situations and in close contact with others (less than 1 meter). Those with family in quarantine are also advised to wear masks in the home.\textsuperscript{168}

Though May mask wearing in public places was around 80%.\textsuperscript{169}

Sudden deaths from wearing masks during exercise have been reported: three students (from across China) have died wearing masks during running and sports through breathing difficulty which lead to hypoxia.\textsuperscript{170} In May a man in Wuhan also died from exercising in the park wearing a mask; doctors have advised not to wear masks when exercising.\textsuperscript{171}

**Public places and gatherings**

Many cities in China have strict restrictions against social gatherings.\textsuperscript{172}

**Transport**

Those who do not wear masks are not allowed to take the train. All network operation stations will be implementing “temperature measurement” stations at the entrance. Only people with normal temperature are allowed to enter the station.\textsuperscript{173}

Travel restrictions between regions were eased based on risk assessment.

From 8 June, business travellers between Singapore and China were exempted from serving a quarantine period of 14 days. However, among other conditions, travellers must agree to be tested and bear the cost. If found to be infected upon landing in Singapore or China, they will be hospitalised and will pay for their own treatment. Provinces in the initial agreement were limited to - Shanghai, Tianjin, Chongqing, Guangdong, Jiangsu, Zhejiang.\textsuperscript{174}
China has an airline “reward” or “curb” approach. The reward is that if passengers in their flight that are tested positive is zero for 3 consecutive weeks, they get to increase their flight frequency from 1 flight per week to 2 flights to mainland China, following the passenger density requirements per flight. The curb is that if the total number of passengers in one flight tested positive is above 5, the airline has to stop their flight to mainland China for 1 week. If the number reaches above 10 for 1 flight, the airline has to stop their flights to mainland China for 4 weeks.\(^{175}\)

**Places of worship**

Most places of worship moved to online services.

**Business**

As businesses returned to work, they instituted new practices with the aim of preventing a second wave of infections. 98.6% of large companies and 76% of medium and small companies had reopened by May 2020. Measures include capping the number of people in restaurants and public places and limiting the number of workers on site.\(^{176}\)

**Education**

Schools returned and provinces with low numbers of cases could opt not to wear masks in school. Schools are required to have a have a part-time or full-time health worker attached.\(^{177}\)

There was concern that case numbers increased in late March due to travellers returning from other countries,\(^{178}\) which reportedly reduced after China put in place restrictions on entry and quarantine measures.\(^{179}\)

**Issues**

One of the early issues was around freedom of speech. On 30 Dec Dr Li Wenliang, 34, a doctor at a Wuhan hospital, privately messaged a group of doctors highlighting concern around a virus that seemed similar to SARS, this message was then shared more widely. He and seven others were summoned to the Public Security Bureau where he signed a letter stating that is had been "making false comments" that had "severely disturbed the social order". Dr Li returned to work and contracted the virus on 8 Jan. On 31 Jan, he published his experience with the letter on social media, which was then widely spread on social media. On 4 Feb, the Chinese Supreme People's Court said that he and others should not have been punished. Dr Li subsequently died on 7 Feb. Dr Li's death triggered widespread demands for freedom of speech the hashtag #wewantfreedomofspeech gained over 2 million views and over 5,500 posts within 5 hours (before being censored).\(^{180,181}\)

It has been reported that the first case of someone suffering from COVID-19 can be traced back to Nov 17, although it is possible that there were earlier cases.\(^{182}\) The timeframe of the emergence of COVID-19 has been debated. In June 2020, a paper from Harvard speculated the virus may have been spreading as early as August 2019. Satellite imagery of hospital parking lots and search engine queries such as ‘cough and diarrhoea’ were analysed to suggest this date point.\(^{183}\) However, China dismissed the findings, stating it was based on superficial observations.\(^{184}\)

The exact origin of the virus is unknown and is a focus of debate.\(^{185}\) There is a hypothesis that the source was a research facility in Wuhan that had been carrying out research on bat coronaviruses, China refutes this.\(^{186,187}\) On Apr 29, Australian Prime Minister, Scott Morrison, called for an independent investigation into the origin of the novel coronavirus, stating that “it would seem entirely reasonable and sensible that the world would want to have an independent assessment of how this all occurred, so we can learn the lessons and prevent it
from happening again,” this angered China. On May 18, at a World Health Assembly gathering, over 120 countries called for an independent investigation into where the virus came from and how it started its initial spread in China. President Xi of China reversed his previous opposition and agreed to support the WHO investigating.

The role of the WHO in the pandemic (particularly the early phase) and its relationship with China has also been a point of contention. With some, such as President Trump, stating that the WHO was "China-centric" and "a puppet of China", that the WHO "gave us a lot of very bad advice, terrible advice" and were "wrong so much and always on the side of China".

There have also been differing views regarding the long-term strategy of the suppression and elimination strategy in China. That the virus will simply resurface once lockdown measures are eased and borders reopen. "There's no question they suppressed the outbreak," but once the restrictions are lifted, "it'll come roaring right back," Mike Osterholm, Center for Infectious Disease Research and Policy, University of Minnesota. There have also been concerns over human rights regarding the strict lockdown measures and use of private data.

Another key issue is China disinformation and censorship, identified as key risks by an EU special report in May.

Direct report content:

- “In line with our previous analysis, China’s general aim of controlling the narrative on COVID-19 and deflecting any criticism of the country is still present. China – “having made sacrifices to buy time for the rest of the world” – is portrayed as a responsible and transparent actor in the pandemic and a model for other countries to follow. In parallel, where established facts or prevailing narratives could be seen as unfavourable to China or could support criticism of Chinese authorities there seems to be the effort of creating doubt in relation to those. For example, creating doubts about China’s role in the COVID-19 outbreak and countering international calls for an independent inquiry into the origins of the outbreak of the virus in China. At the same time, there has been a shift towards more directly challenging and mocking the US administration and its response to the pandemic. China’s state-run media has been implying a US cover-up and demanding answers from the country.”

- “Freedom House has stated in their overview of Chinese activities that “since March, coordinated and covert attempts by China-linked actors to manipulate information—particularly regarding COVID-19” have been detected in a number of countries, with content often delivered in local languages. The analysis also highlights a departure from Beijing’s more traditional model of positive propaganda combined with suppression of criticism. That expanding nature of the Chinese influence toolbox – including a more confrontational tone and “Russian-style disinformation tactics” – has been also noted by other analysts and illustrated by various cases mentioned in our current and previous reports.”

- “Looking at China, there are media reports of strengthening suppression of information about China’s handling of the COVID-19 outbreak. An increasingly strong enforcement of internet censorship goes beyond merely blocking or deleting unwanted information from online platforms and includes intimidation, detention and other real world reprisals against internet users by security officials. Concerning China’s domestic media, Reporters Without Borders (RSF) has stated that “Beijing has used the crisis to further tighten its control of the media, banning the publication of any reports that question how
it has been managed. This has been made easier since state and privately-owned media organizations are all strictly controlled by the Communist Party”. China is ranked 177th out of 180 countries in RSF’s 2020 World Press Freedom index.”

- “19 foreign journalists have been expelled or forced to leave China in the past 12 months”, the majority of them during the COVID-19 pandemic. In the case of three Wall Street Journal reporters, COVID-19 related coverage was invoked as the justification for the expulsion by the Chinese authorities. Restrictions on foreign correspondents limit the availability of independent information that could be useful in understanding and assessing the measures taken in bringing the outbreak under control in the first country severely affected. Expulsions of foreign journalists is, however, a long-term the issue that goes beyond the COVID-19 crisis. The Foreign Correspondents’ Club of China (FCCC) annual survey for 2019 also found that “Chinese authorities increasingly use the threat of expulsion and visa denial to retaliate and warn against critical foreign coverage; summon journalists to meetings with officials; and harass Chinese citizens who work for the foreign press.”

The pandemic has also triggered geo-political incidents. For example, with Australia over calls to investigate the origin of the virus, with the US over the role of the WHO and linked to wider trade wars.

There were also tensions that developed on the Himalayan border area between India and China, which resulted in a clash with fatalities on both sides. However this may not be associated with the pandemic as tensions have existed previously.

**Public Opinion**

Throughout May public opinion has been just under 90% in support of the government’s handling of the situation.

**Economic Impact**

On 17 Apr, it was reported that China’s economy shrank 6.8% in the three first months of 2020, the country’s first such contraction on record.

The International Monetary Fund estimated in April that China’s economic growth rate could be around 1.2 per cent in 2020.

China Development Bank provided 360 billion yuan (US$50.4 billion) for the Greater Bay Area (mega city cluster of nine southern mainland cities, Hong Kong and Macao). On May 28, President Xi announced a 4 trillion yuan (US$559 billion) financial rescue plan, the largest in its history.
Wider impacts
(To be developed)
**Wuhan, Hubei, China**

**Background**

In Dec 2019 there was an emerging cluster of people with atypical pneumonia in Wuhan, Hubei Province, who would later be identified as COVID-19 infections. On 10 Jan, the first death and 41 confirmed cases of the novel COVID-19 viral infections were reported.

By 16 Apr 2020, there were 50,333 reported cases and 3,869 deaths; however, doubts around the data accuracy and case definitions have been expressed. On 10 May, Wuhan reported its first case of COVID-19 for a month, a 89 year old male, and several of his family members and community were also reported to be asymptomatic.

As at end of May 2020, Wuhan accounts for the majority of the 4,634 deaths and 83,022 infections reported in mainland China.

![Wuhan, Hubei, China](chart)

**Baidu (2020)**

Cases rose from Jan to mid-Feb and then declined through Feb and early Mar.

**Mobility**

Research suggests that the lockdown of Wuhan reduced inflow into Wuhan by 76.64%, outflows from Wuhan by 56.35%, and within-Wuhan movements by 54.15%.
Data on Wuhan mobility levels at the end of May identified hotspots as the business districts, railway stations, airport, waterfront area, and tourist Attractions, suggesting lockdown measures are eased.206

**Seroprevalence**

As at 10 April, reportedly 10% of the population had antibodies.207

A small sampling study in China found seropositivity in Wuhan varied between 3.2% and 3.8% in different sub-cohorts (testing was between 9 Mar - 10 Apr).208

**Lockdown Summary**

On 23 Jan 2020, a lockdown in Wuhan and other cities in Hubei province was announced.209

**Exit Strategy**

Towards the end of March Wuhan gradually restarted transport and some businesses.

After Wuhan reported its first full week with no new infections, shopping malls were re-opened. Some people in "epidemic-free" residential compounds were allowed to leave their homes for two hours.210 Communities are classified as “epidemic-free” if a residential compound has had no confirmed coronavirus cases for at least 14 days, and no suspected cases or residents who have had close contact with a confirmed case.

Suggesting case numbers were low, on 20 Mar, 43 hospitals in Wuhan resumed normal hospital services. 20,000 consultations and 18,000 hospital beds are opened back up.211

Wuhan gradually moved out of total lockdown officially at midnight on 8 Apr (after 76 days of lockdown), although schools and some other sectors remained shut.212 On 2 June, Hubei dropped from medium risk to low risk.213

**Tracking, tracing, testing**

Residents from Wuhan with a "green code" will be allowed to travel after 8 Apr.214 The city’s order also called for a complete tracking of asymptomatic cases, reinfected patients and those who entered Wuhan from outside of Hubei province.215

After new cases emerged in May, it was reported that China would be undertaking mass testing of Wuhan residents, prioritising vulnerable groups and residential compounds.216

From 5 to 10 May, Wuhan identified 6 new cases of COVID-19 at a new potential cluster after 35 days of no new cases. In order to identify asymptomatic carriers, Wuhan commenced mass testing of the population from mid-May, with the aim of preventing a second wave. Wuhan City conducted a “10 days battle” to test all 10 million citizens for COVID-19 from 11 May, using 53 testing facilities and 211 swabbing facilities. Testing was through pooling of samples where the swabs of 10 - 20 people are combined into a single test. If the test of the pooled sample is positive, then individuals are re-tested separately, if all are negative then the group is efficiently confirmed as negative.217 Residents that did not get tested previously will need to be tested, with priority given to those staying in previously virus affected areas, older residential areas and densely populated residential areas.218 On 2 June it was reported that 300 un-infected asymptomatic cases were identified from 9.9 million citizens tested (China does not count people infected but with no symptoms as confirmed cases, these cases are categorised as asymptomatic). The testing cost 900 million yuan ($126 million).219

After testing both 300 new asymptomatic cases and 1174 close contacts, swabs from their toothbrush, cup, masks and towels, scientists concluded that those asymptomatic cases are not infectious. 300 asymptomatic cases out of 9,899,828 total people is 0.0303%.220
Ezhou is a neighbouring city to Wuhan, and from 11 June to 17 June, its population will be mass tested for the virus. During this period, those that volunteer to get tested, 50% testing fees will be covered by the city government. Ezhou is the third city to undergo mass testing (Wuhan > Mudanjiang > Ezhou).\(^{221}\)

Wuhan citizen have to fulfil the “four must” before entering areas with very vulnerable populations (eg estates with high numbers of older people): identification, contact numbers / ways to contact, temperature checked, wearing of masks.\(^{222}\)

**Isolation**

From June 6, people who arrive in Beijing from Hubei no longer need to go through a 14-day observation at home or in designated facilities.\(^{223}\)

**Masks**

Mandatory mask wearing was established a day before lockdown and has continued.\(^{224}\) The Wuhan municipal government issued a notice on 22 Jan that masks must be worn in public places and that all employees of state agencies, enterprises and institutions must wear masks while on duty.\(^{225}\)

**Public places and gatherings**

8 Apr, public parks opened, visitors show their QR health code, wear masks, measure their temperatures and maintain a distance of 1.5m from other people. Anybody with fever is not allowed to enter and will be taken to a quarantine area. Visitors have to provide their contact numbers when they buy park tickets for contact tracing purposes.\(^{226,227}\)

22 Apr, Wuhan Zoo opened. QR health code also required for entry.\(^{228}\)

1 May, football fields in Wuhan sports center opened for timed sessions. QR health codes required for access and contact numbers must be left. Mask wearing is required during sports and people must sanitise their hands (however, there have been cases reported of the dangers of mask wearing during strenuous exercise). After each session staff disinfect seats and equipment. Visitors are advised to change their mask and disinfect their hands before leaving.\(^{229,230}\)

**Transport**

On 25 Mar 2020, public buses started to resume service. Three days later some trains resumed operations.\(^{231}\)

On 15 Apr 2020, the Vice Mayor of Wuhan announced that the city aims to fully resume their currently partial rail, flight and freight operations by the end of April. Taxi services will restart in an orderly manner and operations at ports in the city will be restored by the end of April.\(^{232}\)

Volunteers in hazmat suits have been spraying public spaces with disinfectant (chlorine dioxide) in preparation for its residents returning to work.\(^{233}\)

On 6 June, Wuhan rail resumed its services to Beijing. Temperature check, wearing a mask and disinfectant are required.\(^{234}\)

On June 6, the first direct flight since the lockdown was implemented took off from Wuhan to Beijing.\(^{235}\)

**Places of worship**

Pastor Huang Lei leads a Christian church in Wuhan and stated that the church was closed and transferred online.\(^{236}\) Temples (eg Guiyuan temple) has not reported being open yet.\(^{237}\)
Business

Stores within “epidemic free” compounds were allowed to open between 9am and 6pm early on in the easing.

In Wuhan, there has been some reopening of manufacturing and office work, but the service sector is still the worst affected – gyms and cinemas remain closed and the food sector is still mainly delivery only.238 10,641 large-scale factories and businesses in the city have reopened as of 3 Apr, accounting for 91.4% of the total.239

On 7 Apr, all McDonald’s outlets in Hubei province reopened for takeaway services with increased cleaning and all staff will wear masks and take their temperatures daily.240

Many cities in China, likely including Wuhan, have not yet reopened cinemas and bars. 241

In June, Hubei’s culture and tourism minister announced that they currently do not have plans to boost tourism from other provinces of China. They predict travelling or tourism from now to next year will be local tourism “Hubei’s people travel to Hubei”.242

Restaurants in medium and high-risk areas should shorten operating hours and only have take-away services. In low risk areas restaurants must take temperatures, have masks and customers should disinfect shoes and hands, and have e-transactions and safe distancing. Ventilation is recommended and regular disinfection. Staff must wear masks and should not mingle with their colleagues or engage in gathering after work.243

In enclosed areas with large amounts of people and movement with poor ventilation (eg theatre, dancing hall, chess room, cultural theatre, internet-cafe, bar, karaoke, indoor swimming pool) Wuhan and other provinces’ governments can gauge and decide if such places can open. 244

In June, night markets returned with mask wearing (not social distancing), food mainly eaten standing up (limited seating).245

Education

On 6 May, schools reopened in Wuhan for senior school; return dates have not yet been confirmed for junior and middle school students.246

- Staff and students have to wear masks.
- Students and staff must all have been tested for COVID-19 before going back to school
- Education facilities are disinfected.
- Some schools spaced out their desks and organised smaller class sizes.
- Students walk in single file through thermal scanners at the entrance, no one with a high temperature is allowed in.
- Some schools arranged staggered arrival times for teachers and students.

20 May, Wuhan reopened school for secondary 3 students (age 15), and classrooms will limit 20 to 30 students maximum. The class is split into A and B, where the teacher will be physically in one class and virtually in another (taking turns). Students must wear masks throughout the day and can only remove them during lunch. Students are to carry an extra mask as well. Schools will not be using the aircon for ventilation purposes. Lunch will be sent to them and to be consumed in classrooms. If lunchboxes are disposable, students will throw them into the designated bin after lunch. If lunchboxes are reusable, students will return it to a bin that is sent for disinfection.247
Schools in Wuhan adopt a “1+2” strategy: 2 health workers (1 doctor and 1 “quarantine specialist” undefined) attached to a school.248

From 8 June academics (professors and research students) returned to Universities. Before entering they have to undergo disinfection, certify their identity, scan their QR Health Code and take their temperature. In dorms only one person will be allowed to stay in one.249
Suifenhe, Heilongjiang, China

Background

Suifenhe is a city on the eastern edge of China’s border with Russia in Heilongjiang province. Since 27 Mar, regular and charter flights between Russian airports and other countries were suspended with the exception of the flights evacuating the Russian nationals from abroad. As a result of travel restrictions, and concern over the escalating COVID-19 epidemic in Russia, Chinese nationals made their way to this border city to return to China. China initially allowed nationals to return, but this resulted in an influx of COVID-19 cases and the hospital system becoming reportedly overwhelmed. The border was closed on 7 Apr.

As of 13 Apr, Suifenhe reported 322 imported cases, out of a total of 872 cases and 13 deaths.

Data on daily case reporting is mainly available at province level. As at June 2:

<table>
<thead>
<tr>
<th>黑龙江</th>
<th>Hei Long Jiang</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Cases</strong></td>
<td><strong>Total Cases</strong></td>
</tr>
<tr>
<td>0</td>
<td>947</td>
</tr>
</tbody>
</table>

Baidu (2020)

There were two peaks, one in early February (likely travellers from Wuhan at Chinese New Year) and the second in early April (imported cases from Russia).
Lockdown Summary

Suifenhe went into lockdown on 8 Apr. The border closed to people but transport of cargo continued. The Chinese government offered 5,000 RMB ($700) rewards to locals who report illegal border crossings.

One person per house can shop for essentials every three days. Masks must be worn. All inbound personnel must undergo 14-days of quarantine, two nucleic acid tests and one serum antibody test in designated facilities. They are also required to be isolated under observation at home for an additional 14 days after leaving the designated facilities, for a total of 28 days of quarantine.

Healthcare workforce and facilities were ramped up. A 600-bed makeshift hospital was constructed in a converted office building, and six additional buildings were designated as isolation facilities. The makeshift hospital is equipped with negative pressure lab tents, nucleic acid extractors, virus detection kits, throat swab sampling tubes and thermal cyclers to enhance segments of DNA. It is staffed by 22 experts from the National Institute for Viral Disease Control under the Chinese Centre for Disease Control and Prevention. It will conduct nucleic acid tests and other forms of research to aid in virus control and prevention, and it is expected to allow the city to perform up to 1,000 tests per day.

In late April Hubei provincial authorities mobilised medical supplies and protective gear valued at 30 million yuan ($4.3 million) and delivered them to Heilongjiang province to help it fight the epidemic.
Exit Strategy

The lockdown has followed the approach used in Wuhan and it is likely the exit strategy will also follow that of Wuhan. Chinese netizens have labelled Suifenhe “Little Wuhan”. Following the mass population testing in Wuhan, Mudanjiang (Suifenhe is in Mudanjiang) conducted mass testing of 658,772 citizens from 1 to 7 June and identified 19 asymptomatic cases.

A video conference was held in mid-May to prepare for reopening of schools (kindergarten, primary, secondary).

From 1 June to 7 June, Universities in Heilongjiang (Suifenhe included) will gradually reopen, prioritising graduating students who need to complete final year thesis / research. Non-graduating students returning will be decided by university discretion.

From 3 May, in-dining was suspended but takeaway allowed. Bars, karaoke bars, clubs and pools remain closed.

All businesses should insist on employees, customers and delivery personnel to take preventive measures such as scanning health QR codes, doing routine temperature checks, and wearing masks. There should also be strict control of the number of people in the physical store, with appropriate social distancing measures.

Over 6,000 small and medium sized businesses in Heilongjiang received RMB 33.81 Billion (~SGD $6 billion) in support.

Issues

Some Chinese nationals were unable to return before the border closed and are stranded in Russia. There is differing approaches on the Chinese and Russian side of the border which may lead to escalating tensions.
Shanghai, China

Background
By 26 May Shanghai reported 669 confirmed cases and 7 deaths.\textsuperscript{272} Cases in May are low, derived from travellers returning.

As at June 4\textsuperscript{273}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{上海.png}
\caption{Shang Hai: Number of New Cases}
\end{figure}

Baidu (2020)
There were two peaks, one in early February (likely travellers from Wuhan at Chinese New Year) and the second in early April (imported cases).

Lockdown Summary
On 10 Feb, Shanghai went into partial lockdown, with measures including stricter controls on the movement of residents and vehicles, compulsory mask-wearing, entry restrictions and mandatory temperature checks, and shutting down leisure and other non-essential community services.
Exit Strategy

On 23 Mar, Shanghai lowered its emergency response level from the highest level 1 to level 2. 274

Masks

On 18 Mar, the city dropped the requirement to wear masks at home, outdoors, and well-ventilated places, a practice police had previously enforced with drones or robots. 275, 276

Shanghai Health Promotion Center advocates social distancing and avoiding places where people gather, also wearing of masks in crowded public places. Masks are not required when walking, cycling or exercising outdoors where there are few people. 277 Those at higher-risk (older people and those with chronic disease or immune deficiency) are advised to wear masks when out. 278

Public places and gatherings

10 Mar, public parks (eg Shanghai Haiwan National Forest Park, Guangfulin Park) reopened. Opening hours adjusted to 8am-5pm and there is a limit on visitors of 50% of maximum occupancy, and there is temperature taking and mask wearing. 279

16 Mar, sports complexes reopened. Visitors and employees have to scan their QR health code, take their temperature, wear masks and keep a distance of 1.5m. 280

If people meet someone coming, keep a distance is advised. When going out for sightseeing or dining, people are encouraged to make an appointment in advance or understand the ticketing process as far as possible to reduce the likelihood of waiting with a crowd. 281

Transport

After the downgrade of their emergency response level on 22 Mar, transportation services in the city are gradually returning to normal. Buses travelling to other cities, except those to Wuhan, the centre of China's outbreak, are encouraged to resume full operations. Some 150 bus companies and 21 bus centres in the city have reopened, including Hongqiao West Station, Meilan Lake station and Pudong East station. 282

Places of worship

Churches are not yet open, services are online. 283

Business

Shanghai's industrial production dropped 17.4% year on year. The six major industries of information technology, automotive, refinery, fine steel, set equipment and biomedicine declined 16.6%. 284

28 Feb restaurants and cafes opened. Employers track staff travel history, staff who are unwell must self-quarantine for two weeks. Customers' temperatures are taken and hand sanitiser provided. Customers can only take off their masks when eating. Restaurants must prevent crowds (eg 100m² < 50 people). 285, 286

28 Mar, cinemas gradually reopened (with discounts to encourage customers). Customers have to take their temperature, wear masks and scan their health codes. Social distancing when purchasing tickets and in theatre is enforced. 287

Some tourist attractions and entertainments opened for a brief period in March, these closed again due to concerns of increased transmission. 288
To restart the economy and make up for losses, Shanghai announced a two-month shopping festival with promotions (developing online platforms) and extended opening hours across museums, eateries and bookstores to re-establish the night-time economy.\textsuperscript{289}

11 May, Shanghai Disney reopened to limited visitors (a third of the usual level). QR codes must be provided by all guests on entry, with only green code holders permitted entry to the resort.\textsuperscript{290,291} Tickets sold out rapidly. As well as limited visitor numbers, the park increased cleaning, has mandated mask wearing, won’t put on parades or crowd forming indoor events, and the children’s play zones remain closed.\textsuperscript{292} With the opening of Shanghai Disney on 11 May, it could provide evidence of the impact of similar tourism attractions and a model for others to follow.\textsuperscript{293}

Regular ventilation of indoor environments is recommended, masks in crowded indoor areas, social distancing and electronic payment.\textsuperscript{294}

The new edition of Shanghai reviving city plan from 2 June 2020 will further include indoors attractions such as concert halls, bars etc. However, travel agencies and online promotions like “flight + hotel” are still not available. Standard distancing rules still apply at all attractions. Wearing of mask and distancing of 1m.\textsuperscript{295}

Cultural theatres reopened in early June, but only for 30% occupancy.\textsuperscript{296}

From 3 June community clubs reopened and gyms.\textsuperscript{297}

The pandemic caused disruption to business such as bars, restaurants, culture and entertainment. In order to revive the night-life economy, Shanghai will hold night-life festivals, the first was on 6 Jun. The night festival involved night tours, shopping, dining, reading and live shows - bars, museums, bookstores, shopping malls and landmark commercial complexes opened with extended business hours.\textsuperscript{298} Stall holders wear masks and gloves, and disinfectant, masks and wet tissues are available for visitors. The number of people is also restricted.\textsuperscript{299}

**Education**

Apr 27, students in their final year of middle and in high school returned to classrooms. Schools have temperature screening on entrance, have set aside rooms for isolating students with "abnormal temperatures", have put in place social distancing policies and students must wear masks.\textsuperscript{300,301}

On 2 Jun, Primary 1,2,3 will resumed. However, parents and students can choose between physically going to school or e-learning from home.\textsuperscript{302} Staggered start times and mask wearing are required.\textsuperscript{303}

Schools in Shanghai are ramping up their “mental easing/preparation” classes to ease students into the curriculum. Not only students but their parents as well, as parents might worry if their child is safe and healthy. Hence, schools also prepared online meeting for parents to update on school rules and curriculum for ease of mind.\textsuperscript{304}
Hong Kong

Background
Hong Kong, a Special Administrative Region of China has a population of 7.4 million people within 1,110 km², is one of the world's most densely populated areas.\(^{305}\)

The first imported case was confirmed on 23 Jan, and the first suspected local transmission case was reported on 30 Jan.\(^{306}\) As of 18 May, there were 1,056 cases and 4 deaths.\(^{307}\) However, Hong Kong then experienced a rise in cases from people returning to Hong Kong from abroad.\(^{308}\) Cases rose towards the end of March and then declined, there was over two weeks straight were no cases were recorded and then low numbers of cases some linked to imported cases and others with no identifiable link to previous cases.\(^{309}\)

Through May cases were predominantly imported.\(^{310}\) However there was a cluster of unknown sources.\(^{311}\) As at 22 June there were reportedly 1,132 confirmed cases and 5 deaths.\(^{312}\)

Worldometer (2020)

Mobility
Google mobility data varied through April, but there was around 30-40% decline in mobility in transit stations, 30% decline in workplaces, 30% decline in retail and recreation.\(^{313}\)

Seroprevalence
(No information found)

Lockdown Summary
25 Jan, Preparedness and Response Plan raised to Emergency Response Level. This resulted in cancelling large events, working at home if possible, temperature screening at restaurants and offices, closing schools, increasing mask supplies and improving capacity of quarantine and screening at borders.\(^{314}\)

After the surge in cases from travellers in mid-Mar, Hong Kong tightened border controls with a mandatory 14-day quarantine for all travellers entering from 19 Mar for the next 3 months.\(^{315}\) Hong Kong then went on to ban all non-locals arriving towards the end of Mar.\(^{316}\)

Mid to end of Mar saw the establishment of regular disinfection of transport, extended testing through primary care surveillance, closure of non-essential public services, and banning of alcohol sales in restaurants and bars.\(^{317,318,319}\)
Restaurants were ordered to keep tables at least 1.5m apart and put up physical shields between tables to reduce the spread of infection and take temperatures and contact details of customers.\(^{320}\)

End of Mar, cinemas, party rooms and gyms were ordered to close, this was later extended to include mahjong parlours, karaoke lounges and nightclubs.\(^{321}\) By early Apr, gatherings of more than four people were banned and beauty services shut.

**Exit Strategy**

**Tracking, tracing, testing**

Mask-wearing, increased cleaning of common surfaces, social distancing, public awareness, contact tracing and quarantining were key components in the first phase of the response against COVID-19. This has been augmented with more widespread testing and testing of high-risk groups. Testing capacity is increasing to 7,000 a day.\(^{322}\)

After new cases emerged in May, after a period of two weeks with no cases, there was the decision to extend testing to residents in the apartment blocks where the cases were located, airport workers (viewed as at risk of coming into contact with imported cases), and those in high-density shared accommodation (eg psychiatric patients and nursing homes).\(^{323}\)

Arrivals to Hong Kong as at 19 May was around 100 a day; all are tested for COVID-19.\(^{324}\)

Hong Kong’s aims to reduce the cost of private testing by introducing more competition. As at June, the price range is HK$985 (US$127) to HK$3,500 (US$452).\(^{325}\)

**Isolation**

Hong Kong has reportedly 5,000 plus places in quarantine facilities (a hotel, empty housing blocks and holiday camps), therefore most self-quarantine at home.\(^{326}\) From mid-Mar, technology was used to monitor home quarantine, with locally developed electronic wristbands and mobile apps to enable real-time location sharing.\(^{327}\)

The Hong Kong Union of Employment Agencies estimated up to 10,000 maids were expected to arrive over the summer as governments in the Philippines and Indonesia gradually resumed normal operations and started to issue more travel permits. Health officials in Hong Kong are looking for cheap hotels to quarantine an expected influx of thousands of domestic helpers, but the use of government facilities has been ruled out.\(^{328}\)

**Masks**

In response to Oct protests, Hong Kong banned the wearing of face masks in public. The government did not repeal the ban, but residents started wearing masks in large numbers and helping the most vulnerable communities obtain them.\(^{329}\)

Through May over 80% wore masks in public places.\(^{330}\)

**Public places and gatherings**

Bans on gatherings remain in force. On 2 June, after 16 days of no local cases, a cluster of 9 was stated as the reason for extending social distancing measures and banning more than 8 gathering until 18 June.\(^{331}\)

Jun 1 reopening of all performance venues, including City Hall, the Hong Kong Cultural Centre, the Hong Kong Coliseum and Queen Elizabeth Stadium for rehearsals and performances not with audiences (at least until 15 Jun), half capacity is also in operation.\(^{332}\)

From 19 June, Hong Kong allowed public gatherings of up to 50 people.\(^{333}\)
From 20 June, reopening of leisure facilities (outdoor pitches, some basketball courts and volleyball courts). From 22 June, pay for sports facilities reopened, and museums and cultural venues resumed normal hours.334

Transport
Mask wearing is common practice on public transport.
Transit services at the airport will partly resume on Jun 1. Anyone arriving at the airport is not allowed into the city until they take a COVID-19 test. Those found to be positive are quarantined.335
Talks to set up a health code system that certifies residents who are virus-free, exempting them from a 14-day quarantine when travelling one way across the border.336

Places of worship
The ban on more than four people gathering means that services are streamed online.
From 19 June, there was the resumption of wedding banquets.337

Business
May, after a month of working from home, civil servants returned to government offices.
On May 7, entertainment and establishments such as cinemas, beauty parlours and gyms have also gradually reopened.338
On May 26 karaoke lounges, nightclubs, saunas and party rooms will be allowed to reopen, but with restrictions – not more than four people at each table in nightclubs, which must operate at half their usual capacity, no more than eight people in a room in karaoke lounges and party venues.339
Work being undertaken to restart the meetings, conventions, exhibition and cruise industries that spend higher levels than tourists.340
From June 19, there was easing of customer limits for restaurants, and the maximum number of people per room in karaoke lounges doubled from eight to 16. But tables will still have to be kept 1.5 metres (five feet) apart. For bars, pubs and nightclubs the restriction limiting tables to groups of four people will be eased to allow eight per table. Live performances can also resume, but entertainers must wear a mask or maintain a distance from the audience.341
On June 18, Hong Kong's Disneyland reopened to a reduced number of visitors and increased cleaning.342

Education
Phased reopening is planned, details yet to be reported.343 Among parents surveyed, 95.4% in February and 93.7% in March agreed or strongly agreed that school closure was needed as a control measure for COVID-19 in Hong Kong.344
From 27 May classes for Secondary 3 to Secondary 5 students have resume. The younger pupils of grades Primary 4 to Secondary 2 will go back to school on June 8, and Kindergarten 3 to Primary 3 on June 15.345
From 20 May, international and private schools reopened after nearly four months. Under a phased class-resumption plan, international schools were the first to reopen because of their different curriculum and early summer break. To reduce the risk of infection, students sit one metre apart in class, will not share stationery, are required to submit a health and travel
declaration, and have their temperature checked daily. Schools also installed new sterilised mats, thermal cameras and hand sanitisers for infection control.346

Most of Hong Kong’s 150,000 senior secondary students returned to school on 27 May after four months. Students must wear masks during class, keep one metre apart, and avoid gatherings.347

Hong Kong school heads call for early opening of border checkpoints to ease commute woes of mainland students

Hong Kong has 2,500 cross-border senior secondary pupils, 1,800 of whom had said that they would return to campus to attend face-to-face classes. Nearly 300 cross-border pupils were held at the border due to problems with COVID-19 test arrangements and identification of documents. This led to school heads calling for an early opening of Hong Kong’s checkpoints with mainland China to ease the commuting pains of cross-border senior secondary students.348

Extra-curricular classes were the subject of 273 complaints received by the Consumer Council after providers demanded students accept online versions rather than provide refunds.349

**Issues**

In the aftermath of the recent political unrest, there was a general mistrust of the government which influenced the populace’s reception for the government’s initial responses.350 Despite the lack of confidence amid distrust of the Hong Kong government during the protest period, residents have generally been compliant to the various social distancing measures implemented, possibly influenced by the SARS outbreak when Hong Kong was one of the hardest hit, which had almost one-third of global deaths.351,352 “People are quite cautious now when they face a major outbreak of an infection,” says David Hui, director of the Stanley Ho Center for Emerging Infectious Diseases at the Chinese University of Hong Kong. The precautions have been so effective, he says, that the city’s annual flu season has also been dramatically reduced.353

In late May China proposed a national security law that would cover Hong Kong. This prompted large-scale protests, counter to social distancing rules.354

On 11 May, protesters returned to the streets, with 250 arrested.355 Some protesters have raised concerns that gathering restrictions remain in order to suppress pro-democracy rallies.356

On 27 May, Hong Kong police made more than 300 arrests and fired pepper pellets to disperse protesters in the financial district.357

**Public Opinion**

Throughout May 73-77% perceive that the national situation related to COVID is improving.358

**Economic Impact**

Hong Kong was still being affected by protests when the pandemic emerged. In Apr, the IMF lowered its projection for Hong Kong’s economic growth in 2020 to minus 4.8% from minus 1.2% because of the pandemic and forecast that unemployment would go from 3% to 4.5%.359 In April, the government announced a package of measures to support individuals and businesses affected by COVID-19, amounting to HK$287.5 billion.360

Unemployment was reported to be 5.2% in May, but higher in specific industries – tourism 9%, food and beverage 12%, construction 10%. The government has an employment
support scheme, paying 50% of salaries for six months capped at HK$9,000. By June unemployment was recorded to be 5.9%.

The mandatory quarantine restrictions ended the freedom to live in Shenzhen while working in Hong Kong, affecting many who used to cross the border every day for work and increasing joblessness.

Airlines have been severely affected by the pandemic, the Hong Kong government has provided US$5 billion in financial support to Cathay Pacific.

**Wider impacts**

There has been a 44% reduction in influenza transmission in Hong Kong after Chinese New Year, due to school closures but also social distancing, increased hygiene measures and face mask use.

Hong Kong has experienced social unrest since Jun 2019, followed by the COVID-19 situation. There have been disruptions in mental health support. A number of suicides in older adults were reported between January and April.

Concerns were raised regarding the mental health of elderly care home residents. Geriatric specialist Dr Kong Tak-kwan coined this the “loneliness epidemic”. This problem is worse for elderly with dementia who are likely to have lower resilience to difficult situations and are afraid of change. The mental health of younger people who had been socially isolated for months is also an increasing concern.

Study found that quarter of Hongkongers on regular care duties for loved ones during pandemic but do not have sufficient knowledge.
Vietnam

Background

The following information was taken from a seminar delivered by Dr Pham Quang Thai, Vice Head of Epidemiology Department, National Institute of Hygiene and Epidemiology NIHE, Vietnam on May 13 and supplemented with a research paper he co-authored and an online scan.\textsuperscript{370,371}

Low numbers of infections were reported during Mar, daily case numbers remained low and Apr was mainly zero cases each day.

Cases through Apr–May–June were from travellers returning.\textsuperscript{372,373} On June 19, Vietnam recorded 64 straight days of no reported community transmission cases.\textsuperscript{374}

As at 22 June, 349 cases were confirmed and no deaths.\textsuperscript{375}
Mobility

Google mobility data varied through Apr as Vietnam reopened. At the start of Apr, there was around an 80% decline in mobility in transit stations, 30% decline in workplaces, 70% decline in retail and recreation. Mobility increased steadily through to May but has not yet returned to baseline levels.376

Seroprevalence

(No information found)

Lockdown Summary

A YouGov survey has found 88 percent of Vietnamese saying the COVID-19 situation is improving and 97 percent trusting the government’s handling of the epidemic.377

Since Dec 2019, Vietnam was alert to a potentially new pneumonia virus and the first cases were found during the Chinese New Year 23-29 Jan (travellers from Wuhan or their contacts).

Vietnam established a national rapid response Taskforce Group (24 members from across 23 Ministries) on 30 Jan which provided leadership and worked to the shared goal to fight the virus regardless of the economic impacts in the short-term and not to leave anyone behind. The Taskforce did not await WHO guidance to act and continually sought to analyse their own data and evidence.

Large events were stopped at the end of Jan, including national festivals and gatherings after the Tet holiday (Vietnamese New Year). End of Jan also saw: the suspension of all flights from China; suspension of tourist visas to foreigners who have been in China; enhanced control of Vietnam-China border; and 14-day mandatory quarantine for all travellers who have come from COVID-19 affected areas in China. This was followed by border closures to other high-risk countries (eg countries with over 50 cases a day), and quarantine was also established. This was after finding 73 flights had COVID-19 patients, following which there was full quarantine of 34 flights (passengers were found through rapid contract tracing using local teams).

There was ongoing public communication and education via government app and openness to the public regarding cases. Media and social media coverage were at a high level and sustained from early Feb onwards.378 Vietnam also made a pop music video that was widely shared.379

On 19 March, Vietnam launched a fundraising campaign to buy medical supplies and PPE for people working with COVID-19 patients. By 5 April, more than 2.1 million donations had been sent via a text message platform.380

Schools and universities shut in early Jan. Social distancing was promoted – stay home and keep distance from others. 16 Mar there was enforcement of mask wearing at public places; crowds over 50 people discouraged; entertainment services closed.

End of Mar saw implementation of social distancing, working from home, closing churches, suspension of public transport and minimising car use.381

Population mobility decreased progressively before lockdown, which was officially between 1-22 April.
Exit Strategy

From late Apr onwards measures were eased; however, religious gatherings, festivals, and sporting events remain banned. In addition, bars, pubs, beauty salons, and karaoke bars remain closed.\(^{382}\)

**Tracking, tracing, testing**

There was early identification and isolation of cases.

From 280 cases, 64% of cases had no symptoms early on, and 43% remained asymptomatic. 27.5% of transmissions were found to have occurred pre-symptomatically.\(^{383}\) This demonstrated the need for early identification of potential cases before further transmission.

Vietnam bought 200,000 tests from South Korea, but then developed its own test kits.\(^{384}\) Four institutes undertook testing early on, and this has been expanded to 120. As at mid-May ~300,000 test have been completed (1 positive per 1000 test).

Imported cases that had travelled by plane were identified and all those on the plane were tracked and quarantined. There was early screening at the border, and from the end of Mar all inbound travellers were required to go through quarantine centres for 14 days. All are RT-PCR tested. 200,000 people were quarantined in the first 100 days.

Contact tracing was in place early on and when community transmission is identified, there is targeted lockdown of the area. First lockdown of an area was mid-Feb; a community was closed where there was community transmission from 7 people returning from Wuhan. Second lockdown was a street in Hanoi, from someone returning from London and community transition from beyond home.

A Government SMS notification system was put in place through all mobile phone providers on 3 Feb, and a mobile phone app for contact tracing and symptom reporting was launched on 8 Feb. The app is to aid contact tracing, but it is mainly labour intensive, supported by local district teams.

From 29 May, those with flu or severe acute respiratory disease symptoms at hospitals and medical facilities in Ho Chi Minh City, alongside patients returning from abroad for treatment, will undergo COVID-19 testing. Vietnam has not granted entry for people from overseas yet, but those entering with diplomatic, official passports or for special economic projects will be quarantined for 14 days.\(^{385}\)

Mobile app NCOVI was developed by Vietnam’s Ministry of Information and Communications (MIC). This lets the public update their health status daily. It also shares ‘hotspots’ of new cases and gives its users ‘best practices’ for staying healthy.\(^{386}\)

**Isolation**

There is isolation of all confirmed cases and contacts, regardless of their symptoms or test results.

Cases and contacts quarantined placed in centres (eg military camp and hotels). Internet connection, SIM cards and food provided.

Hospitals are assigned to COVID-19, separating out the cases so that other healthcare work can be carried out.
Masks
Mask wearing is common. On 1 Feb, the government inspected pharmacies and withdrew business licenses of those which increased prices of face masks, hand sanitizers and medical gloves. More than 1200 drug stores were penalised and over 313,000 face masks were seized in just three days.387 Through April and May 80% said that they wear a mask in public places.388 Counterfeit masks have been a concern.389

Public places and gatherings
May, the public gathering limit raised to 30 people from the previous 20.390 Gyms, sports and public beaches reopened, but with social distancing restrictions.391

Transport
On 6 May - relaxed social distancing guidelines on planes, buses, taxis, and ships. Public buses in Ho Chi Minh City resumed with a limit of 20 passengers per bus.392 Domestic flights resumed 23 Apr.393 Vietnam plans to allow resumption of flights to and from countries that have no cases for 30 days with priority destinations including Guangzhou China, Japan, South Korea, Laos and Cambodia. Vietnam had suspended international flights on March 25.394 On June 12, Vietnam granted special entry for 331 Chinese experts, business managers and high-skilled workers. This followed representation of the Chinese Embassy in Hanoi to the Vietnamese Government Office on June 2.395

Places of worship
Religious activities in Vietnam were allowed to resume from May 8 but with preventive measures for large gatherings.397

Business
People have returned to work, but in a “new normal" with a high degree of precaution. Entertainment sector remains closed.
Manufacturing, service sector and key tourism sites resumed (eg Ha Long Bay and Bai Tu Long Bay from 1 May).398 The Vietnam National Administration of Tourism is planning to allow entry of foreign visitors from countries and territories that have responded effectively to the pandemic such as South Korea, mainland China, Japan, Taiwan and several ASEAN members.399 The Transport Ministry has asked the Civil Aviation Administration of Vietnam to submit plans by June 10 for the reopening of some international flight routes.400 Vietnam will resume issuing e-visa for citizens from 80 countries under the amended Law on Immigration from 1 July 2020. Eligible countries include Belgium, Germany, India and South Korea, across 29 land and sea border gates. This comes after the suspension of visa issuance to all foreigners since 18 March 2020.401 The Vietnamese government have a campaign to encourage domestic tourist “Vietnamese people travel to Vietnam destinations” until the end of the year. Airlines, travel agencies and resorts are offering discounts to revive tourism.402
**Education**

Staggered re-opening from 4 May (closures lasted ~3 months).

Kindergartens and primary schools were reopened on 11 May, with temperature taking and half-days implemented. This came after 288 infections, no deaths, and no community spread for nearly a month.\(^403\)

**Issues**

There is a lack of medical equipment (ventilators in ICU) and lack of personal protective equipment (masks and gowns) for medical staff in the hospitals.

Vietnam’s response to COVID-19 had been praised by many countries. In May, the World Economic Forum stated that four factors contributed to its success - quick strategic testing, aggressive contact tracing, effective public communications and swift development of testing kits.\(^404\)

**Public Opinion**

At the end of Mar, about 62% thought the government was doing the “right amount” in response to the situation.\(^405\)

Though April and May public support for the government’s handling of the situation rose from 80 to 98% and stayed at a high level, over 80% perceive that the situation is improving.\(^406\)

**Economic Impact**

The International Monetary Fund forecasted that Vietnam's economic growth may slow down to 2.7 percent this year due to the pandemic, but may pick up to 7 percent in 2021.\(^407\)

On 12 Mar, the country’s central bank stated it would support credit organisations to restructure debt payment deadlines and cut borrowing interest rates and allow exemption for enterprises affected by the pandemic. It was stated that over 44,000 customers with a total debt of VND222 trillion (US$9.51 billion) would benefit from this program. On 31 Mar, the government discussed a welfare measure where those in need would receive an aid of 1,000,000 VND per person per month.\(^408\)

Vietnam’s Ministry of Finance outlined a 15.84 trillion dong (S$970 million) cut in corporate income tax for small-sized enterprises to help overcome the impact of the pandemic.\(^409\)

It was reported on 5 June that more than 5 million Vietnamese lost their jobs or worked fewer hours in the first four months of 2020. 80% of workers in the informal sector had to stop working with the social distancing measures imposed. The number of jobs lost each month was estimated to be 80,000 - 90,000.\(^410\)

Vietnam recorded a first-quarter GDP growth of 3.82 percent, the lowest in a decade. As many as 18,600 companies temporarily suspended business during this period.\(^411\)

Businessman Hoang Tuan Anh is installing "free rice ATMs" across the country to help around 5 million people affected by the coronavirus. The ATMs, which give out 1.5kg (3.3lbs) of rice at a time, became so popular he is building more around Vietnam.\(^412\)

**Wider impacts**

Reduced accidents reported and reduction in other infectious diseases.

There was a pause in the childhood immunisation programme. GAVI Vaccine Alliance and the government ramped up immunisations after lockdown.\(^413\)
South Korea

Background
South Korea reported its first case on 20 Jan. As of 22 June, there were 12,438 confirmed cases, including 280 deaths.  

63.5% of reported cases in the early phase of the epidemic epicentre of Daegu. Cases peaked late Feb and then steadily declined to single digit case numbers by the end of Apr.  

At the end of May and early June clusters were linked to nursing homes, call centres, logistic centres, places of worship, clubs and bars, work seminars, sports clubs, military bases and schools.  

Following the rise in cases and sporadic clusters in the capital, residents in Seoul were urged to stay home by Ministry of Health officials (on 11 June). Government officials are reluctant to put in place stricter distancing rules due to the impact on the economy.  

On 22 June, Health Authorities stated that a “second wave” of infections is occurring in Seoul, stemming from a holiday in May.  

Source: KCDC (2020)

Cases can be influenced by testing availability and strategy; looking at deaths from COVID-19 can be a more accurate way of viewing an outbreak (although there is a lag from infection to death).
A slight rise in cases was reported from 9 May, linked to nightclubs, particularly those catering to the lesbian, gay, bisexual, and transgender community. On 15 June 2020, it was reported that among 618 confirmed cases in the two weeks prior, 10.2% were unlinked cases. This inability to track the sources of new cases is complicating attempts to prevent secondary and tertiary infections, in addition to the issues resulting from nearly half of all coronavirus infections in Korea being asymptomatic. A rise in imported cases was reported in late June.

**Mobility**

Google mobility data varied through April and showed only limited reductions in mobility. At the start of April there was around a 20% decline in mobility in transit stations, little decline in workplaces (2%), and 20% decline in retail and recreation. Mobility by the end of April was close to baseline levels.

**Seroprevalence**

(No information found)

**Lockdown Summary**

On 24 Feb, Daegu and Cheongdo were declared “special care zones”. All military bases were locked down after three soldiers tested positive. Additionally, self-quarantine orders were issued to 9,000 members of the Shincheonji Church, where an outbreak was identified.

In Daegu, officials urged residents to stay at home and aggressively warned them to take precautions if staying open for business. Unlike China, there was no movement restriction on the people. The government’s approach was to meticulously monitor for infections while allowing the city to continue running. While public transport continued to operate, every commuter’s temperature is taken, and public transport is regularly sanitised by cleaners.

At the height of the outbreak, hospitals were overwhelmed, prompting authorities to change their strategy from contact tracing to mitigating its impact and preventing deaths. This was done in a nationwide fashion and included closing schools and concerts. However, the government stopped short of introducing a lockdown possibly due to its political unpopularity.
“Trace, test and treat” was the initial strategy, which kept cases under control through Jan and Feb. South Korea experienced a rise in cases from imports from the US and Europe in late Feb and into Mar, which resulted in implementation of social distancing measures. Schools closed from 24 Feb, with school reopening dates repeatedly delayed through March and April. South Korean kindergartens closed and most universities converted to online learning.

South Korea implemented an “intensive social distancing policy” on 21 Mar, initially for 15 days, but was extended multiple times. This included cancelling concerts, festivals and sporting events, and preventing other gatherings in places such as at nightclubs or churches.

As of 8 Apr, nonessential travel by foreigners into South Korea has been restricted. All travellers must adhere strictly to a compulsory 2-week quarantine.

After initial easing of measures on May 6, Seoul reimposed restrictions on May 29 in response to cases. This was due to end two weeks later; however, cases continued to rise in June and the restrictions were extended. South Korean Prime Minister Chung Sye-kyun also stated that the government was considering additional measures to prepare for a second wave of the pandemic (in Seoul). Public facilities including museums and parks remain closed, while companies are advised to operate flexible work systems and strictly follow social distancing guidelines. Entertainment establishments such as bars and clubs and cram schools are recommended to suspend their businesses. Two more medical centers to treat patients with less severe symptoms will open in Ansan and Gwangju, both in Gyeonggi.

Exit Strategy
The country officially moved from ‘social distancing’ to ‘everyday life quarantine’ from 6 May.

"Until treatments and vaccines are developed, we will never know when the Covid-19 crisis could end, and until then, we will have to learn how to live with Covid-19," Yoon Taeho, Health Ministry (May 2020).

South Korea eased some guidelines around 20 Apr, after reporting case numbers in the twenties and teens for a few weeks and the occasional day with single digit case numbers.

The government now emphasises "everyday life quarantine" and has issued extensive guidelines covering most aspects of daily life. Measures include washing hands for 30 seconds, keeping a 2m distance from other people, taking time off from work if feeling unwell (eg 3 to 4 days), and twice daily home ventilating.

Tracking, tracing, testing
“Trace, test and treat” remains a core part of the strategy. To aid targeted measures the government accesses personal data, including CCTV footage, GPS tracking data from phones and cars, credit card transactions and immigration entry information. The authorities can then make public information on hot-spots, so anyone who may have been exposed can get tested.

Screenings are free for anyone displaying symptoms of infection or close contacts of a recently confirmed case. Those who are worried about the risk of infection can also get tested for US$135 at hundreds of clinics or 50 drive-through stations across the countries. The large amounts of data collected has also allowed authorities to uncover clusters of
infection to target their quarantine and disinfection efforts. The scale of testing has also been shown to be the most influential factor in affecting the fatality rate of the virus. From 3 Jan to 18 May, South Korea had tested more than 753,000 people for the virus. The nightclub cluster (Itaewon cluster) that emerged in May shows the scale of testing. As of 18 May, 170 cases were linked to the cluster, 89 were infected after visiting Itaewon clubs and bars, while the rest were people who came into contact with the 89, including friends, relatives and colleagues. More than 65,000 people were tested in connection with these cases.

Further clusters developed at the end of May. Many new infections traced to Itaewon came from a sub-cluster of infections surrounding a private teacher who visited an Itaewon club. The instructor initially did not come forward to state he had symptoms, delaying the tracing of his students and their acquaintances.

South Korea will continue to rely on mass testing, digital surveillance and case isolation to control the spread rather than pursue more severe measures like a lockdown.

In June, South Korea mandated QR code-based registration of visitors at bars, clubs and other entertainment facilities.

In June, South Korean promoted the “K-quarantine 3T international standardization” model through submitting 18 different measures for testing, tracing and treating the outbreak to the International Organization for Standardization (ISO). The “3T” stands for testing, tracing and treating Covid-19.

Isolation

Patients with COVID-19 who show moderate symptoms are sent to repurposed facilities and spaces for medical support and observation.

Patients with mild symptoms and close contacts must measure their own temperatures and self-quarantine for two weeks. Local monitoring teams call twice a day to ensure that quarantine orders are adhered to. Breaching quarantine measures result in a 3 million won (US$2500) fine. A bill may also be passed to increase the fine to 10 million won and a one-year jail term.

Citizens and those entering the country use the app to report health status. A similar app tracks those who are under quarantine and can flag up if people leave quarantine with their phone.

Guidance initially stated that those who recover must be tested negative twice before they are fully discharged. Based on research of viral infectivity, people no longer need to test negative for the virus before returning to work or school after they have recovered from their illness and have completed their period of isolation.

Masks

People are asked to wear face masks and maintain physical distance in public places.

Public places

There are thermal imaging cameras in the entrances to major buildings. Hand sanitisers are available in many common use areas (eg lifts, subway).

On 11 June, health authorities warned against seniors gathering in packed rooms without windows, saying if they do end up in such settings, they mustn’t eat or sing, and must wear a face mask and use hand sanitizer.
Transport

Transport remained open and disinfected on a daily basis, along with a full cleaning of the stations and platforms. The staff were protected with hand sanitiser stations, gloves and masks. They also measured the temperature of employees before and after each shift. Korean Air is set to re-open selected routes, but previously suspended routes to Daegu will continue to stay suspended until further notice.

From 26 May, there was a nationwide “no mask, no ride” policy for taxi and bus passengers launched.

From 27 May, mandatory face mask-wearing for all flight passengers on local and international flights.

From 1 June, foreign residents that leave and then re-enter must submit medical reports detailing whether they have symptoms on their return and obtain a permit to return.

In response to a rise in imported cases (on 20 June 23 out of the 67 reported cases were visitors from Pakistan or Bangladesh), South Korea enacted a temporary ban on non-scheduled flights from countries where the virus is widely spreading, with the exception of critical business trips or visits by government officials.

Places of worship

Churches reopened 26 Apr, worshippers must wear masks and abide by safe distancing.

On 1 June, KCDC reported more than 20 new coronavirus infections from Protestant churches in Incheon and Gyeonggi. Contact tracing showed the infections appeared to have stemmed from a pastor who visited nearly 10 different churches holding services. Subsequently, KCDC urged faith communities to refrain from gathering and switch to non-face-to-face meetings.

In late June, Daegu announced that it was seeking 100 billion won (USD$82.3 million) in damages from Shincheonji Church and its leader. The city office said Daegu suffered nearly 146 billion won in economic damages from the cluster and warned that a second compensation claim against Shincheonji was under review.

Public facilities and gatherings

Areas that positive cases visited are disinfected. Large-scale disinfection measures are common. Around 20 Apr, outdoor public facilities, such as recreation forests, could reopen as long as they adhere to requirements.

Parks, sports stadiums, museums and libraries reopened 6 May, large gatherings and events, as well as rallies, will also be allowed if organisers take measures against infections.

Museums, parks, and art galleries in Seoul closed again from 28 May for two weeks following a spike of new cases.

Business

Some bars and gyms reopened on 25 Apr, mask wearing and completion of contact tracing forms is required to enter. Those with a travel history or who have had contact with COVID-19 patients or exhibit symptoms of COVID-19 within the last 14 days are banned from entering. Shops also reopened (eg Apple).

However, after a cluster was found on 8 May, bars and nightclubs in Seoul were ordered to close until 8 Jun.
Starting June, the South Korean government requires entertainment establishments such as clubs, bars, and singing rooms to keep QR code-based customer logs starting next month for better contact tracing. This comes after tracing difficulties in the Itaewon nightclub cluster as many patrons made false statements about their personal details in visitor logs.

At the end of May, start of June, clusters were identified at call centres, logistics and distribution centers. These were then shut.

Daegu hospital returned to normal operations on 15 June, after 100 days of postponing non-essential treatment.

The number of weekend movie goers in Korea reached 316,929 (6-7 June), up sharply from the 152,284 tallied from a week earlier (30-31 May) attributed to a discount coupon event by KOFIC as part of the Korean government's 17-billion-won ($13.8 million) fund to support the coronavirus-hit film industry.

Convenience store lunch boxes are becoming more popular for workers and students.

**Education**

Around 20 Apr, cram schools and essential qualification tests or recruitment exams were permitted to take place.

Starting 6 Apr, the government has started the staggered reopening of various cohorts of students, with the oldest students starting first. Instead of physically going to schools, however, home-based learning is implemented with online lessons. The youngest will resume only on 20 Apr, with kindergartens and childcare closed indefinitely.

The new academic year was delayed by more than five weeks before schools switched to online learning from Apr 9. High school seniors will be the first to return to school on May 13, while the rest will follow in phases through May and early June. Schools will carry out regular cleaning, temperature checks and all students are required to wear face masks except when eating.

20 May, schools reopened for high school seniors with guidance that included protocols to trigger epidemiological investigation response teams in local government, daily health monitoring, hygiene measures, social distancing, and mask wearing. To prevent COVID-19 transmission in schools testing laboratories are to process samples of high school students with highest priority and asked for timely notice of test results.

Two students with COVID-19 were reported on 20 May, resulting in 75 high schools closing to await guidance on whether it was safe to reopen. On 25 May a 6-year-old student in Seoul tested positive triggering local school closures.

The start of face-to-face classes at 561 schools nationwide on 27 May 2020 was postponed as COVID-19 continues to spread. More than two million students were scheduled to return to school.

Some parents are concerned about their children returning to school, Education Minister Yoo Eun-hae announced the increase in the number of permissible “absentee days” so that students can stay at home. Schools in higher risk areas are strongly advised not to fill classrooms with more than two-thirds of students by adopting a shift-like attendance schedule.

519 schools in the Seoul metropolitan area closed on 3 June 2020 amid fears of COVID-19 transmission as new clusters linked to churches emerged. The vast majority of schools nationwide did not close, however, and went ahead with the next phase of returning students (leaving only fifth, sixth and seventh graders studying online).
Fifth, sixth and seventh graders returned to school on 8 June, completing the three-week phased reopening of schools.485

At the end of June, students in Seoul requested refunds and improved grading systems.486

Issues
One reason South Korea may not have opted for a full lockdown is that civil liberties are deeply rooted in the country’s culture, and such a move could be seen as infringing on citizens’ civil liberties, potentially causing significant social unrest.487

The self-isolation and social distancing are being adopted by Koreans on their own. These measures work in strong part due to the culture of cooperation and discipline in the Korean people.488 The South Korean government also says that transparent and timely information updates to the public build public trust in the government and makes the people more likely to act rationally for the sake of the community. The Vice Health Minister has warned the population to not let their guard down as some containment measures are relaxed.489

There are worries about the efficacy of e-learning, and if schools have sufficient infrastructure, technology, and experience. Concerns on the ability of computer servers to support such a large number of users have been raised, particularly the speed of internet, which potentially has a large impact on e-learning. Problems of accessibility have also been raised about students from low income families who may not be able to afford to participate in e-learning, because of the cost of computers and tablets and high-speed internet. This is mitigated by local education offices loaning out equipment to support online learning, although it is uncertain how there is enough inventory to support the current shortage in equipment.490

Of concern is the opening and then closing of bars and clubs in Seoul after a cluster emerged. Also, to note is the link to the LGBT community nightclubs and that officials are facing challenges in finding those who may be infected due to stigma surrounding homosexuality and discrimination, including job loss and hate speech.491 The cases linked to mainly gay nightclubs in Itaewon triggered a “firestorm of online harassment and intimidation targeting LGBT people” according to Human Rights Watch.492

Cases linked to e-commerce distribution centers led to some fear of online shopping.493

In March, Tedros Adhanom Ghebreyesus of the WHO called on other countries around the world to “apply the lessons learned in [South] Korea and elsewhere” in their own battles against the coronavirus.494

UN Secretary General Antonio Guterres praised South Korea on April 30, stating that “the Republic of Korea has been extremely successful in addressing COVID-19”. He also praised their progress on climate change.495 Stephan Klingebiel, Director of UN Development Programme’s Global Policy Centre in Seoul, attributed the country’s success to self-discipline, effective measures and testing.496

Public Opinion
South Koreans view health as the main priority, over economy. 64% of South Koreans agreed that the government’s highest priority should be saving as many lives as possible, even if the economy sustains more damage.497

Economic Impact
Although keeping businesses open in South Korea allowed for economic activity to continue while flattening the curve, South Korea might still suffer from the global economic damage.498 The IMF forecasted that South Korea will see its GDP go from 2% in 2019 to minus 1.2% in 2020 and rebound to 3.4% in 2021.499 South Korea has outlined an economic support plan
worth 100 trillion won (S$116 billion). The government has set up an emergency loan
scheme for smaller businesses and 210,000 applied in the first three weeks of its
operation.\footnote{500}

In May the unemployment rate was at 4.5%, the highest in the past decade.\footnote{501}

**Wider impacts**

As at June, there were 370,000 consultation requests for depression related to the
pandemic. The number of sign-ups on Mabo, a Korean meditation app, doubled from April to
June. Trost, a psychology consultation app that connects professional therapists with users
through chat saw a rapid growth of male users over 40, when young women in their 20s and
30s used to be the main user group.\footnote{502}
Hokkaido, Japan

Background

As of 22 June, Japan had reported 17,864 confirmed cases and 953 deaths.\(^{503}\)

Hokkaido, a popular resort, in late Feb became the first place in Japan to declare a state of emergency due to increasing COVID-19 cases. The annual snow festival attracted more than 2 million people. Many were Chinese tourists, on holiday for the Lunar New Year.\(^ {504}\)

Epidemiological data for Hokkaido was unable to be located, below are reported cases across Japan. Cases rose in the first two weeks in Japan, declined to some extent at towards the end of Apr, but rose and fell again. The trend is inconsistent.

Source: Worldometer (2020)

Cases continued to emerge in Tokyo and Hokkaido through May and June. In Hokkaido, clusters emerged among older people visiting karaoke cafes.\(^ {506}\)

Mobility

Google mobility data shows that through April there was around an 50% decline in mobility in transit stations, little decline in workplaces (10%), and 30% decline in retail and recreation.\(^ {507}\)
Seroprevalence

A sampling study of 1,000 outpatients in Kobe, Japan from Mar 31 to Apr 7 found prevalence of 2.7%. In June, Tokyo reported 0.1% positive for antibodies, Osaka 0.17% and Miyagi 0.03%. Samples were collected from a total of about 8,000 people in the three regions.

Lockdown Summary

On 28 Feb there were 66 confirmed cases in Hokkaido, with rising case numbers. The governor declared a state of emergency – schools, businesses and restaurants shut. During the state of emergency, respective governors are allowed to order the closures of facilities such as schools, cinemas, departments stores as well as ban the gathering of large crowds. Essential services continue to operate. The state of emergency does not rely on enforcement such as fines and arrests for noncompliance but instead relies on the deep-rooted Japanese tradition of respect for authority.

By mid-March new daily cases in Hokkaido were in low single digits and zero on some days. On 19 Mar the state of emergency was lifted in Hokkaido, and at the beginning of Apr, schools re-opened. However, after 26 days a new state of emergency was put in place due to rising cases.

“Now I regret it, we should not have lifted the first state of emergency,” Dr Kiyoshi Nagase, chairman of the Hokkaido Medical Association. Japan had lifted a state of emergency in 39 out of 47 prefectures in mid-May, due to falls in infections. As at May 14, the order still applied in Tokyo, Osaka and Hokkaido.

There was a seven-week national state of emergency put in place on April 7, and schools, department stores, shopping malls and movie theaters were closed. Many citizens worked from home during the week and stayed in on weekends. Restaurants and bars either shut their doors or switched to takeout only, for shorter hours.

Exit Strategy

It has been reported in the media that to ease restrictions three criteria are considered:

- Number of new cases
- Capacity to provide medical services
- Efficiency of monitoring systems, such as polymerase chain reaction testing capacity.

One of the numerical targets proposed by a government panel of experts for lifting the emergency in the remaining prefectures is whether infections have fallen below 0.5 new cases per 100,000 people over the previous week.

The government will invite economic experts to its advisory panel to study how to balance infection containment measures with restarting social and economic activities.

On 25 May the state of emergency ended across Japan; the Prime Minister cautioned that this did not mean that COVID was gone from Japan and that people should continue following stringent social distancing guidance.

Prefectures have their own plans for reopening: for example, in Tokyo, schools, gyms and museums reopen in the first phase, while restaurants will be allowed to open to 10pm (from 8pm). In the second phase, retail stores handling nonessential items will reopen, along with
cram schools, theatres and fitness clubs. The third stage will involve reopening confined spaces such as internet cafes, game arcades, pachinko parlors, and karaoke bars.  

**Tracking, tracing, testing and isolation**

Initially, Japan adopted a trace and isolate “cluster-based approach”, based on the hypothesis that some individuals cause a high number of cases and form a cluster. Each cluster is tracked to the original infection source and persons with high transmissibility are isolated to prevent the spread of infection. Therefore, broad population testing was not undertaken, but rather pinpoint testing. Japan tested a small percentage of its population due to infrastructural challenges. The lack of expanded testing made it difficult to identify community transmission and health sector transmission.  

Japanese citizens and foreigners who have travelled abroad are asked to self-quarantine for 14 days and to watch for symptoms.  

On June 19, Japan released COCOA - COVID-19 Contact-Confirming Application - its coronavirus contact tracing app for iOS and Android. The apps rely on Apple’s and Google’s co-developed exposure notification platform, using Bluetooth to help determine whether users have come into close contact with others who have tested positive for COVID-19. However, there have been concerns about the privacy protections of the app that may hinder its download rate and hence effectiveness.  

Osaka has developed their own new and unique prefectural-run QR code system to track infections. This system allows owners and managers of restaurants, bars and nightclubs to register their business data with the prefecture, which then sends them a QR code that customers can scan for contact tracing.  

**Masks**

Japan traditionally has a high level of mask wearing, particularly so if someone is unwell.  

From mid-March to May, mask wearing in public places went from 60% to 85%.  

**Public places and gatherings**

As areas reduce their case numbers, there is gradual easing of measures. Venues such as libraries, schools, museums and parks are likely to reopen on the condition that social distancing measures are in place.  

**Transport**

As people return to work, there are concerns that the crowded trains may be an infection risk.  

Borders remain closed to many countries.  

Japan plans to ease travel restrictions in summer by letting in up to around 250 foreign travellers per day from Australia, New Zealand, Thailand and Vietnam. Japan currently has an entry ban in place for 111 countries and regions, with foreign travellers who have been to any of these areas within the last two weeks being turned away. Travellers to and from the country will be required to undergo testing for COVID-19 and submit a trip itinerary.  

Hokkaido University professor Hiroshi Nishiura and International University of Health and Welfare professor Koji Wada raised concerns that “border control measures cannot be perfect” and a rise in arrivals from abroad will increase the risk of a new wave of infections.  

Japan lifted its final restrictions on inter-prefecture travel on 19 June, allowing passengers to travel via rail and air across the country. Although the government lifted the nationwide state
of emergency in late May, people had been advised to avoid all nonessential travel to and from Tokyo and its surrounding prefectures of Chiba, Kanagawa and Saitama, as well as Hokkaido.\(^{533}\)

**Places of worship**

Some religious institutions have decided to close and do online services, others are conducting services for small groups only with social distancing.\(^{534}\)

**Business**

The lifting of the state of emergency on 25 May saw many people resuming their daily commutes and work; there is no limit to passenger numbers and no social distancing requirements.\(^{535}\)

After lifting the state of emergency, working from home is encouraged by some businesses and only workers that need to be present should go into work (eg manufacturing).\(^{536}\)

From June 19 clubs and bars reopened and will have to keep a record of their customers’ names and contact information and enforce social distancing rules.\(^{537}\)

**Education**

From May the government encouraged schools to reopen gradually by holding classes in smaller groups (priority to 1st and 6th graders in elementary school and seniors in junior high school).\(^{538}\) Schools that have reopened request students to wear masks and wash their hands with soap at regular intervals. Safe distancing is observed during meal times.\(^{539}\)

An online survey found almost 60% of respondents aged 17 to 19 felt there were inequalities in education during the pandemic, with some noting a lack of online classes in some schools during the closures.\(^{540}\)

**Issues**

Japan conducts fewer tests than other countries, which makes it difficult to predict if the virus is truly contained or at the foot of a major outbreak. For now, Japan has a low mortality rate and has not had the explosive increase in infections other countries have seen.

The Japanese government was criticised for low testing rates and guidelines for testing – that people should only consult a public health center about getting tested if they had a fever of at least 37.5 (99.5 F) for four consecutive days. They also suggested the elderly should have cold symptoms for two straight days before seeking a consultation. In response, the health ministry released new guidelines to say that both the young and the elderly should consult health centers immediately if they have relatively mild cold symptoms for four days or longer.\(^{541}\)

Commentators have reflected that the relatively low case and death rate in Japan may be due to weight and lifestyles, the culture of viewing non-binding requests as law, wearing facemasks when ill, bowing as greetings, and regular hand washing. It has also been noted that Japanese people worship in small groups.\(^{542}\)

Japan has thus far avoided a major lockdown, partly because their post-war constitution protects human rights in view of civil rights abuses during the pre-war Meiji era.\(^{543}\) Japan’s strategy, which relied on public cooperation and voluntary compliance, has been criticised as lax for not punishing those who do not adhere to stay-home requests.\(^{544}\)

Under Japan’s post World War Two constitution, the government can’t order companies to close, but did encourage working from home where possible. According to Google mobility data, traffic to workplaces decreased just 27% compared to the 70-80% target set out by the
government (as of Apr 26). However, many businesses remained open during the state of emergency, as their owners could not afford not to open – in early June cases were linked to bars and clubs that remained open.

In May, it was reported that call centres remained open as working from home was not strictly enforced and there were data security concerns. Clusters have begun at these call centres. To mitigate the spread of the virus, companies are reducing the number of call operators and installing partitions.

Similar to other countries, elderly care facilities in Japan were reported to be struggling to prevent infections among residents. Barato Acacia Heights care home in Sapporo saw around 70 percent of residents infected - with 71 confirmed cases as of 30 May 2020, of whom 15 have died. The facility may have faced delays in finding hospitals that would accept the infected residents.

Elections scheduled for July 5, candidates in Tokyo focus on two topics: what countermeasures are needed to prevent a second wave of novel coronavirus infections in Tokyo, and whether the capital is able to host the 2020 Olympic and Paralympic Games.

**Public Opinion**

From mid-March to May, 30-40% supported the government’s handling of the pandemic, over 80% perceive that the situation is improving.

57.5% expressed discontent with steps taken so far by the government, while 34.1% approved, according to the telephone survey conducted by Kyodo News for three days from 8 May 2020. Many said they feel insecure about their futures with stalling economic activity.

In May, 76% of Japanese agreed that the government’s highest priority should be saving as many lives as possible, even if the economy sustains more damage. 24% agreed on the converse view, that the government should save jobs and restart the economy than to take every precaution possible.

In May a Kekst CNC tracker that sampled 1000 adults in Japan found more than a third expected to lose their job due to the pandemic. They were also critical of government, with 58% saying they have become less confident in central government. Only 13% say they thought the government gave business the support it needs.

In a research report by The Economist, Japan scored 2.89 points out of 4 points in its novel coronavirus response index and was in the “fair” category of the assessment by the Economist Intelligence Unit. The assessment covered virus response measures in advanced countries. The country did poorly in terms of the number of virus detection tests, but scored highly for markers like its healthcare system and death toll.

**Economic Impact**

Japan has reported that the economic impact is on a level with that seen after the 2011 earthquake and tsunami and the 2008 global financial crisis. In April, the IMF lowered its projection for Japan’s economic growth in 2020 to minus 5.2% from 0.7% because of the pandemic and forecast that unemployment would go from 2.4% to 3%.

Japan and the International Olympic Committee decided to postpone the July 2020 Tokyo games for a year.

Hokkaido relies on agriculture and tourism; the industries have been devastated. Farmers have been hard hit and an estimated 50 food processing companies went bankrupt. The Hokkaido governor and Sapporo mayor have requested the central government compensate
bars and restaurants for lost earnings if they close to adhere with the emergency declaration.\textsuperscript{558}

By May, more than 35 percent of households experienced reductions in income, while more than 50 percent expect income cuts and 47 percent of workers fear losing their jobs.\textsuperscript{559}

The government will introduce a fresh stimulus package worth ¥117.1 trillion ($1.1 trillion) to help businesses and households cope with the economic effects of the coronavirus pandemic. The stimulus is on top of the first stimulus package, which was also worth ¥117.1 trillion.\textsuperscript{560}

Confidence among large Japanese companies in the April-June period hit the lowest level in 11 years amid the pandemic, a joint survey by the Finance Ministry and Cabinet Office showed on 11 June 2020.\textsuperscript{561}

\textbf{Wider impacts}

Delays at family courts, including the coordination of meetings between parents and children living apart and divorce mediation. \textsuperscript{562}

\begin{shaded}
A survey found that the state of national emergency heightened emotions, particularly anger and was more prevalent in husbands compared to wives.\textsuperscript{563}

The shift to working from home in Japan affected household electricity bills. An estimate based on a study in June suggested they rose by ¥3,500 on a monthly basis, an increase of 60%.\textsuperscript{564}
\end{shaded}
New York, USA

Background
New York State (NY) has been one of the hardest hit areas in the world, with 411,264 cases and 31,215 recorded deaths as of 26 June. In early June Queens, Kings and the Bronx were the worst affected and recorded 58% of all deaths in the county.\(^\text{565}\)

Cases can be influenced by testing availability and strategy, looking at deaths from COVID-19 can be a more accurate way of viewing an outbreak (although there is a lag from infection to death). The graph below shows a clear peak and then decline in deaths.

Source: New York County (2020)

As at June 22, there were 24,725 deaths reported, 90% had at least one comorbidity, 58% were male.\(^\text{566}\)
Mobility
Google mobility data shows that through April, there was around a 70% decline in mobility in transit stations, 50% in workplaces, and 50% in retail and recreation.\textsuperscript{567}

As New York City entered Phase 2 of reopening on 22 June, subway cars had relatively few riders for the start of the workweek, and parks in business districts were sparsely populated during the usual lunch rush.\textsuperscript{568}

Seroprevalence
Antibody testing survey at churches in lower-income New York City communities and communities of colour found 27% tested positive for COVID-19 antibodies, compared with 19.9% of New York City's overall population.\textsuperscript{569}

In New York, preliminary results of an ongoing state survey of people approached outside of grocery and big-box stores found 13.9% of those tested state-wide had coronavirus antibodies, and 21.2% in New York City in mid-April; this would give an IFR of 1.08%.\textsuperscript{570}

Lockdown Summary
On 22 Mar, New York State on PAUSE (Policies Assuring Uniform Safety for Everyone) executive order went into effect restricting the operations of all nonessential businesses.\textsuperscript{571}

Grocery stores, pharmacies and utility services continued to operate while restaurants were allowed to open for delivery orders.\textsuperscript{572} Businesses that are still allowed to operate must implement rules to keep distancing of 6 feet and non-compliances are subject to civil fines and mandatory closure. Gatherings of any size were prohibited; outdoor solitary exercise was allowed and public transport was still running. Schools closed.

The state also implemented “Matilda’s Law” - named for the former First Lady of New York, Matilda Cuomo – to protect the most vulnerable populations, including individuals age 70 and older, those with compromised immune systems and those with underlying illnesses. The measure requires those individuals stay home and limit home visitation to immediate family members or close friends in need of emergency assistance and if it is necessary to visit such individuals then visitors should get pre-screened by taking their temperature.\textsuperscript{573}

As of 16 Apr, the stay-at-home order had been extended to 15 May, together with other states.\textsuperscript{574} This state-led initiative runs contrary to the President’s guidelines which advocate the loosening of restrictions. New executive orders issued to take effect on 17 Apr 2020 now require masks or face coverings to be worn in public, including in public and private transport.\textsuperscript{575}

Several Presidential proclamations led to US-wide restrictions on entry into the US from China (from 31 Jan), Iran (from 29 Feb), EU (from 11 Mar), UK and Ireland (from 14 Mar), and Brazil (from 24 May). Citizens returning from these countries are required to self-isolate for 14 days.\textsuperscript{576}

Exit Strategy
Governors around the US listed four factors that are important in deciding when to reopen the economy, viz the degree of control over new cases, testing and tracing capabilities, ability to handle a resurgence, and the existence of good social distancing protocols in the workplace.\textsuperscript{577}

On 4 May, Governor Cuomo presented criteria to meet before reopening.\textsuperscript{578, 579}
• The infection rate is sufficiently low
• The health care system has the capacity to absorb a potential resurgence in new cases
• Diagnostic testing capacity is sufficiently high to detect and isolate new cases
• Robust contact-tracing capacity is in place to help prevent the spread of the virus
The New York plan for phased reopening is based on the following principles:
• Do No Harm and Strengthen the Healthcare System - New York will continue to control the rate of infection and build out the strategic stockpile of PPE and other medical equipment.
• Testing and Contact Tracing - The state is working with federal partners to rapidly scale up testing. A new state-of-the-art contact tracing program was launched by NYS with the partnership of former Mayor Mike Bloomberg, Bloomberg Philanthropies and Johns Hopkins University.
• 12 Point Plan for Phased Return of Business - Governor Cuomo outlined guidelines that will help regions create individual plans based on facts and data to re-open New York.
The 12 Point Plan (some of the following overlap with categories in next section, so are not repeated in following section):
1. CDC Guidelines - CDC Guidelines: Based on CDC recommendations, regions must experience a 14-day decline in hospitalisations and deaths on a 3-day rolling average. Regions with few COVID cases cannot exceed 15 new total cases or 5 new deaths on a 3-day rolling average. A region must have fewer than two new COVID patients admitted per 100,000 residents per day.
2. Priority Industries for Re-opening: Businesses in each region will re-open in phases.
   • Phase One: Construction, manufacturing and wholesale supply chain, select retail using pickup only
   • Phase Two: Professional services, finance and insurance, retail, administrative support, real estate and rental leasing
   • Phase Three: Restaurants and food service, hotels and accommodations
   • Phase Four: Arts, entertainment and recreation, education
3. Business Precautions: Each business and industry must have a plan to protect employees and consumers, make the physical work space safer and implement processes that lower risk of infection in the business.
4. Building Health Care Capacity: To maintain the phased re-opening plan, each region must have at least 30 percent total hospital beds and ICU beds available after elective surgeries resume. This is coupled with the new requirement that hospitals have at least 90 days of PPE stockpiled
5. Testing Regimen: Regions must implement a testing regimen that prioritises symptomatic persons and individuals who came into contact with a symptomatic person, and conducts frequent tests of frontline and essential workers. Each region must have the capacity to conduct 30 diagnostic tests for every 1,000 residents per month. Regions must maintain an appropriate number of testing sites to accommodate its population and must fully advertise where and how people can get tested. The region must also use the collected data to track and trace the spread of the virus.

New York state announced on May 10 that all nursing home staff members must be tested twice a week for COVID-19, and hospitals may not discharge any COVID-19 patient to a nursing home until the patient tests negative.\(^\text{580}\)

May 19, New York State testing capacity reached 40,000 diagnostic tests per day, and 700 testing sites.\(^\text{581}\)

6. Tracing System: Regions must have a baseline of 30 contact tracers for every 100,000 residents, and additional tracers based on the projected number of cases in the region. The region must also monitor the regional infection rate throughout the re-opening plan.

Private Kit: Safe Paths app is available, developed by teams at Harvard University and MIT. Users share their location data and see if they crossed paths with a positive person. Individuals who test positive can select to share their location data with health officials, who can then make it public to other users.\(^\text{582}\)

7. Isolation Facilities: Regions must present plans to have rooms available for people who test positive for COVID-19 and who cannot self-isolate.

8. Regional Coordination: Regions must coordinate the re-opening of schools, transportation systems, testing and tracing with other surrounding regions

9. Re-imagining Tele-Medicine
10. Re-imagining Tele-Education
11. Regional Control Rooms: Each region must monitor businesses and regional indicators during the phased re-opening, including hospital capacity, rate of infection and PPE burn rate.
12. Protect and Respect Essential Workers: Regions must continue to ensure protections are in place for essential workers.

New York has brought in international experts to help advise the state’s reopening plan. Dr Michael T. Osterholm, Director of the Center for Infectious Disease Research and Policy at the University of Minnesota and Dr Samir Bhatt, Senior Lecturer at Imperial College London will help analyse data and metrics throughout New York’s reopening process.\(^\text{583}\)

Industry guidance was made available in early June for reopening through the different phases. These include recommendations for workplaces such as the construction industry, retail, manufacturing, offices, real estate and so on.\(^\text{584}\)

Areas reopened at different times from 20 May onwards.\(^\text{585}\) The Mid-Hudson region will begin phase one of the New York Forward reopening plan on 26 May while Long Island will begin on 27 May as both regions are expected to meet the criteria for reopening, as announced by Governor Andrew Cuomo on 24 May. This would leave New York City as the only region of the state under lockdown, and it is estimated that New York City will be able to begin reopening on the first or second week of June.\(^\text{586}\)

In June an “Early Warning Monitoring Dashboard” was implemented, this tracks the following metrics by regions of NYS.\(^\text{587}\)
New York City entered phase 1 of reopening on June 8; up to 400,000 workers began returning to construction and manufacturing jobs. Retail stores also opened for curbside and in-store pickup.588

Phases as at 22 June 2020.

Tracking, tracing, testing and isolation

See 12-point plan above.

NY Governor Andrew Cuomo supports the view that more widespread testing should be carried out and more supplies and operational capabilities be available before the economy reopens, a situation yet to be reached.589 He issued an executive order for all laboratories in New York to increase testing numbers as part of his move to “un-pause New York”.590 A state-wide antibody testing survey will also start on 20 Apr to understand the level of immunity before reopening businesses.591

From June 8, ten additional testing spots were established in hotspot areas (predominantly low income and minority communities). 592

The graph shows the total persons tested (blue) by total positive (orange). By 22 June close to 3.4 million people in NYS had been tested, with approximately 388,000 positives.593
On June 21, after 3 weeks of operation, contact tracing service reported that 94% of people testing positive are picking up calls, but less than half (42%) are sharing who they have been in contact with.594

**Masks**

Governor Cuomo issued executive orders for strict enforcement of mask-wearing. Cuomo maintained his firm stance against the reopening. Nonessential businesses remain closed through to 15 May, and schools remain closed.595

In the US, mask wearing in public places went from around 5% in mid-March to close to 70% by the end of May.596

**Public places and gatherings**

Beaches opened on 22 May, ahead of Memorial Day weekend (swimming is not permitted), also that small gatherings of up to ten socially distanced people are permitted.597,598

**Transport**

From 6 May, daily disinfection of subway trains between 1am and 5am, temporarily halting the 24-hour service.599

Airports remained open, but with 95% reduction in traffic.600

As the state reopened, it sent over one million masks, as well as 500,000 2 oz. bottles of sanitizer to the Metropolitan Transportation Authority.601

Concern was raised at end of June regarding out-of-state visitors from hot spots bringing the virus back to New York.602
Places of worship

From 21 May, religious gatherings of up to 10 people allowed as long as participants wear masks and practice social distancing. The state is also allowing drive-in and parking lot services. From early June places of worship were allowed to reopen with 25 percent occupancy and social distancing protocols as part of phase two of reopening.

The Supreme Court refused a request from a church in California to block enforcement of state restrictions on attendance at religious services. President Trump announced that he would categorise churches as essential places that provide essential services, and stated that “governors need to do the right thing and allow these very important, essential places of faith to open right now, for this weekend (for 30 May). If they don’t do it, I will override the governors.”

Business

See phases outlined above.

On 27 May, Mayor Bill de Blasio announced that New York will begin to enforce a “take out, don’t hang out” policy in nine “bar-heavy” neighbourhoods: the Upper East Side, Hell’s Kitchen, the East Village, the West Village, the Lower East Side, Williamsburg, Long Island City, Astoria, and City Island.

Governor Andrew Cuomo announced on 24 May that New York’s professional sports teams can resume their training camps, under the condition that the teams adhere to social-distancing protocol.

26 May, Stock Exchange trading floor reopened - only a quarter of the normal number of traders will be allowed to return, they must avoid public transport, have their temperature taken, wear masks and follow strict social distancing rules. Transparent barriers are also in place to keep people apart.

As New York City looks toward Phase 1 of reopening on June 8, state officials were ensuring the city’s 11 public hospitals and more than 100 private hospitals have “surge and flex” capacity to deal with a potential second spike.

1 June, dentists reopened subject to state guidance on safety and social distancing.

Following issues around groups not abiding by measures in entertainment establishments, in late June Governor Cuomo signed an Executive order stating that businesses selling alcohol that are violating the reopening guidelines could result in immediate loss of their liquor license and a shutdown order; the areas immediately outside their locations are also the responsibility of the business.

In late June, hospitals and group homes were allowed to accept visitors at their discretion, while following state guidelines including time-limited visits and requiring visitors to wear PPE and be subject to symptom and temperature checks.

Education

Plans for reopening schools are being drawn up on how to reopen safely in Sept, however the decision on whether to open schools won’t happen until July. Concerns were raised in June around how to safely open.

Medical allowed to reopen on June 22 and socially distanced graduations of up to 150 people will be allowed from June 26. Schools will be allowed hold drive-in and drive-through graduation ceremonies.
Issues

Governor Cuomo and Mayor de Blasio disagree on the school closures. The mayor announced the extension of the closure through the rest of the academic year, which will add to the pressure on educators and parents already struggling to convert to online learning. Governor Cuomo asserted however that there has been no such decision, and that this should be decided by the state to allow for proper coordination in the region. This was similar to the disagreement on the implementation of a “shelter-in-place” order that limits non-essential travel (a reflection of their long-standing rivalry).616

There are issues around the national and state interactions. For example, on 24 May the Trump administration announced the new testing strategy, which holds individual states responsible for planning and carrying out all coronavirus testing. The strategy was criticised by public health experts and Democratic leaders stating that the strategy runs the risk of states competing with one another and may create inequities between them.617

There was also blame passed between Governor Cuomo and President Trump surrounding the discharging elderly patients into nursing homes. 4,300 COVID-infected elderly patients were placed into nursing homes under a state directive that was based on national agency guidance.618

On May 25, George Floyd, a 46-year-old black man died in Minneapolis after a white police officer pressed his knee to Floyd's neck for almost nine minutes while Floyd was handcuffed face down in the street. This sparked mass protests in the US and beyond. Governor Cuomo said the protests could threaten the state’s progress in containing the spread of the virus. “I know a lot of the protesters are so annoyed they don’t want to hear about COVID anymore… ‘COVID is yesterday’s news.’ No, COVID is still a problem. COVID still kills also, so be mindful and respectful of that.”619 The Governor also urged protesters to wear masks properly over both nose and mouth.620

On 13 and 14 June crowds outside bars prompted New York governor Andrew Cuomo to urge businesses and the public to abide by reopening guidance and social distancing.621

Public Opinion

In the US, from mid-March to May, 40-50% supported the government’s handling of the pandemic, just over 40% perceive that the situation is improving.622

Economic Impact

The economy has been affected by the lockdown. The fall in total retail sales in March was the largest seen in almost three decades.623 In April, there was a record number of people registering as unemployed.624 Economic packages such as the Paycheck Protection Program have been launched to help small businesses survive, but there were initial problems with the application of these grants and loans and the sheer number applying reaching the allocated level early on.625,626

To tackle these issues, the Governor put into place several measures including aid for schools affected by closure and the waiver of waiting period for health insurance claims.627 New York will also be receiving at least $40 billion from the COVID-19 relief package from the US Senate.628

In May/June, New York borrowed more than $1.1 billion from the federal government to pay unemployment claims triggered by the coronavirus pandemic.629
The forecast is that the unemployment rate at the end of 2020 will be at 9.3% and reduce to 5.5% by 2022. “Nearly 20 million jobs have been lost on net since February,” Jerome H. Powell stated, Chair of the Federal Reserve.

**Wider impacts**

It was announced on 25 May that the families of state and city workers who died fighting the coronavirus outbreak will receive line-of-duty benefits. These workers include transit workers, emergency medical workers, police officers, and firefighters. The benefits will include funeral costs and 66 percent of the worker’s salary.

End of June saw growing concern over how New Yorkers who are still unemployed will pay their rent, increasing their risk of getting evicted by landlords and made homeless.
New Zealand

Background
As of 22 June, there are 1,513 confirmed and probable cases and 22 deaths. Case numbers peaked and then plateaued at the end of Mar through to the start of Apr, then fell to single digit cases by the end of Apr, with some days reporting no cases. Single digit cases are still being reported into May. 633

On June 16, New Zealand reported two cases of the coronavirus, ending a run of 24 days with no new cases. Both were imported cases from the UK (via Doha and Brisbane). 634 Further imported cases were identified from Australia and India in late June.

Source: NZ Ministry of Health (2020)

Mobility
Google mobility data shows that through April mobility was low; there was around an 80% decline in mobility in transit stations, 70% in workplaces, and over 80% in retail and recreation. Towards the end of April and into early May, mobility remained low - transit stations were still at -68% and workplaces -40%, retail and recreations at -70%. 635

Seroprevalence
(No information found)

Lockdown Summary
A maximum Level Four lockdown was implemented from 26 Mar to 23 Apr. Only essential services are running and movement have been restricted. 636 These strict measures were imposed at a time when there were only 102 cases and no deaths. 637

Exit Strategy
"Our elimination strategy is a sustained approach to keep it out, find it and stamp it out. We do this through: controlling entry at the border; disease surveillance; physical distancing and hygiene measures; testing for and tracing all potential cases; isolating cases and their close contacts; and broader public health controls depending on the alert level we are in." 638 – May 8

New Zealand has an Alert Level system. 639
The levels are underpinned with the following public health measures:

- **General public health advice:** Regularly disinfect surfaces; wash and dry hands, cough and sneeze into elbow, don’t touch face; people with cold or flu symptoms must stay at home and ring Healthline or their GP.

- **Contact tracing:** Ongoing contact tracing for all confirmed and probable new cases of COVID-19, with appropriate isolation measures put in place.

In June, the head of planning of the World Health Organisation for the Western Pacific region, Dr Matthew Griffith, urged New Zealand to further develop its contact tracing systems, in case there is another outbreak.\(^{640}\)

- **Testing:** Testing of all potential cases of COVID-19 for people who meet the case definition (i.e. are displaying relevant symptoms). Tests will take place at dedicated Community-Based Assessment Centres or designated practices. Random testing within communities (including for people who are asymptomatic) may be carried out locally to inform understanding on the spread of the virus in certain areas.

From 22 January to 7 June 2020, 294,848 tests were carried out (1,891 was the 1 June to 7 June 2020 weekly average).\(^{641}\)

Tests per day for COVID-19

On June 23, New Zealand government stated it was considering additional testing and monitoring of flight attendants, particularly for those travelling from the west coast of the United States.\(^{642}\)

Doctors say that there has been a big surge in demand for community testing since the two border cases, shelving plans to close Wellington's community testing centres this week.\(^{643}\)

- **Isolation and quarantine:** Self-isolation of those who display relevant symptoms of COVID-19, test positive for COVID-19, or have been in close contact with someone who tests positive for COVID-19, including quarantine/managed isolation for those who have
been overseas in the last 14 days. Quarantine facilities mandated for those who do not have sufficient capacity to self-isolate effectively.

Auckland’s isolation facilities reached capacity on June 21, with 4272 New Zealanders in managed isolation and almost 900 more expected to arrive in the country in the next two days. In response, two new facilities in Rotorua were set up, and the government is looking at other regions to see if there were other facilities to accommodate future arrivals.

- Border: Border measures in place which safeguard against the risk of COVID-19 being transmitted into New Zealand. Currently, the requirement is managed isolation or quarantine on arrival for 14 days before onward domestic travel.

However, at the end of June proper protocols were not followed and two people were allowed to leave managed isolation (visiting a family member in hospital) before they were tested. Both subsequently tested positive and were put in self-isolation.

Ports of Auckland kept the shore leave ban even though under official rules for alert level 1, crews at sea for more than 14 days who have not declared illness are allowed to disembark with no health checks required. This comes after several cases of crew members arriving and reporting illness in the past week.

Prime Minister Jacinda Ardern announced details on moving between the Alert Levels prior to the move to enable businesses and individuals to plan for and understand. The details of Alert Level 3 were announced on 16 Apr, highlighting that, while there will be loosening of restrictions, there should still be heightened vigilance by the community and emphasised the necessity of the stringent measures currently in place to continue despite the huge economic impact.

The country moved to Alert Level 3 on 27 Apr. Under Alert Level 3 people continue to stay in household “bubbles” (the people in a home), but can expand their “bubble” to reconnect with close family, or bring in caregivers, or support isolated people. Emphasis is on protecting the bubble if extended. If anyone in the bubble feels unwell, they should self-isolate from everyone else in the bubble. There has been some reopening under Alert Level 3:

- Education open for children up to Year 10. Tertiary education facilities may open for limited activities involving small groups of up to 10 people where the members of the group can maintain physical distancing. Examples of these limited activities include campus research that can’t be done off campus, lab work, and practical hands on learning such as trades courses.

- Takeaway can reopen with pre-ordered contactless pick up or home delivery.

- Real estate, but people should work from home if they can. The agent can enter people’s homes, but not have customers in the office.

- Construction businesses can start work again but strict hygiene measures must be put in place — and office staff who can work from home should do so.

- The only permitted gatherings of up to 10 people are for funerals and tangihanga, and wedding ceremonies (not receptions).

- Workplaces can only open if: workers cannot work from home, and workplaces are operating safely, and customers are not allowed on premises, and businesses can trade without physical contact with customers (e.g. through phone/online orders, delivery, pick-up and drive-through). 1 metre distancing is required.
At the end of May, the New Zealand Government launched a tracing app “NZ COVID Tracer”, and “Āwhina” app to help health workers access the information they need about COVID-19. Some businesses have also set up their own apps for contact tracing. The NZ COVID Tracer app recorded 522,000 registrations by 8 June.

Healthy people in the community are not currently required to wear a face mask.

On 13 May, New Zealand moved to Alert Level 2. Social distancing and hygiene measures are still emphasised.

- All businesses can open to customers if they can do it safely.
- Tertiary education facilities, schools and Early Learning Centres will be open for all ages. On 18 May schools reopened with social distancing and hygiene measures.
- Travel between regions allowed.
- Initially, gatherings like weddings, religious ceremonies and social gatherings can have up to 10 people.
- Gatherings of up to 10 allowed.
- Cafes, restaurants, bars and pubs reopened with reduced capacity due to social distancing measures.
- Recreation activities allowed, at first keeping to 10 people.

Bars won’t reopen until May 21, a decision that was prompted in part by the experience in South Korea.

Starting May 29, New Zealand will allow gatherings of up to 100 people, compared to the previous limit of 10 people, in an attempt to renormalise life. Larger church services are also permitted to resume and cafes and restaurants would also be allowed to serve more customers from May 29. Community sports are also allowed to start again.

Prime Minister Jacinda Ardern stated that from 9 June the country would move to Alert Level 1 and all COVID-19 measures in the country will be lifted, except border restrictions, declaring that the virus had been eliminated from the country.

Under level 1, there is no requirement for physical distancing or limits on the number of people allowed in places like bars, clubs, churches, and sports venues.

The first weekend at Alert Level 1 (13 and 14 June) New Zealanders went to sports fixtures, clubs and malls. There was minimal mask wearing or hand sanitiser.

The two new cases arrived in New Zealand on Jun 7 from the UK (via Doha and Brisbane) and were in an isolation facility in Auckland. They were given special permission to leave the facility to visit an end-of-life patient in Wellington. Prime Minister Jacinda Ardern said the circumstances surrounding the announcement of the two new Covid-19 cases were not considered acceptable by the Government. Professor of Medicine in the Faculty of Medical and Health Sciences at the University of Auckland Des Gorman called the decision to let the two people leave isolation without being tested for the virus “completely unacceptable.” The Government suspended all compassionate exemptions for travellers until assurances are provided from the Ministry of Health that the procedures are more robust.

From 18 June, participants in more than a dozen sporting events and workers in 60 infrastructure projects qualified to fly into New Zealand, but will still have to undergo 14-day managed isolation.
Air New Zealand flights from Auckland to Shanghai, China resumed on June 22, with one return service operating weekly. Before the Covid-19 pandemic the airline operated seven services per week.  

On June 22, New Zealand extended a ban on cruise ships arriving in the country and tightened measures for visitors to exit quarantine, after reporting more coronavirus cases linked to overseas travel.

**Issues**

Critics expressed concern that these stringent measures will heavily impact the economy and the tourism industry which provides the largest share in foreign exchange earnings.

Some public health experts have commented that the measures in New Zealand were an “over-reaction” and petitioned to decrease the alert level. Another scientist has refuted their claims, arguing that the lag time in mortality means that the number of deaths will rise with time and the virus is not less harmful than previously thought, and healthcare facilities are currently coping because lockdown measures were put in place fast enough and not because the virus did not have a large impact. While Australia is generally thought to have more relaxed measures compared to New Zealand and yet is equally effective, some states had put in more stringent measures on their own, hence Australia’s response may in fact not be as relaxed.

Experts in the Health Ministry’s COVID-19 technical advisory group stated that current data is insufficient to show that it is currently the right time to loosen restrictions, such as data on the effectiveness of contact tracing, testing and border controls.

In a WHO news conference on the coronavirus pandemic on 9 May 2020, WHO Health Emergencies Programme executive director Dr Michael Ryan said they had seen several countries who have been "very systematic with a very comprehensive strategy" to fight the disease, including New Zealand.

The government came under pressure around border and quarantine controls after cases were found to have been allowed to leave facilities on compassionate grounds.

**Public Opinion**

In May, support for Prime Minister Jacinda Ardern’s Labour Party soared to 56.5% (from 40% at the start of the pandemic).

A survey of 1191 parents undertaken by the University of Otago, Christchurch in May found just under 80% thought it was “likely” or “very likely” their child would catch COVID-19 if schools were to reopen when there is widespread community transmission of the coronavirus. More than 60% of those surveyed said they were either "extremely", "very" or "somewhat" worried about their children catching Covid-19 at school.

A survey found that, during the pandemic, nearly 80 percent of respondents felt it was important to develop political, economic and social ties with the region, up from 67 percent prior to the pandemic.

**Economic Impact**

In April, the IMF lowered its projection for New Zealand’s economic growth in 2020 to minus 7.2% from 2.2% because of the pandemic and forecast that unemployment would go from 4.1% to 9.2%.

Based on different scenarios, it was reported in April that New Zealand unemployment rate may go from 4-5% to about 13%, but up to 25% if the alert level 4 was maintained longer.
Some services are particularly affected; for example, the closing of borders essentially grounded Air New Zealand, and in April it announced it was laying off 3,500 employees.\textsuperscript{679}

The Reserve Bank of New Zealand has announced a NZ$30 billion monetary stimulus and provided additional liquidity to the business sector that gives banks the ability to access term funding.\textsuperscript{680}

On 25 May, the Government announced a new temporary payment for New Zealanders who have lost their jobs due to the pandemic, with the aim of helping them to find new employment or for retraining.\textsuperscript{681}

On 28 May, the Government announced a multimillion-dollar funding boost to help the arts sector recover.\textsuperscript{682}

Modelling by Tourism New Zealand showed that domestic tourism is unlikely to fill the gap left by international visitors, but may partly sustain the sector.\textsuperscript{683} By June 21, more than 300 businesses had applied for the Strategic Tourism Assets Protection Programme, part of the government’s $400 million tourism recovery package, targeted to protect strategic tourism assets.\textsuperscript{684}

Exports have also been impacted, such as venison – about 18,000kg of venison was unable to be exported by the end of July. This will be distributed to thousands of New Zealand families.\textsuperscript{685}

Wider impacts

In early Apr a weekly health and wellbeing survey has been undertaken. Baseline data is not available for most of the questions asked in the survey, so it is not possible to determine if the responses are due solely to the COVID-19 situation, or if they are normal for the responders. Results from 21 May:\textsuperscript{686}

- Ninety per cent of respondents say their general health is good, very good or excellent. This is similar to the most recently published results of the New Zealand Health survey; in 2018/19, 86 percent of respondents said their health was good, very good or excellent.
- Ninety-nine per cent can support the wellbeing of children under 15 years in their household (1 percent say they are finding this difficult)
- Ninety-five per cent are able to pay basic living costs (5 percent say they are struggling to do this)
- Ninety-nine per cent are getting along with other members of their household (1 percent say they are getting along badly or very badly)
- Seventy-five per cent of respondents say they are satisfied with life these days
- Thirty-one per cent reported feeling lonely or isolated at times in the week before they were surveyed
- Eight per cent reported depressive or anxiety related symptoms (down from 14 percent in week one) in the week before they were surveyed. (This may not represent an increase from usual levels of feelings of anxiety and depression amongst the general population)

The University of Auckland’s Professor Richie Poulton led a review on mental health needs as a result of the situation, outlining that demand for mental health services could double as a result of the pandemic situation and he called for a fast redesign of services to meet the need and community led approaches.\textsuperscript{687} Robyn Shearer, the deputy-director general for mental health and addiction, said Budget 2019 provided over $455 million over four years in
primary and community mental health support. The Government also allocated an extra $15 million in mental wellbeing support through its Covid-19 response initiatives.688

Many non-essential health services were on pause during the lockdown, which led to impacts. For example, New Zealand’s eye bank stopped collecting donations for several weeks leading to a mis-match between supply and demand.689

By June, there were just under 70 complaints to the authorities about traders falsely advertising products as protecting against the coronavirus, including cure and prevention claims such as ozone therapy as a disinfectant for living areas, to lanyards coated in chlorine dioxide that provide a protective barrier to viruses and bacteria.690

A study by the Ngāi Tahu initiative, Tokona Te Raki, has found that Māori are more likely to be impacted economically because they are over-represented in industries affected by the pandemic and have less employment security.691

On June 18, Queenstown social services called for government support, saying they are buckling under mounting pressure. Close to 8000 people will lose their jobs in the Queenstown Lakes due to the impact of border closures. Most of them are migrants who can't return home or access government support. Central Lakes Family Service social worker Heather Clay said “We are exhausted, having worked near 24/7 for 12 weeks. The people we are assisting are now also exhausted, afraid and losing hope, they need to be given the means to support themselves so they’re less dependent on our services.”692
Australia

Background
As of 21 June, a total of 7,461 cases of COVID-19 have been reported in Australia, including 102 deaths. Case numbers increased towards the end of Mar, plateaued and then declined from early April.693

![Daily Reported Cases vs Cumulative Cases](image)

Source: Australian Ministry of Health (2020)

After restrictions eased on June 1, the number of new cases were referred to as an “ongoing trickle”, by Dr Katherine Gibney from the Doherty Institute and Royal Melbourne Hospital. Half are imported and half local. As at June 16, all but one of the 61 cases over recent days were in NSW and Victoria.694

Mobility

Google mobility data shows that through April, there was around a 50% decline in mobility in transit stations, 30-40% decline in workplaces, and 40% decline in retail and recreation.695

From early June, several companies, including Google, Apple and Citymapper, made available public de-identified data from their mapping and other location-based apps to track traffic flow across cities, states and countries. Mobility varies based on levels of restrictions in place.696

In Jun, rush hour traffic in Melbourne was still 30% below baseline.697
Seroprevalence
(No information found)

Lockdown Summary

A National Cabinet was formed in mid-March, comprising the Prime Minister and the leaders of each state and territory government. 

20 March borders are closed to all foreigners.

Australia’s lockdown measures started on 23 Mar with the closure of most non-essential services, banning large gatherings, and encouragement of the working from home. Industries such as construction, barbers and fast food chains were allowed to continue. Individual states and cities added varying additional measures. On 16 Apr, social distancing policies were announced for at least four weeks.

Each state has different case numbers and autonomy to put in place measures, and consequently restrictions vary from state to state.
The Grattan report charts the Australian experience of the pandemic through to June 2020.705

Exit Strategy
There is an emphasis on personal responsibility. The Deputy Chief Medical Officer said Australians would have to take responsibility for enforcing their own social distancing measures, as well as businesses and venue operators, to prevent a second wave of infections.706

Australia has a three-step plan to gradually ease restriction; more details for stages two and three to be announced once the country moves through stage one. The government aims to reach stage three by July.707

Stage 1: Schools restaurants and cafes will be allowed to re-open; as well as libraries, playgrounds and community centers. Gatherings will be limited to ten people. Local and regional travel is allowed, whilst inter-state travel will remain prohibited.

Stage 2: Gatherings of up to 20 people, with gyms, cinemas and amusement parks to reopen. Some inter-state travel will be allowed.
Stage 3: Full resumption of businesses and interstate travel. Gatherings of up to 100 people will be allowed.

National Cabinet endorsed medical advice from the Australian Health Protection Principal Committee which sets out conditions to support decision making on the relaxation of restriction measures. These include:

- Surveillance plan, enabled with adequate resources
- Community adherence to public health measures
- Modelling and better understanding of the characteristics and transmission of the virus
- Capacity to conduct testing more broadly
- Contact-tracing capacity in the workforce and technology to support
- Health system and PPE capacity

Each state has full autonomy for easing restrictions and moving through the stages outlined. There is variation from state to state. There can be tension between states in their varying approach.

While the prime minister, Scott Morrison, has said Australia is pursuing a strategy of “suppression” and not “elimination” of the virus, commentators have stated that “it’s really the states driving the public health response … and they’re going for zero.”

After a surge in cases, the Victorian government announced on June 21 it will extend its state of emergency for at least four more weeks and ramp up its police enforcement of lockdown rules. The surge has also prompted neighbouring South Australia to reconsider its decision to reopen its border, while Queensland has declared all of greater Melbourne a hotspot.

### Tracking, tracing, testing and isolation

As at 21 June, over 2,041,000 tests have been conducted nationally. Of those tests conducted 0.4% have been positive.

The surge in confirmed cases in Victoria increased demand for testing on 22 June, where people seeking to get tested were forced to wait up to three hours or turned away altogether. This raised concerns of “sick people driving around town trying to find a site”.

On 24 Apr, the government released a contact tracing application. As at 3 May 16% of the population had downloaded it, the target is 40%. Five weeks after the app was launched, NSW Health has confirmed it has barely used the app. Partly that is due to the low levels of community transmission, cases where the source of the outbreak is not known.

The Digital Transformation Agency found that Australia’s Covidsafe coronavirus tracing app works poorly on locked iPhones, picking up only between 0% to 25% of all Bluetooth pings. This highlights the ongoing problems with the app’s ability to exchange Bluetooth handshakes between phones, which are crucial for recording close contacts for contact tracing.

### Masks

Masks are only advised for those who are unwell or those self-isolating or suspected of having COVID-19. From mid-March to June, 10-20% wore masks in public places.

### Public places and gatherings

From mid-May small gatherings allowed.
Victoria announced on Jun 20 it will reinstate tighter restrictions on home and public gatherings after double-digit increases in cases for a fourth consecutive day. The limit of 5 people visiting a household was reimposed and will last until Jul 12 (it was previously up to 20).  

**Transport**

Border reopening remains a point of contention, particularly in states that usually receive high numbers of tourists from abroad. From 17 Jun, South Australia opened borders to travellers from Western Australia, the Northern Territory and Tasmania without quarantine. All national borders will be lifted on July 20.

From June 16, some states eased social distancing guidance – limits on train carriages in NSW will increase to 68 people per train carriage, up from the current limit of 36. On buses, 23 people will be able on board at one time up from 12. Capacity on ferries will go from 245 to 450.

Due to surges in cases in Victoria, the New South Wales premier warned people not to travel to hotspots in Victoria, and to reconsider travel to Melbourne unless essential.

**Places of worship**

Some reopened in mid-May. On June 15, further easing of measures were announced in many Australian states, encompassing easing of measures around funerals and religious ceremonies.

**Business**

Mid to end of May restaurants, shops and retail opened.

Several Australian states eased social distancing restrictions further on 1 June 2020, allowing restaurants to host more people and public attractions to reopen. Cafes and restaurants are allowed to open with restrictions, and public attractions, art galleries, museums and libraries were also allowed to reopen.

All purchase restrictions, including those on cleaning products and cooking items, put in place at Woolworths were removed on June 15.

On June 15, further easing of measures were announced in many Australian states, encompassing easing of measures around cinemas, gyms and sporting stadiums.

**Education**

The reopening of schools was encouraged by Prime Minister Morrison, quoting research showing that children were at low risk of transmitting the virus. However, some ministers from the individual states are still advising children to remain at home.

Many schools across Australia reopened from mid-May – some with phased reopening. Schools with cases identified were closed again (eg in Melbourne and Sydney).

**Issues**

An epidemiologist from University of Otago commented that Australia is tackling the problem with a “suppression” approach, compared to neighbouring New Zealand which is using an “elimination” approach. He estimates that the looser measures in Australia will also mean that the lockdown would last longer, at least 6 and possibly up to 18 months. It is hard to compare which measures, Australia’s or New Zealand’s, would be more effective due to insufficient data.
The epidemiologist also advised that the government should concentrate on improving the efficiency of contact-tracing to tackle rapidly growing clusters and collecting more data on the prevalence of the virus in groups at-risk before any changes to lockdown measures.\textsuperscript{737}

About 2,700 Ruby Princess cruise passengers were allowed to disembark freely in Sydney on 19 March 2020, despite some showing symptoms. The cruise ship became Australia’s largest single source of infection up to June 2020. About 700 cases and 22 deaths are linked to the ship. On 15 April 2020, the NSW Government launched a Special Commission of Inquiry to investigate the experience, and a Senate Select Committee began to inquire into the case. NSW Police will also investigate what was known about the potential cases before the ship was allowed to dock.\textsuperscript{738}

There were increasing tensions between Australia and China, marked by several diplomatic disputes - Australia calling for an independent inquiry into the origins of the virus, China imposing tariffs on some Australian imports and warning citizens and students about travel and study in Australia.\textsuperscript{739}

There were concerns raised that Australia could see a rise in cases after a Black Lives Matter protester tested positive. In mid-June health authorities added a lack of taste and smell to the list of coronavirus symptoms as they make a fresh appeal for people to come forward for testing.\textsuperscript{740}

**Public Opinion**

From mid-March to early June, support for the government’s handling of the situation went from just over 60% to just under 90%, just over 80% perceive that the situation is improving.\textsuperscript{741}

A poll found 93% believed that the situation has been handled very or fairly well so far. A majority assess the performance of local national authorities far more favourably than that of the World Health Organization (WHO). Confidence that chief medical officers, state and territory governments and the federal government are doing a good job is extremely high (92%, 86% and 82% respectively).\textsuperscript{742}

Scott Morrison’s approval rating increased through the pandemic, going from 39% in Jan to 65% in June. Polling suggests Australians have increased their trust in politics and institutions because of the management of the pandemic by the nine governments of the federation.\textsuperscript{743}

A June poll found 63% of 1,079 respondents believe a second wave in Australia is either very or quite likely as a consequence of restrictions being eased. More than 60% of the sample believe that international travel will take between one and two years, or possibly more than two years, to return without restrictions.\textsuperscript{744}

**Economic Impact**

IMF projects a -6.7% decline in real GDP.\textsuperscript{745} The unemployment rate is expected to go from around 6% to 10%.\textsuperscript{746} The government rescue package is estimated to equate to 11% of GDP.\textsuperscript{747}

Australia entered its first recession for 29 years after GDP fell by 0.3% in the March quarter, with the impact of bushfires and the pandemic ending the nation’s uninterrupted run of economic growth.\textsuperscript{748}

The Organisation for Economic Cooperation and Development’s forecast the unemployment rate would hit 7.4% in 2020 and 7.6% in 2021. In the “double-hit” scenario where Australia is hit by a second wave of infections, unemployment would reach 7.6% in 2020 and 8.8% in
Other economic forecasters suggest an unemployment rate of 14.8%, this discrepancy comes from methodology used.

The Commonwealth Government estimated the lockdown was costing Australia’s economy about $4 billion each week.

Speaking at the CEDA State of the Nation summit, Prime Minister Scott Morrison said “over $100 billion of economic activity” has been lost this year. In addition, around 1.6 million Australians are now on unemployment benefit (jobs from hospitality, retail and tourism being particularly impacted).

Wider impacts

The Cancer Council says up to 10% have put off cancer screening during the pandemic (7,000 cancers that could potentially be diagnosed later stage). In Apr and May there was a 60% reduction in the number of prostate-specific antigen (PSA) tests undertaken. Royal Australian College of GPs have also stated declines in chronic disease check-ups. Fewer people are also calling for emergency help with chest pains, for example in Melbourne there has been a 30% decline in ambulance call outs for chest pains in Apr and fewer patients receiving cardiac interventions such as stents.

A survey of nearly 4000 found that weight control and emotional wellbeing have been impacted.
Italy

Background

Although the first case was not reported until mid-Feb, water samples take on 18 Dec found traces of the virus.755

As of 22 June, the number of confirmed cases in Italy was 238,499 with 34,634 deaths. Cases peaked in mid-Mar and then gradually declined over two months. Daily case numbers are still around a thousand in mid-May.756

Italy has experienced a slowing trend in deaths in May that continued into mid-June.

Source: Worldometer (2020)

As of 25 May 2020, 1.1% of deaths were aged under 50 years and more than 57% were over 80. Nearly half of new cases in May were registered at nursing homes. 96% of the country’s virus fatalities had previous medical conditions. 68% of deaths had high blood pressure, 30% had diabetes and 28% heart disease.757

Mobility

Google mobility data shows that through April, there was around an 80% decline in mobility in transit stations, 70% decline in workplaces, and 90% decline in retail and recreation. Since May there have been gradual increases in mobility, although as at 13 May there was still a 60% reduction in baseline mobility for transit stations, 40% reduction in workplaces and 60% reduction in recreation and retail.758
Seroprevalence

Research suggests that by the end of April 2.4-9% of healthy adults had evidence of seroconversion from blood donor samples.⁷⁵⁹

A sample of approximately 10,000 residents of Bergamo between 23 Apr - 3 Jun found 57% had antibodies to COVID-19. Bergamo was one of the hardest hit areas and some of the samples were from people who were quarantined.⁷⁶⁰

Lockdown Summary

Italy’s nationwide lockdown started on 10 Mar, expanding on a smaller lockdown that started with the northern regions on 23 Feb. Measures included inter-regional travel restrictions, suspension of events, closing of commercial businesses, closing restaurants at 6 pm, mandating distances between diners, and mandating of social distancing. Streets and public spaces emptied, with many only going out to work if they could not work from home.⁷⁶¹ Italy’s lockdown was extended to 3 May.⁷⁶²

Exit Strategy

On 4 May, Italy entered an era "of responsibility and coexistence with the virus".⁷⁶³,⁷⁶⁴ Regions in Italy are within a national integrated approach to easing measures.

Tracking, tracing, testing and isolation

Italy has diary, an app that stores all the locations and people that the user has met during the incubation period. If confirmed as a case the user can decide to export data into the public area. This contribution is rewarded with Worth One Minute (WOM) certificates that can be used as vouchers and discounts in stores and services. The reward mechanism contributes to social cohesion and compliance. There are also queue visibility apps to support social isolation.⁷⁶⁵

Italy released a mobile app, "Immuni" (immune), on 1 June 2020 for contact tracing in four regions before extending it to the whole country, despite widespread resistance due to concerns about invasion of privacy. The app uses Bluetooth technology.⁷⁶⁶

As at June 12, Italy, the app had reportedly had 2.2 million downloads.⁷⁶⁷ People are required to self-isolate if they have symptoms.⁷⁶⁸

Masks

Face coverings must be worn on public transport.

Public places and gatherings

Parks opened in the early phase and people could exercise outdoors without restrictions or police checks (at any distance from home) as long as they follow social distancing of at least one metre.

Social gatherings between small groups of relatives, as well as funerals and weddings between limited groups of people were allowed to resume in mid-May.

Social distancing measures and face mask requirements remain in place in closed public spaces, and bans on large-scale meetings remain, with smaller "static" gatherings allowed only on the condition that social distancing is respected.⁷⁶⁹

Transport

Face coverings must be worn on public transport. Buses, metro services and other public transport in Italy will have a maximum number of passengers set during peak traffic times to respect the distance of one metre between people.
Internal movement restrictions were relaxed on 4 May and were reviewed on 18 May. In early reopening people were advised against travel except for shopping for food or medicine, for proven work-related reasons, health reasons or emergencies. Travel from one municipality to another was permitted first, but the ban on travel between different regions of Italy continues, except for proven work matters, health reasons and extraordinary circumstances.

On June 3, Italy lifted travel restrictions on movement between regions. Borders also reopened to tourists on 3 June.

Quarantine for visitors arriving in Italy will continue, except for those entering from the EU and signatories to the passport-free Schengen zone.

From June 11, the requirement for airlines to seat passengers at least a metre apart was dropped, so long as the plane is equipped with a HEPA (High Efficiency Particulate Air) filter. Mask wearing is still compulsory and on longer-haul flights must now be replaced every four hours. Airlines are instructed to disallow passengers from bringing large cabin bags on board to minimise passengers' movement when accessing overhead lockers. Passengers must now fill out a self-certification form before each flight, declaring that they do not have Covid-19 or any of its main symptoms.

Italy has seen a surge in bicycle sales since the government ended its coronavirus lockdown as people steer clear of public transport and respond to government incentives to help the environment. According to sector lobby Ancma, some 540,000 bikes have been sold nationwide since shops across the country reopened in early May, a 60 per cent increase in the first month compared to the same period in 2019. The government has offered to contribute up to €500 (US$562.70) for city-dwellers who buy traditional or "pedal-assisted" electric bicycles.

Places of worship

Catholic Church masses resumed from 18 May, but with strict social distancing and wearing of face masks. Funerals were allowed with a maximum of 15 people attending, ideally outdoors.

Business

Factories opened in early phase.

Bars and restaurants were allowed to open for takeaway in May.

18 May, economic activity restarted. Bars and restaurants reopened, but with reduced capacity with tables further apart and plastic shields to separate customers. Hairdressers, shops, museums and libraries also reopened and sports teams were able to hold group training.

Borders are due to reopen to tourists on 3 June. Some hotels will reopen in June. Sicily has announced that it will subsidise travel for international and domestic tourists once it is safe to return.

Italy’s football league competition Serie A, which was suspended on 9 March, will return on 20 June.

From June 15, cinemas and theatres reopened, with a limit of 200 people in cinemas or museums, regardless of venue size.

From June 25, amateur contact sports, including team sports allowed. Nightclubs allowed from July 14.
Education

Schools will not reopen until September.\(^{783}\)

Issues

On March 8, the World Health Organization praised Italians’ “genuine sacrifices” after the government put a quarter of the population under lockdown to try to halt the spread of the novel coronavirus. “The government & the people of Italy are taking bold, courageous steps aimed at slowing the spread of the #coronavirus & protecting their country & world,” WHO director-general Tedros Adhanom Ghebreyesus said in a tweet.\(^{784}\)

Northern Italy saw a rise in cases around 12 May, health officials are waiting to see the direction of case numbers to determine if a partial lifting of lockdown restrictions on May 4 led to a rise in cases.\(^{785}\)

Coinciding with reopening of borders to tourists, on 1 June, Alberto Zangrillo, the head of the San Raffaele Hospital in Milan in the northern region of Lombardy stated that the virus was losing its potency and has become much less lethal.\(^{786}\) WHO and some scientists said there is no evidence to support this assertion.\(^{787}\)

On June 2, Italian opposition parties and hundreds of supporters held an anti-government rally in Rome.\(^{788}\)

June 6, reports of hundreds of Italian far-right extremists and football fans held a rally in Rome, calling on the government to resign over its handling of the crisis; this became violent.\(^{789}\)

On June 10, families of COVID patients that died filed their complaints at the prosecutors’ offices in Italy’s northern city of Bergamo, denouncing serious failures by local politicians and health officials in handling the pandemic.\(^{790}\) Italian Prime Minister Giuseppe Conte said he will be questioned by prosecutors over the handling of the outbreak in Bergamo, one of the areas worst hit by the epidemic.\(^{791}\)

In a survey of Italy’s 1,356 nursing homes, 77% reported a lack of masks and gloves during the epidemic, while 34% said they did not have enough doctors and nurses. Around 21% had not received sufficient information on how to deal with the virus and 26% said they had difficulty isolating those who tested positive.\(^{792}\)

Public Opinion

From mid-March to early June, support for the government’s handling of the situation has fluctuated above and below 70%, over 80% perceive that the situation is improving.\(^{793}\)

Economic Impact

The IMF forecast that Italian gross domestic product would shrink 9.1 per cent in 2020.\(^{794}\) Italy announced a €400 billion (US$430 billion) stimulus to help businesses affected by the lockdown.\(^{795}\) Italy already had a public debt before the pandemic and a prolonged lockdown will continue to shrink the economy, pushing many more businesses to the brink of bankruptcy.\(^{796}\) Half of their citizens have started applying for income relief aid.\(^{797}\) Prime Minister Conte faces pressure from the leaders of the various Italian regions who are eager to reopen businesses.

Economists forecast a rise in the jobless rate to 9.5%.\(^{798}\)

France and Germany proposed a €500 billion recovery fund to support the European Union’s economy.\(^{799}\)
Even as travel restrictions are lifted throughout Europe, reluctance to travel outside national borders remained high. About 3.5 million people in Italy depend on tourism for their livelihoods.\textsuperscript{800}

Italian Prime Minister Giuseppe Conte will likely seek parliament’s approval for about 10 billion euros ($11 billion) in extra spending soon in an attempt to revive the economy. The funds will help finance the government’s furlough program, a guarantee fund for small and medium-sized companies, resources for towns and regions as well as European Union initiatives. This comes even as Italy has one of the world’s highest debt burdens, and the expenditure will widen the budget deficit this year to 11% of gross domestic product from the current estimate of 10.4%.\textsuperscript{801}

**Wider impacts**

A survey found eight in 10 Italians reported needing psychological support to overcome the mental health impacts of the pandemic.\textsuperscript{802}

Youth unemployment was at 20.3% in June, and concerns were raised that this risk stoking discontent with the status quo and boosting support for populist and euro-sceptic political parties.\textsuperscript{803}

Italy’s Health Ministry on Tuesday released the results of the anonymous survey of 6,800 people who voluntarily responded to an online questionnaire March 24-April 3. Of the 6,800 people who participated, 3,245 reported having children under age 18. Among those with children under age 6, 65% reported their children suffered behavior problems and regression. The most common problems cited were increased irritability, sleep issues and separation anxiety. Some respondents also reported their children wept inconsolably. Of respondents with children aged 6-18, 71% reported their children also displayed problems including anxiety and shortness of breath. Adolescents had particular trouble going to sleep and waking up, sleep disturbances that researchers termed a sort of “domestic jet lag.”\textsuperscript{804}
Czech Republic

Background

As of 22 June, there were 10,498 confirmed cases and 336 deaths from COVID-19. Cases peaked at the end of March and have gradually fallen since, and reported around 50-20 cases a day in the second week in May.805

Mobility

Google mobility data shows that through April there was around a 40% decline in mobility in transit stations, 40% decline in workplaces and 50% decline in retail and recreation. There were gradual increases through early May.806

Seroprevalence

27,000 people were tested for anti-bodies, and only 107 positive cases were found. The rate of infection in different geographic locations ranged from 0-5% in the worst affected regions. In Prague, Brno and Litoměrice it was less than 0.6%.807

Lockdown Summary

The Czech Republic declared a state of emergency on 12 Mar.808 The state of emergency has been extended to 17 May.809

Mass gatherings were banned from 10 Mar onwards, and eventually so were all public gatherings. The nationwide quarantine started on 16 Mar, with mandatory use of face masks in public from 19 Mar. Schools, universities and cultural institutions, including theatres, museums, cinemas, and all nonessential services were closed for the following 30 days.810 All public and private events with more than 30 people were also banned. People were only allowed to leave their homes for essential services, to and from work, visiting family and bringing family to healthcare facilities. Enhanced quarantine restrictions were also imposed for 14 days in two towns and 19 villages in the Olomouc region in western Czech Republic.

Exit Strategy

7 Apr, the Czech government eased some measures of the 30-day nationwide quarantine after three weeks.811

Tracking, tracing, testing and isolation

The Czech government adopted a phased exit. The Czech government has outlined that they are taking the "smart quarantine" approach, focusing on early detection and testing,
leading to isolation in quarantine of as many potentially infected people as possible. For example, on 25 Mar there was a local outbreak of mine workers. Mass testing on miners and their families identified 212 cases, and over 1,000 people have been quarantined. As a result, local restrictions remain in the mine area (Darkov region).

A new form of “Smart Quarantine 2.0”, a national smart quarantine programme focused on COVID-19, will be acquired by the Ministry of Health for CZK 200 million. The system can be expanded to track data on 1,000 infected persons a day, an increase from the current 400.

Czech Republic has Mapy.cz app that alerts citizens of potential high-risk encounters through location sharing. Developers are also working to include algorithms to allow identifying cases of probable contacts with a positive infected person. There are also queue visibility apps to support social isolation.

Masks

19 Mar, all individuals outside of their home were required to cover their mouth and nose with either a medical mask, self-made mask or scarf. There has been a high level of compliance and home-made mask making; the Czech motto is “your mask protects me, my mask protects you.” From 25, May Czechs no longer needed to wear face masks in most public spaces when alone, masks will still be required on public transport, in theatres, cinemas and when outside with someone not from their own home (also must be 2m away).

From 15 Jun, it is no longer compulsory to wear face masks outside even when in close proximity to others.

The requirement to wear face masks at indoor locations, including shops and public transport, would be removed from July 1.

Public places and gatherings

From May, gatherings are allowed in groups of up to ten individuals. Weddings and cultural or religious events of fewer than 100 people are also reported to be allowed.

The number of people permitted at events went from 300 on May 25 to 500 on June 8, and will rise to 1,000 on June 22. However, participants will still need to observe social distancing and sanitary measures. A two-meter distance must be kept between people, and organisers must provide disinfectants at event entrances.

From 8 June up to 500 people could gather for events.

From June 15, if the area can be divided into more sectors, up to 2,500 people may take part in the event. However, participants cannot move from one sector to another and the set minimum distance must be kept from others.

From June 22 a maximum of 1,000 can attend sports training and matches. However, this easing of measures does not apply to the Karviná and Frýdek-Místek regions which are dealing with local outbreaks.

Transport

14 Apr, essential overseas travel permitted, with mandatory quarantine for 14 days after returning.

2 May the foreign minister announced that it was the government’s intention to have the country’s international borders opened by July. 11 May, border crossings opened to all passengers, which were previously limited to commuters and road freight transport.
Operational hours remain between 5am to 11pm. International bus and rail services gradually resumed and non-EU seasonal workers allowed to enter the country.828

Borders with Austria and Germany due to open by 15 June.829

From 26 May, cross-border travel without having to undergo mandatory quarantine was allowed for citizens of Hungary, Slovakia and the Czech Republic whose stay does not exceed 48 hours (ie commuters).830 Citizens of EU member states and citizens with long-term residence in the EU can also enter for 72 hours for "substantiated" reasons such as business trips or visits to close family. They are required to produce a negative COVID-19 test and declare their residence plans during their time in the country.831

From June 15, the Czech Republic will allow travel without restrictions or the need for a negative COVID-19 test to 19 “safe” countries that include Bulgaria, Estonia, Finland, Croatia, Iceland, Cyprus, Liechtenstein, Lithuania, Latvia, Hungary, Germany, Norway, Poland, Austria, Romania, Greece, Slovakia, Slovenia, and Switzerland. However, residents returning from “medium-risk” countries including Belgium, Denmark, France, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, and Spain, and “high-risk” countries including the UK and Sweden will continue to require a negative COVID-19 test.832

From Jun 15, Czech Railways will restore all long-distance and almost 98 percent of regional trains on its lines. Czech railways will expand operations to Austria and Germany over the next week.833

From 15 Jun, direct flights from Prague to Belgrade, Brussels, Budapest, Košice, Keflavik, Manchester, and Munich resumed. Within a week, expanded to 17 destinations operated by 12 airlines.834

On June 22, Czech Republic revised its “traffic-light map”, lowering Belgium from medium-risk to low-risk, allowing residents of the country to now travel into Czech Republic without restrictions. Sweden, Portugal, and Poland’s Silesia province remain in the list of high-risk regions, meaning visitors must have a valid reason (work or family) to enter the Czech Republic, and anyone coming from those regions needs to produce a negative COVID-19 test.835

Places of worship

From 18 May, the National Church (Folkekirken) and other religious communities opened places of worship to the public - there should be at least one meter between people. In situations where there can be an elevated risk of infection, for example at a church service where people are singing, there should be at least two meters distance (masks are not required).836

From June 22, a maximum of 1,000 people can attend religious services and weddings.837

Business

9 Apr crafts markets, construction material shops, ironmongeries and shops providing sale and service of bicycles reopened. Driving schools, fitness centres, libraries and shops of up to 2,500 square meters reopened.838

27 Apr, shops up to 200 square meters that are not located in large shopping centres opened, as well as zoos.839

11 May, beer gardens, restaurant gardens, outside cafes, hairdressers, malls, cinemas (social distancing is required) and other businesses reopened.840,841,842
25 May, all shops and other establishments opened and indoor areas of restaurants, zoos, and castles. Hotels, outdoor campsites and other accommodation reopened and taxis operated again from 25 May.

From 8 June up to 500 people could attend public events like theatrical performances or religious gatherings. Mass events indoors and outdoors as well as weddings and services are also permitted. Museums, galleries, exhibition halls, chateau, castles, and other historical landmarks can operate with up to 500 people, but social distancing guidelines must be followed. Sports training or matches on indoor and outdoor sports fields can allow up to 500 people to attend. At cinemas, theatres, and concert halls, organisers no longer have to leave empty seats in the audience to force social distancing measures, though face masks remain mandatory in indoor spaces.

From 8 June, restaurants' outdoor spaces and gardens can serve guests past 11pm, but indoor spaces must close at 11 pm.

From June 22, swimming pools, zoos, castles, monuments and museums were permitted to reopen without any restrictions on the number of visitors. Safe distancing is no longer required at restaurants, and children’s corners can be opened at shopping malls. Spas can now carry out group procedures without the limit of 10 people.

Education

Schools opened from May, but in shifts of smaller groups. 4 May, universities reopened.

High school graduation and entry exams held after 1 Jun. High schools are not expected to fully open until 1 Sep.

From 8 June, students in the second stage of primary school and all secondary school grades, including high school, can now take part in classes again.

Issues

The European Commission has expressed concerns, warning the members of the European Union to coordinate their exits from lockdowns.

Tensions with China escalated in response to Czech Senate President Miloš Vystrčil announcing that he will lead a delegation of political, business and scientific leaders to Taiwan in August. China responded that there would be repercussions to businesses.

Public Opinion

A survey found that the majority (70%) of Czech citizens consider what the Czech state has done against the spread of coronavirus to be appropriate, and half consider measures to support the economy to be appropriate.

One in ten Czechs suspected they have had coronavirus based on their symptoms. More than 70% of Czechs reduced their public transport use, and about two-thirds reduced shopping in physical stores. The vast majority of Czech residents surveyed – more than 90% – said that they wore face masks in public during May. A total of 40% said that they made their own face masks for use.

Economic Impact

IMP forecasts a -6.5% decline in GDP for 2020. The government stated that the 3% unemployment rate could increase by 5% in 2020.

Czech manufacturing production fell by 34% in April compared to the previous year; the main decline was in car production (down 80%).
The Czech government Antivirus support packages were extended from end May to end of Aug. Antivirus A package, provides 80% of the wages to workers in quarantine, and the wages of the employees of firms that had to close over the epidemic, but limited to 39,000 CZK per employee a month. Antivirus B compensates 60 percent of the wages, up to 29,000 CZK per person a month, for firms whose operation was limited as a result of the outage of raw materials, workforce or demand. Based on another provision (Antivirus C), now discussed by the Senate, the state will write-off the social insurance contributions to small firms for three months.\textsuperscript{858}

**Wider impacts**

In the first three months of the year there were 350 cases of expulsions of abusers from their own homes. However, watchdog groups warn that these figures do not reflect the full extent of the issue as many cases go unreported.\textsuperscript{859}
Germany

Background

As of 22 June, Germany had 191,575 confirmed cases and 8,922 deaths.

Cases peaked and plateaued from late Mar through to early Apr; cases are steadily declining but appear to have reached another plateau of between around 500 to 100 cases a day.\textsuperscript{860}

In June, clusters were linked to religious worship, nursing homes, hospitals, facilities for asylum seekers and refugees, meat processing plants and logistics companies.\textsuperscript{861}

Worldometer (2020)

Since reopening and allowing gatherings there have been clusters of cases.\textsuperscript{862}

Similar to other countries, Germany experienced an outbreak at an abattoir / meat processing plant. On 18 June it was reported that more than 650 people tested positive for the virus at the meat processing plant in Gütersloh.\textsuperscript{863}

Mobility

Google mobility data shows that through April there was around a 50% decline in mobility in transit stations, 40% decline in workplaces and 50% decline in retail and recreation, with gradual increases through early May.\textsuperscript{864}
Seroprevalence
The municipality of Gangelt was one of the early epidemics in Germany. Preliminary serology results from a sample of households found that 14% of the people tested had the antibodies for the coronavirus and an additional 1% were still infected with it, suggesting an IFR of 0.37%.865

Lockdown Summary
Germany’s National Pandemic Plan describes the responsibilities and measures of the health care system in case of an epidemic. Epidemic control is shared by federal authorities (Robert Koch Institute) and by the states. Each state also has its own plan.

Germany started its lockdown on 14 Mar. Non-essential services closed. Restaurants could only provide delivery and take-away.

People were only allowed to leave their homes for essential purposes, such as work-related reasons, physical exercise, health reasons or to purchase essential supplies, such as food and medicine. This remains the case in Baden Wurttemberg, Bavaria, Berlin, Brandenburg, Mecklenburg West Pomerania, Saarland, Saxony, and Saxony-Anhalt.866

On June 20, the state leader in North Rhine-Westphalia announced that parts of the state could face a new lockdown after over 1,000 new cases were confirmed at a slaughterhouse in Gutersloh. Schools closed as a precautionary measure.867

Exit Strategy
Germany’s federal states, under an agreement with the government, have control of timing the reopening and will enact an “emergency break” if infections surge.868

6 May the federal government handed authority for relaxing restrictions over to state governments. Relaxation of restrictions are outlined below.869,870,871,872

Tracking, tracing, testing and isolation
Germany used widespread testing early on, leveraging its high numbers of private laboratories. This enabled tracking of the virus’s spread.873

Germany initially started to develop its own app for tracking and tracing, but switched to what is viewed as a decentralised approach supported by Apple and Google (ie away from centrally held data).874 The app, developed by software company SAP and Deutsche Telekom, is intended to enable infected individuals to voluntarily share their data.875 The app was made available for download for IOS and Android in mid-June.876

Specific areas are locked down, based on cases (eg increases associated with local meatpacking centers in the states of North Rhine-Westphalia and Schleswig-Holstein).877

On June 16, more than 50 people were confirmed to be infected and hundreds placed on quarantine after an outbreak in Berlin. The district mayor said it was easy for the virus to spread in blocks of flats, especially where there are cramped conditions.878

Health authorities needed police reinforcement to maintain lockdown conditions at a tower block in Goettingen, where around 700 people had been placed under quarantine, after a riot broke out on 20 June as some people tried to get out.879

Masks
27 Apr, wearing masks (non-medical) while using public transport and shopping was made mandatory in all states.880,881
In mid-March less than 5% wore masks in public places, after 27 April, this went to over 60%.

Airport authorities and operators have drafted a proposal of safety measures for airports. The draft focuses on the use of face masks in airports especially in areas where it is difficult to maintain a 1.5 metre distance. The only exception to the mask requirement would be zones where passports are checked and children under six.

Public places and gatherings

Private meetings with people from two different households permitted from May 15.

30 Apr the government announced that more non-essential establishments, including museums, zoos, memorials, galleries and botanic gardens, would be allowed to re-open in the coming days. The exact timing of the easing of these restrictions will vary from state to state. Major events prohibited at least until 31 Aug.

Germany has extended social distancing rules (which were originally to be in place until June 5) to June 29.

Transport

Borders to Switzerland, France and Austria due to re-open from 15 June. Hotels are due to re-open on 25 May, and large events such as festivals may return after August. The 16 states are re-opening at different times depending on circumstances.

Germany is planning to allow travel from EU countries plus Britain, Iceland, Norway, Switzerland and Liechtenstein from 15 June provided infection rates remain under control.

Germany will extend a travel ban for non-European countries until Aug 31, as well as strongly advising against any cruises due to higher risks of virus transmission.

Places of worship

10 May, churches held services following social distancing rules, using hand sanitiser and wearing of masks. No singing was allowed.

More than 40 people who attended a Baptist church in Frankfurt confirmed as cases. Church officials say they followed social distancing rules and disinfected the building ahead of the service.

On 24 May, around 800 Muslims prayed in the carpark of a store to mark the end of Ramadan. Worshippers followed Germany’s rules that children under 12 should be left at home and people must keep physically apart. Churches in Berlin also opened to Muslim worshippers unable to fit into their mosque under new social distancing rules where worshippers must maintain a distance of 1.5m.

Business

20 Apr, reopening of shops up to a size of 800 square meters (under strict hygiene requirements).

6 May all shops could open, although masks must be worn and social distancing maintained. Hairdressing also allowed.

15 May, Bundesliga football was allowed to resume (without fans watching).

9 to 22 May, pubs and restaurants are planned to re-open with 50% capacity and health regulations

18 May, beer gardens are set to re-open with controlled health regulations
Overnight stays are only permitted for work-related travel.\textsuperscript{892}

End of June there was an outbreak at Tönnies factory, Europe’s largest meat-processing plant, involving more than 1,500 of its workers. About 7,000 people have been placed in quarantine, and schools and kindergartens in the region have been forced to close until at least after the summer holidays. Health authorities have accused Tönnies of breaking regulations around physical distancing that were introduced to dampen the spread of coronavirus.\textsuperscript{893}

\section*{Education}

4 May schools began reopening, initially for students in their final years of primary or secondary school. However, the school situation may be changed, with small groups, face masks, and social distancing rules for school buses. Additionally, the reopening of schools and nurseries falls under the jurisdiction of the states in Germany’s federalised system. A nationwide concerted reopening of schools would require consensus across all 16 states.

\section*{Issues}

Chancellor Angela Merkel is cautiously loosening restrictions, warning that Germany is not “out of the woods”.\textsuperscript{894} She urged Germany to stay disciplined and not be counterproductive by lifting measures too hastily, underscoring that the effects of the early first steps of loosening restrictions can only be seen in two weeks. The European Commission has also warned the members of the European Union to coordinate their exits from lockdowns.\textsuperscript{895}

There has been conflict between Chancellor Angela Merkel's alliance and her political opponents, who cited that the restrictions that she has put into place were too excessive, and criticised her for not lifting the measures sooner. There have been numerous protests against the lockdown measures implemented.\textsuperscript{896}

There is also tension between the national government and federal governments. Germany is closely monitoring the R0 number and has a threshold set at 50 cases per 100,000 people for reimposing “emergency break” restrictions; however, some epidemiologists view this as too high.\textsuperscript{897}

Another example is Thuringia’s premier, Bodo Ramelow, announced his state would end both the mandatory wearing of face masks and the limits on the number of people allowed to gather within the next two weeks. Ramelow said his plans were justified because Thuringia had one of the lowest coronavirus rates in Germany.\textsuperscript{898}

Similar to other countries, Germany has experienced clusters in environments more susceptible to viral transmission (eg meat processing plants).\textsuperscript{899}

Katie Smallwood, a WHO emergency official, said countries like Germany, Switzerland and others that may ease restrictions including on bars, discos and other social hubs must have robust disease detection, testing and tracing systems in place first, to mitigate a potential “second wave” where the epidemic might re-emerge.\textsuperscript{900}

On May 23, demonstrations were held across Germany as part of a protest movement against the lockdown restrictions. The rallies have been held weekly since the start of April, but numbers are increasing each week.\textsuperscript{901}

\section*{Public Opinion}

From mid-March to early June, support for the government’s handling of the situation has fluctuated around 70%, and during this time perception that the situation is improving went from around 50 to 60%.\textsuperscript{902}
Economic Impact

IMF forecasts a -7.0% decline in GDP for 2020. The IMF also estimated a 3.9% unemployment rate in Germany for 2020, up from 3.2% last year.\textsuperscript{903}

Unemployment is a growing concern, predicted to rise to about 3 million by the end of 2020. Almost one in five companies surveyed is likely to reduce staff, of which at least half of all restaurants and hotels indicated they cut jobs due to more than two months of restrictions.\textsuperscript{904}

Businesses expect to take nine months on average before operations return to normal after the pandemic. Some businesses, such as those in travel, hospitality and car manufacturing expected lengthier recoveries, while aviation expects normalisation to take 16 months. Germany is currently experiencing its worst economic performance since 1990.\textsuperscript{905}

Germany’s economic support package is around 5% of GDP.\textsuperscript{906}

Germany cut value-added tax on restaurant meals from 19% to 7% for a year to help restaurants losses caused by lockdown and social distancing measures.\textsuperscript{907}

Germany agreed a 1.1 trillion Euro package in March – loan guarantees, subsidies and a shorter-hours programme to avoid job cuts. In June it agreed a 130 billion euros stimulus package - value-added tax will be temporarily cut, families will receive 300 euros per child, those who purchase electric cars will benefit from a 6,000 euros rebate. Companies in sectors hardest hit (eg hospitality, tourism and entertainment), will receive bridging support worth 25 billion euros from June to August, up to 80 per cent of fixed operating costs could be reimbursed if revenues fall by more than 70 per cent compared to a year ago.\textsuperscript{908}

Latest data showed that the unemployment rate in Germany has rose to 6.3 per cent in May from 5.8 per cent in April.

The German government plans to take on €218.5 billion in new debt this year to pay for a stimulus to help the country recover. This will lift Germany’s overall debt burden to around 77 percent of GDP.\textsuperscript{909}

Impacts of lockdowns are beyond economics (eg delays in cancer treatments, suicides, domestic violence, excess deaths).

Wider impacts

In April, there was an increase in deaths by 5% compared to the previous 5 years.\textsuperscript{910}
**Switzerland**

**Background**
The first case was recorded on 28 Feb. Cases peaked and plateaued at the end of Mar and early Apr, then slowly declined to under 50 cases a day in the second week in May.

As of 22 June, there were 31,292 reported cases and 1,956 deaths.  

Worldometer (2020)

**Mobility**

Google mobility data shows that through April there was around a 50% decline in mobility in transit stations, 40% decline in workplaces and 70-80% decline in retail and recreation. There were gradual increases through early May, but not returning to baseline levels.  

Passenger numbers have increased very gradually, and in June were around 55% of normal capacity in regional trains and 45% on intercity trains.  

**Seroprevalence**

Preliminary serology results from a random survey of people from Geneva found an infection rate of 5.5%, and an IFR of 0.8% (6 Apr). This study continues on a weekly basis; seroprevalence increased to 6.1% in the second, and to 9.7% in the third week. 5-19 year olds had 6% seroprevalence, 20-49 year olds 8.5% and those 50 and older 3.7%.
**Lockdown Summary**

Switzerland’s pandemic response is based on the advice of a Task Force, comprising researchers from across the Swiss scientific community and chaired by the president of the National Research Council of the Swiss National Science Foundation. The Task Force is supported by ten expert groups that focus on the urgent and time-critical issues, including clinical care; data and modelling; diagnostics and testing; digital epidemiology; economy; ethics; legal; social; exchange platform; infection prevention and control; public health; and vaccines and vaccination strategies.

On 13 Mar, the temporary closure of schools and universities was announced. The government was reluctant to close schools, holding that older people were more at risk. This changed when the European Centre for Disease Prevention cited school closure as a necessary measure based on consideration of the uncertainty in the evidence of children in transmitting the disease, the need for day care for children, the impact on nursing staff and the potential to increase transmission to vulnerable grandparents.

On 6 Mar, the Swiss Federal Council declared an "extraordinary situation" (equivalent to a state of emergency). The Swiss Army called up reservist soldiers and officers, which lead to some infections within barracks. The closure of bars, shops and other gathering places was announced on 16 Mar. Food shops, pharmacies, (a reduced) public transport and the postal service remained open.

Large gatherings were banned in Feb and on 21 Mar there was a ban on gatherings of more than five people and anyone standing closer than two metres to others risked a fine of CHF100. The latter announcement came after Switzerland case numbers increase by nearly 1,000 in a single day to over 4,800 cases.

Switzerland also banned all people entering Switzerland, with the exception of those from the Principality of Liechtenstein.

**Exit Strategy**

A Swiss-developed decentralised contact tracing app DP-3T, will launch on May 13 in a pilot phase “for a certain group of the population” through to the end of the month. The app uses Bluetooth to allow smartphones to communicate with each another anonymously. If a person tests positive for coronavirus, all the people with whom that person was in contact in previous days (less than two metres proximity for more than 15 minutes) are alerted via the app to isolate themselves and get tested.

Public support for the app fell in line with infections declining.

With thousands of tests being carried out per day, Switzerland has one of the highest per-capita rates of testing in the world and is planning on extending testing with contact tracing as measures ease.

Face masks are not mandatory, but are recommended when social distancing (2m) is not possible (eg on public transport and in some shops). As at June, only 5% wore masks on public transport. Public support for mask wearing fell in line with infections declining.

Switzerland announced the schedule of easing measures up to June in order for individuals and businesses to plan. The following are the key points outlined by the Federal Council and Federal Office of Public Health.

- Moving from one phase to the next depends on there being no significant increase in cases.
• Sufficient time has to be allowed between each phase so that the effects can be observed. The criteria are the number of new infections, hospital admissions and deaths, and hospital occupancy rates.

• Once cases fall sufficiently, tracing of infection chains will recommence and an extended testing strategy put in place. A contact tracing concept and an app providing information about contacts with infected persons will be developed.

• The rules on hygiene and social distancing continue to be important and will remain in place.

• People at especially high risk will be advised to continue to stay at home.

The Government considered various risk factors in determining which measures to ease, eg contact and movement of people, the number of people at high risk affected, and the ability of businesses to take precautionary measures. It also evaluated the economic benefits of the individual phases.

Through easing of measures, the rules on hygiene and social distancing will be continually emphasised and those over the age of 65 or who have an underlying medical condition are strongly recommended to stay home unless visiting the doctor.

During a government meeting on 29 Apr meeting, it was concluded that the 11 May plans to further ease restrictions will proceed, with shops, markets, compulsory schools as previously announced, and the additional museums, libraries, restaurants and sports training sessions set to reopen too. Strict social distancing measures are still in place. Country entry restrictions have been eased, with the processing of applications sent in before 25 Mar, and allowing for family reunification.

The decision on 8 Jun reopening will be confirmed on 27 May.
Reopening followed the figure above.
Contact details from customers of restaurants and bars are asked for (people are not required to give them). Public transport returned to the standard timetable, with the recommendation that people wear face masks at rush hour.\(^{934}\)
Border crossings to and from Germany, France and Austria due to reopen from 15 June. Outdoor sports with up to five people permitted. 

Gatherings of up to 30 people can start on May 30, up from a previous limit of 5. Summer camps, cinemas, theatres and concert halls are permitted to reopen after a decision to allow public events of up to 300 people from June 6 was announced. The government will decide on June 24 whether to lift a ban on events with up to 1,000 people.

A minimum personal space of $4m^2$ per customer is necessary on dance floors in bars and clubs. Clubbers can apply for a digital Swiss Night Pass that will help nightclubs and bars meet the government's requirement to register attendance for contact tracing purposes.

The Swiss Football League will resume on June 19 after being suspended on February 23. Matches will take place behind closed doors.

As of June 19, there will be further relaxation of restrictions and power will also be handed back to the cantons.

The Swiss government is against imposing nationwide lockdown restrictions if a second wave occurs. Its future response will centre around a regional approach, with cantons leading the way.

As of June 22, most of the measures had been lifted. Only the ban on large-scale events remains in place until the end of August.

From June 22, safe distancing was reduced from 2 metres to 1.5 metres. Wearing a mask on public transport is recommended, and compulsory during large events. The current midnight curfew for restaurants and nightclubs will be lifted and there will no longer be any obligation to be seated.

From June 22, the government dropped the recommendation to work from home. However, employers are obliged to take the necessary measure to protect the health of their employees.

Issues

The aim is to open as soon as possible and as slowly as necessary to avoid a more damaging stop-and-go policy. This will be a fine balance, given the nature of the pandemic.

Three weeks into the measures, the public view shifted, with most believing that the health system could cope and that the economic concerns were increasing. People wanted to see an easing of the strict rules and were increasingly supportive of digital tools (tracing apps) to enable this to happen.

Several hundred demonstrators protested against the lockdown in Swiss cities in the first few weekends of May. However, a survey carried out across the country revealed only 36 percent supporting the timetable for lifting lockdown, with 42 percent saying that the government was moving "too fast".

A survey showed that more than half of participants supported a law which required the public to wear masks. Currently, the country faces a shortfall of masks and there are measures the government is putting in place to procure masks. Masks are still needed as reserve equipment in health institutions in the country. There are also more local companies supplying masks domestically.

Katie Smallwood, a WHO emergency official, said countries like Germany, Switzerland and others that may ease restrictions including on bars, discos and other social hubs must have
robust disease detection, testing and tracing systems in place first, to mitigate a potential “second wave” where the epidemic might re-emerge.950

Similar to other countries, protests occurred in early June against the death of an African-American man in police custody in the US.951

On 22 June it was reported that health experts warned of a new outbreak due to the lifting of the state of emergency in Switzerland. Head of the government’s COVID19 Task Force, Professor Matthias Egger warned that there is a risk that the number of cases will increase sharply in the near future, especially since a functioning surveillance system for the whole country still does not exist and it is unclear if contact tracing is well established.952 Professor Egger warned that a second wave could hit in summer, instead of the previously predicted autumn, if measures were not extended.953

Public Opinion
In May, public confidence in political leadership was over 60%; however, there is unease about loss of personal freedoms. In addition, fears of a negative impact on the economy remain high, while concerns about suffering from virus-related health problems have declined.954

Economic Impact
IMF forecasts a -6.0% decline in GDP for 2020.955 Switzerland’s unemployment rate went from 2.5% in Mar to 3.4% by May, and is expected to reach 4% next year. Switzerland made 14.2 billion francs available to the state unemployment insurance system.956

Switzerland’s economy shrank 2.6 percent during the first three months of the year compared to the previous quarter. The overall decline was steeper than expected.957

Wider impacts
(To be developed)
Denmark

Background
Denmark’s first recorded case was on 27 Feb. As at 8 June, there were 11,948 confirmed cases and 589 deaths. There appear to be three main peaks, gradually declining; however as in May, it appears more of a plateau of cases.

Restrictions eased in mid-Apr, preliminary reopening was reported to have not resulted in an increased spread of infection, but that there is no indication of the cause (eg could be due to high compliance with physical distance and hygiene advice, or whether it is possibly due to biological conditions, such as weakening of virulence).

In mid-June, Denmark has had its first outbreak of coronavirus since lifting the lockdown in May, with 34 people testing positive in Hjørring in the far northwest coast of Jutland.

As at 22 June, Denmark had 12,391 confirmed cases and 600 deaths.

Worldometer (2020)

Denmark saw three clusters emerge at the end of June. One of the outbreaks stems from a confirmed case involving a person who was among 15,000 people who took part in the Black Lives Matter demonstration in Copenhagen on June 7. The other outbreak is in north Jutland, which has seen the most of new coronavirus cases out of any municipality over the second week of June. The third cluster stems from a passenger plane that arrived at Copenhagen from Pakistan on June 6. Six people on that flight have subsequently tested positive for coronavirus.
Mobility

Google mobility data shows that through April there was around a 40% decline in mobility in transit stations, 40% decline in workplaces and 30% decline in retail and recreation. There were gradual increases through early May, but not returning to baseline levels. 962

Seroprevalence

A sample of just under 10,000 blood donors from April 6 to April 17, 2020 found overall seroprevalence was 1.7%, this was higher in the capital at 3%. 963

Lockdown Summary

From 13 Mar, Denmark was among the first European countries to introduce a lockdown. Gatherings were limited to 10 people, nonessential public work stopped, schools closed, working at home was implemented and borders shut. Although bars, gyms and hairdressers closed, many shops remained open. It was strongly recommended that grandparents not take care of their grandchildren. 964, 965 Testing efforts were increased.

From 14 Mar, borders are closed except for foreigners leaving Denmark, Danish citizens and residents returning, and people with an essential reason for their visit.

Exit Strategy

The nationwide lockdown is being eased.

11 May, social distancing requirement has been reset from 2m to 1m. 966 The Danish Health Authority said it still recommended that people keep 2 meters distance when meeting people of high-risk groups, group singing, lectures, or in other circumstances where there may be an increased risk of droplets. 967

Tracking, tracing, testing and isolation

Denmark is following the decentralised Bluetooth technology approach to tracing apps. COVIDmeter allows users to input and monitor coronavirus symptoms, and Mobile Proximity App tracks the spread of the virus. 968

Denmark’s coronavirus app Smittestop was made available for download from June 18. The app notifies users if they came within a metre of contact for more than 15 minutes with someone who tested positive for COVID-19. The notification of the risk of infection will not include the name of the person who has the virus. 969

Denmark tests everybody with coronavirus symptoms, in contrast to the earlier limitation of testing only for severe cases. 970

Denmark has the capacity to test about 20,000 people a day, half through the network of 16 pop-up tent facilities, and half through hospital laboratories. On May 11, there were 16,391 tested; however, the number has since fallen each day due to fewer cases. This led to authorities allowing people to order tests without a medical referral. 971

As at June, Denmark had testing centres at Copenhagen Airport and at its southern border with Germany so that all Danes returning from overseas trips can immediately test themselves for free on their return. 972

Masks

The Danish Health Authority has from the start of the pandemic advised the general public against wearing face masks in public. This is because of unproven benefits of mask policies as well as the difficulty of sourcing supplies in face of shortages. They assert that wearing
masks creates a false sense of security and does not enforce hygiene practices such as regular hand washing, which they view as more effective measures.  

Less than 5% wear masks in public places.  

**Public places and gatherings**

The social distancing requirement was changed from 2m to 1m from May 10.  

The limit on public gatherings was increased from 10 to 50 on 8 June.  

Large gatherings of 500 people or more will be banned until Sept.  

On 21 June, Danish football teams Brøndby and Copenhagen played the first league match with crowds in the stands since March. In Denmark, crowds have been limited to 500 since the lockdown, but the game on 21 June was given special dispensation to host 3,000. Supporters were asked to stay two metres apart.  

**Transport**

There is an air travel agreement between Greenland and Denmark.  

Germany opened its borders to travellers from Denmark on 16 June. Denmark relaxed its border controls for German citizens on 15 June.  

On June 18, Denmark announced criteria for opening its borders, which includes a low number of coronavirus infections and robust enough testing capacities. From June 27, travel was allowed to so-called open countries or those with fewer than 20 infected persons per 100,000 inhabitants per week. Among the countries meeting the criteria so far are France, Greece, Italy, the Netherlands and Spain. Sweden and Portugal do not meet the criteria. However, travel will be allowed to the Swedish regions of Scania, Halland or Blekinge. The Foreign Ministry discouraged unnecessary trips to Ireland and the UK.  

**Places of worship**

From May 18, churches were allowed to open but social distancing rules protocols must be adhered to.  

**Business**

From 20 Apr, courts, hairdressers, tattoo parlours, beauticians, dentists and opticians were permitted to reopen. Driving lessons were also allowed. Each has new health guidelines to follow (eg sanitising card readers and door handles after each customer touches it).  

11 May, Denmark’s retail sector resume.  

18 May, restaurants and cafes will resume - although there will be restrictions on the number of people and opening hours.  

From 8 Jun, if the number of infections remain low, the government may allow increased physical presence in public workplaces and full opening of television broadcasters, gatherings of up to 10 as well as the reopening of the following activities

- Museums, theatres, art galleries, cinemas, aquariums  
- Outdoor amusement parks  
- Zoos and botanical gardens  
- Summer activities for children and young people  
- Public sector organisations facing bottle necks
- Full opening of public research activities
- Adult education sectors for the unemployed
- Language schools
- Indoor sports and other group activities (such as evening classes)

Swimming pools, gyms, children playgrounds and water parks have reopened from 8 June.\(^{988}\)

From June 11, more visitors will be allowed in nursing homes, hospitals, and psychiatric facilities.\(^{989}\)

**Education**

15 Apr, children aged 11 and younger returned to schools and nurseries, albeit with adapted approaches to facilitate social distancing as well as stricter cleaning regimes. Government regulations require schools to make sure the children are split into smaller groups (sitting 2m apart), wash their hands immediately upon arrival and at least every two hours, and that contact surfaces like sinks, toilet seats and door handles are disinfected twice daily. School leaders reported that parents were supportive of the return to school and that a key factor for opening was so that parents could work and also that children needed to be educated and have the social interaction.\(^{990}\) However, because younger pupils spilled over into secondary school space to enable social distancing, there is a challenge as to how to return older pupils to schools.\(^{991}\)

18 May, children aged 12-16 returned to school, as well as exam students.\(^{992}\)

**Issues**

An Infectious Diseases scientist in Denmark has commented that the phased reopening has not worsened the spread of the virus.\(^{993}\)

**Public Opinion**

According to a poll, 86% of Danes approve of the government’s approach and the communication with the public has remained consistently open. For example, Denmark’s Prime Minister said that the easing of measures would be slow and cautious and likened them to “walking a tightrope” but that, as the spread of the virus seems to be under control, it was critical to restart the economy as soon as possible.\(^{994}\)

From mid-March to early June, support for the government’s handling of the situation has consistently been over 80%. During this time perception that the situation is improving also stayed at 80%.\(^{995}\)

**Economic Impact**

IMF forecasts a 6.5% decline in GDP for 2020.\(^{996}\) Unemployment was at 2.2% in the first quarter of 2020, and forecast to rise to 3.3% by the end of 2020.\(^{997}\)

**Wider impacts**

Calls to shelters, typically from people asking for a place to stay immediately due to domestic violence, rose sharply in lockdown.\(^{998}\)

Mink at a farm in Denmark were found to be infected with the new coronavirus and all 11,000 of the animals there were culled, shortly after the virus was found at 13 mink farms in the Netherlands, where about 570,000 mink have been ordered culled. “The government has decided, on a precautionary principle, that the infected mink stock will be culled to minimize
the risk of potential spread of the disease,” the Danish Veterinary and Food Administration said in a statement.
Austria

Background
The first case was recorded on 25 Feb. As 8 June, there were 16,902 confirmed cases and 672 deaths.\textsuperscript{1000} Cases rose to a peak at the end of Mar and then declined. Cases towards mid-May vary day by day from 70 down to 10 cases. There are inconsistent case numbers.

As of 22 June, there were 17,341 confirmed cases and 690 deaths.

Daily deaths are not consistent as some are announced as groups after investigating deaths outside of hospitals and so on.

Worldometer (2020)
Austria has a 250-mile border with Italy, which had Europe’s first large-scale coronavirus outbreak. The Tyrolean ski resort seems to have been the first large-scale outbreak and seeded cases in numerous other countries.\textsuperscript{1001} By mid-March, infections were doubling every three days and there was a peak of 966 new cases on 26 Mar.\textsuperscript{1002}

A study (in which the government randomly sampled 1,500 of the population for levels of infection) suggested that less than 1% of the country’s population was “acutely infected” with coronavirus by the beginning of April.\textsuperscript{1003}

Mobility
Google mobility data shows that through April there was around a 60% decline in mobility in transit stations, 40% decline in workplaces and 40% decline in retail and recreation. There were gradual increases through early May, but not returning to baseline levels.\textsuperscript{1004}
Seroprevalence

4.71% of people in the 27 communities with a relatively high number of known coronavirus infections had antibodies as at 25 April 2020. More than 42% of people in Ischgl were found to have antibodies. This is an Austrian ski resort that was an early hotspot. Only 15 percent of those who tested positive for antibodies had been aware they had contracted the virus. Of children in the group 27% were found to have antibodies. There were also slightly more cases in men than in women.

Lockdown Summary

Austria had a clear testing strategy to reduce transmission. Anyone with symptoms could call a hotline and a medical expert would assessed them. If COVID-19 was suspected, then a mobile healthcare professional came to the person’s door to administer the test. This kept cases out of hospitals, of concern because there were issues with hospital waiting times.

The government stated it prefers a ‘containment-access’ approach rather than seek to acquire ‘herd immunity’.

On 10 Mar, schools and universities were shut, and public gatherings were banned. On 13 Mar, Tyrolean authorities placed the town in quarantine. The following day, a nationwide lockdown was ordered and people could only leave homes if key workers, to buy food or get medications, to assist other people, or exercise alone or with those living in the same home. People were allowed to exercise as many times as they wished, so long as they abided by social distancing rules.

By 1 Apr, it became compulsory to wear face masks (eg basic nose and mouth coverings) in supermarkets. This was later extended to include public transport.

Exit Strategy

In the first week of April, Austria’s crisis management team (comprising the Chancellor, Vice-Chancellor, Health Minister and Interior Minister) outlined the phased approach to reopening.

The government has reserved the right to pull the “emergency brake” at any time and reverse the openings if the numbers demand it.

Tracking, tracing, testing and isolation

There is a tracing app developed by the Red Cross (called “Stopp Corona”), there have been discussions around privacy. Stopp Corona app uses Bluetooth along with Apple and Google’s new API to help trace coronavirus contacts.

People are asked to self-isolate for 14 days if they have symptoms.

Masks

Mask wearing in public places was mandatory from April 6 and safe distancing of 1m from anyone not living in the same house.

Wearing face masks will no longer be mandatory in shops from 15 June. However, covering the mouth and nose will still be mandatory in public transport, health facilities and in places where social distancing rules are hard to keep.

Public places and gatherings

May 1, meetings of a maximum of 10 people in public spaces, as long as a minimum distance of one metre is kept.
From 15 May, zoos opened. From 29 May, tourist attractions, recreational facilities and public swimming pools opened, provided that a minimum distance of one metre can be kept.

No events until the end of Jun.

From May 29, events of up to 100 people are allowed. From July 1, events up to 250 people are allowed. From August 1, events up to 500 people are allowed and, when specific criteria are met, this will be increased to 1,000.

The 100th Salzburg Festival in August is to go ahead – instead of the originally planned 200 events over 44 days, there will be more than 100 over the course of 30 days.

Transport

From 4 June, cross-border travel was allowed to neighbouring countries that have declines in infections (Germany, Switzerland, Liechtenstein, Czech Republic, Slovakia and Hungary). Travellers from these countries won’t need to go into quarantine or present a negative COVID-19 test result. However, as at 3 June, travellers going to and coming from Italy will still have to undergo COVID-19 restrictions.

From June 16, Austria will allow entry to travellers from 31 countries without restrictions, including Italy, Greece, Croatia and most of Europe. However, some exceptions include Sweden, Spain, Portugal and the United Kingdom. Travellers from these countries are required to show a negative coronavirus test or undergo a two-week home quarantine.

Places of worship

Religious services resumed on 15 May under strict conditions and safety precautions (about two metres of safety distance, 10 square metres per person, mouth-nose protection, disinfection and entry controls). Up to 30 people may attend a funeral.

Business

On 14 Apr, small shops under 400 square metres as well as hardware stores and garden centres opened. Wearing masks is compulsory in shops, with a maximum of one person per 20 square metres.

From 1 May, all shops can open with one person allowed in per 10m² (a change from 20m²).

From 1 May, all public offices opened.

May 1, continue to work from home if possible. If the employee is categorised as in a high-risk group then the employee could either arrange for safety at work (eg a larger room or a specific work environment to minimise the risk of infection), work from home if possible, or if these are not possible then the employee should be released from employment; the costs of the financing are borne at federal level.

From 15 May, restaurants and other premises offering seating reopened with restrictions of having a maximum of four adults with their children sat at one table, a minimum distance of one metre is to be kept between tables (does not apply to persons sitting at the same table). Staff with customer contact must wear mouth-nose protection.

From May 15, restaurants, cafes and bars are permitted to reopen and stay open until 11 p.m. However, the number of customers must be limited and customers are required to cover their mouth and nose with a mask or fabric.

Formula One can start with two races behind closed doors on July 5 and 12.
Education

Schools continued with home-schooling until mid-May. Examinations and research at universities continued to take place.1035

Gradual resumption of schooling through May and early June, prioritising some years, undertaking shifts and cleaning stepped up.1036

Issues

Despite lifting of lockdown measures, businesses are not experiencing their usual turnover, as people still stay away from crowded places amidst fear of contracting the virus.1037

A survey found that 98% felt that quarantine in crisis areas was appropriate, and 97% judged keeping a distance, the ban on events and the wearing of a face mask to be appropriate. However, 44% considered the measure of leaving the house only in exceptional cases to be inappropriate – especially for people with pre-school age children (56%). 64% reported good mental well-being, but among people with critical pre-existing conditions (classified as a risk group), only 33% stated that their mental well-being was good.1038

Economic Impact

IMF forecast -7.0% decline in GDP for 2020.1039

Unemployment was at 8.7% in the first quarter of 2020, and forecast to rise to 12.8% by the end of 2020.1040

The Austrian federal government presented a package worth €500 million to provide aid for the F&B industry that has been particularly hard hit by the coronavirus pandemic. The package consists of tax relief and also support and incentives.1041

Austrian Airlines has been given a 600 million Euro rescue package.1042

According to the Austrian central bank, Austrian economic output will shrink by 7.2 per cent this year if there is no second coronavirus wave in the autumn, but even a resurgence milder than the first outbreak would deepen that to 9.2 per cent.1043

Wider impacts

330 excess deaths from all causes were reported between March 23 and April 5, of which 57% were due to COVID-19.1044
Sweden

Background

Sweden’s first case of COVID-19 was confirmed on January 31, 2020, when a traveller returning from Wuhan tested positive. Cases rose through the end of Mar and have continued to usually report between 500 and 750 cases a day in May.

On 26 May, Ann Linde, Sweden’s Foreign Minister stated “Transmission is slowing down, the treatment of COVID-19 patients in intensive care is decreasing significantly, and the rising death toll curve has been flattened,” and that “this is not a sprint, it’s a marathon.”

As at 22 June, Sweden had recorded 56,043 confirmed cases and 5,053 deaths.  

Source: Worldometer (2020)

For the first week of June, Sweden recorded no excess mortality compared to the average of the past five; the last week in May the only demographic with excess mortality were people aged 90 and above.

Mobility

Google mobility data varied through April, but there was around 30-40% decline in mobility in transit stations, 30% decline in workplaces and 30% decline in retail and recreation. These levels have remained stable and only a small increase noted in retail and recreation (still around -20% compared to baseline).
Sweden’s mobility dropped to similar levels of other Nordic countries.

Source: Ellingsen T, Roine J (2020)

Seroprevalence

Antibody analysis of 1,104 samples found that the largest proportion of positive antibody tests was in Stockholm. A total of 7.3 percent of the blood samples collected from people in Stockholm were positive in the antibody study, which can be compared with a total of 4.2 percent in Skåne and 3.7 percent in Västra Götaland. The numbers reflect the state of the epidemic earlier in April, as it takes a few weeks for the body’s immune system to develop antibodies. Antibodies were most common among people between 20 and 64 years. In total, 6.7 percent of the samples in this group were positive, which can be compared with 4.7 percent in the age group 0-19 years and 2.7 percent in the age group 65-70 years.

The State Epidemiologist stated that these numbers support the modelling undertaken and that testing carried out in May should show that 20% of Stockholm have had COVID-19. Results are awaited.

Lockdown Summary

Sweden is an outlier in terms of its strategy to manage COVID-19, as it has not gone for a lockdown. The strategy is to reduce the pace of the COVID-19 virus’s spread - to ‘flatten the curve’ so that large numbers of people do not become ill at the same time. By limiting the spread of the virus, the Government aims to relieve pressure on the health care system and protect people’s lives, health and jobs. Measures are also weighed against their effects on society and public health in general.

That is not to say that Sweden has not had any restrictions.
The Public Health Agency of Sweden is responsible for providing recommendations based on evidence and expert opinions. From Mar, the government advised anyone unwell to stay home (especially if working with high-risk groups), to work from home when possible, avoid crowded places, table service only in bars and restaurants and to increase the space between people. The government also advised that people above 70 should stay at home.

The Swedish government rolled out a ban on visits to elderly care homes on April 1 and it was to be in effect until the end of June. It was extended again until August 31st.

From 17 Mar Sweden recommended all universities and schools for children over the age of 16 to close. Schools up to the 9th grade, as well as preschools remain open. Schools for over 16s and universities recommended to use distance learning.

From 27 Mar, gatherings for more than 50 banned (from 500 allowed since 11 Mar).

From the start of Apr visits to nursing homes were.

Nightclubs were not required to close and continued to operate but the clubs must ensure that guests can keep an arm’s length distance from each other.

A key aspect of the strategy is personal responsibility and trust; for example, people with symptoms are asked to self-isolate and there is no checking or surveillance. Social distancing measures are mainly based on personal responsibility and not legally enforceable. In Apr, about half of the workforce was working, public transport use fell 50% and there was a 70% reduction in transport in the capital.

On 7 April, the Government proposed new powers into the Communicable Diseases Act. The temporary amendment will apply from 18 Apr until 30 Jun 2020. It allows the government to temporarily limit gatherings, close shopping centres, suspend transport and redistribute medicines and medical equipment.

The entry ban to the EU via Sweden has been in place since mid-March and was due to end on 8 June. However, it was extended until June 30th, in line with recommendations of the European Commission. The entry ban applies to foreign citizens travelling to Sweden from all countries in the world except other EU member states, the United Kingdom, Norway, Iceland, Liechtenstein and Switzerland.

Exit Strategy

“This crisis may continue for a long time, and in order for the measures to work over time, people need to understand and accept them.” Government Office of Sweden.

Sweden did not put in place an official lockdown, based on recognising that the crisis will be part of society for some time and that there needs to be a sustainable approach with the population supportive of ongoing social distancing and hygiene approaches – it was reported that 70-80% support the strategy.

Testing is prioritised for hospitalised patients, health workers and older people with suspected COVID-19. The aim to prioritise this way is to protect the most vulnerable and the most exposed groups in the society. Anyone who is ill with symptoms of cold or flu should stay at home in order to minimise the risk of spreading the disease to others. This group will not be prioritised for testing. The county medical officers also adapt strategies for testing to local conditions. Testing is being expanded to identify cases and the next phase will include immunity testing for staff in critical frontline activities.

In Stockholm, coronavirus testing was made available to all citizens from 15 June, free of charge. The testing includes everyone who has symptoms of the coronavirus, but those who...
think they may have had the illness and have been healthy for at least two weeks will also be able to receive an antibody test.\textsuperscript{1063}

At the end of Apr, Sweden launched an app to aid mapping of the spread of infection through a symptom tracker. The symptom tracker app is used in the UK, developed by doctors and researchers at King’s College in London and Guys and St Thomas’ Hospitals together with developers at the health science company ZOE Global Ltd.\textsuperscript{1064}

Mask wearing is not advised; Swedish health authorities recommend keeping a distance, washing hands, not touching the face, and staying at home if unwell. There is a concern that wearing face masks would make people follow these guidelines less strictly. Prime minister Stefan Löfven stated - “there is a risk of a false sense of security, that you believe that you can't be infected if you wear a face mask.” The Public Health Agency also states on its website that wearing a mask could increase the chances of face touching, because of itchiness and adjusting the cloth. Every time hands touch eyes, nose or mouth, the risk of being infected with the coronavirus increases.\textsuperscript{1065}

Less than 5% wear masks in public places.\textsuperscript{1066}

Restaurants, bars, schools and businesses remained opened. Gyms have taken additional precautions by limiting how many people can occupy enclosed areas, encouraging people to keep a safe distance from each other, and sanitising equipment.\textsuperscript{1067}

Some churches moved online, and then returned to services after Easter – with no more than 50 people, due to gathering restrictions.\textsuperscript{1068}

From June 13, symptom-free people will be allowed to travel within Sweden.\textsuperscript{1069}

Sweden’s Foreign Ministry issued new guidance on international travel on 17 June, giving the green light to travel to ten countries from July. The countries are Belgium, Croatia, France, Greece, Iceland, Italy, Luxembourg, Portugal, Switzerland and Spain. For countries within the EU/EEA other than the ten countries, the advice against non-essential travel continues to apply until at least July 15. The ministry has extended advice against non-essential travel to countries outside the EU/EEA until August 31.\textsuperscript{1070}

Issues

The hypothesis is there will not be significantly more Swedes dead at the end of the pandemic than if the country had initiated stricter distancing protocols, but the looser approach will keep the number of cases from spiking when lockdowns are lifted. There is also the view that this approach may prevent the negative outcomes of a long economic pause.\textsuperscript{1071}

The approach may be influenced by demographics; more than 50% of households are single-person and Sweden has a relatively low population density of about 25 people per square kilometre (compared to 205 in Italy and 259 in UK).\textsuperscript{1072}

As at Apr 15, Sweden had a COVID-19 death rate of 118 per million inhabitants, compared with their neighbours of Denmark at 55 and Finland at 15 (both had lockdowns start in mid-March). This has led to criticism from neighbouring countries and some academics.\textsuperscript{1073}

"Partly that we are on different places on the exposition curve, partly that we in Sweden, unfortunately, have had a large spread of contagion in elderly homes, something you have not seen in the other Nordic countries. And this we, of course, continue to analyse, why Swedish elderly homes have been exposed so much compared to other countries. But if we compare Sweden with Belgium, the US and a number of other countries our death rates are rather low." Anders Tegnell, Sweden’s Chief Epidemiologist.\textsuperscript{1074}
At the end of March, 2,300 academics and scientists signed an open letter to the Swedish government, calling for tougher measures to protect the health system.\textsuperscript{1075}

The government was criticised for not closing schools and only children who are ill themselves stay home. Some students have been kept home by anxious parents.\textsuperscript{1076}

On 3 June, Anders Tegnell reflected that “if we were to encounter the same illness with the same knowledge that we have today, I think our response would land somewhere in between what Sweden did and what the rest of the world has done,” but going on to underline “we basically still think that is the right strategy for Sweden”. He warned it was too early to say whether the lockdowns had worked or not: “we know from history during the last three or four months that this disease has a very high capacity to start spreading again.”\textsuperscript{1077,1078}

On June 24, Anders Tegnell spoke on a Swedish podcast, stating that restricting movement and lockdowns seen across much of the globe can create other problems, including increased domestic abuse, loneliness and mass unemployment. Key quotes from the broadcast:\textsuperscript{1079}

- “It was as if the world had gone mad, and everything we had discussed was forgotten.”
- “The cases became too many and the political pressure got too strong. And then Sweden stood there rather alone.”
- “In the same way that all drugs have side effects, measures against a pandemic also have negative effects.”
- “At an authority like ours, which works with a broad spectrum of public health issues, it is natural to take these aspects into account.”
- “I’m looking forward to a more serious evaluation of our work than has been made so far.”
- “There is no way of knowing how this ends.”
- In the same interview, he also reiterated advising against using face masks, arguing there’s little scientific evidence they work, citing a recent French study.

To learn from the experience, Sweden will launch an inquiry before the summer. Prime Minister Stefan Lofven made the announcement, amid concern over nursing home deaths and testing levels.\textsuperscript{1080}

Swedish strategy aims to be more sustainable than sudden and severe lockdowns, and better in the longer-term.\textsuperscript{1081}

The fatality rate in Sweden was reported to be around 0.6 percent, but with variations between age groups. The fatality rate among the over 70-year-olds is approximately 4.3 percent, as compared to only 0.1 percent of cases for those under 70.\textsuperscript{1082}

Public Opinion

From mid-March to early June, support for the government’s handling of the situation has consistently been around 50-60%; during this time perception that the situation is improving was between 45-55%.\textsuperscript{1083}

In April, more than 80% of Sweden’s residents thought that Sweden’s approach is the right one. Many Swedes also believed that the approach was logical in the context of the country’s history, culture, and values.\textsuperscript{1084}
Confidence in the public health response has fallen. A Novus survey for public television found that 45% of people now trust the government’s COVID-19 response, down from 63% in April.\textsuperscript{1085}

An Ipsos poll of 1,191 Swedes showed that in June, 45% had "strong confidence" in authorities' ability to handle the crisis. That compared with 56% in April, while those who had "little confidence" rose from 21% to 29%. 57% now have "strong confidence" in the Public Health Agency. This figure is down from 69% in April.\textsuperscript{1086}

**Economic Impact**

In Apr, the IMF lowered its projection for Sweden’s economic growth in 2020 to minus 6.8% from 1.2% because of the pandemic and forecast that unemployment would go from 6.8% to 10.1%.\textsuperscript{1087}

Swedish government emergency budget of up to 300 billion kronor, which includes subsidies for workers, loans to businesses and tax deferrals.\textsuperscript{1088}

The Government, the Centre Party and the Liberal Party have developed a crisis package for jobs and transition, in the expectation that more people will become unemployed. This includes adapting the unemployment insurance to reduce the wait and to increase the amount. In addition, job flexibility and grants for the creation of "green jobs" to enable subsidised employment, primarily in the area of nature and forest conservation. Funding for distance learning at higher education institutions expanded - anyone who is made unemployed will be able to use these courses.\textsuperscript{1089}

The Swedish government expects the Swedish economy to shrink by six percent in 2020, instead of by around seven percent as projected in April. Sweden saw a slight gross domestic product growth of 0.1 percent in the first quarter of the year, but there were
indications of a significant drop in the second quarter, and then a slight improvement in the second half of 2020.

Wider impacts
(To be developed)

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Health System Amid the COVID-19 Pandemic: An Overview and Future Priorities

The COVID-19 pandemic has had a significant impact on health systems globally, including in Singapore, Taiwan, Hong Kong, and Vietnam. As of May 27, 2020, Vietnam has seen a total of 314 confirmed cases, with no local transmission since February 25. The country has implemented strict border controls and targeted contact tracing to contain the spread of the virus. The Ministry of Health and local authorities have also emphasized the importance of vaccination and public health measures to mitigate the impact on healthcare systems.

In Hong Kong, the government has put in place various measures to control the spread of the virus, including border restrictions and mandatory hotel quarantine for travelers. The city's medical infrastructure has been under pressure due to the high number of cases, particularly in the elderly population, who are more vulnerable to severe illness. The government has also provided support to the healthcare sector, including financial aid and equipment.

Taiwan has been praised for its response to the pandemic, with the island implementing contact tracing and social distancing measures early on. The country has managed to keep the number of cases low, with strict border controls and targeted testing. The healthcare system has been able to maintain normal operations with minimal disruption.

In Singapore, the government has prioritized early detection and contact tracing to prevent the spread of the virus. The country has experienced a significant number of cases, but managed to control the outbreak through aggressive testing and quarantining measures. The healthcare system has been able to handle the surge of patients with minimal impact on other services.

These case studies highlight the importance of early detection, contact tracing, and targeted public health measures in controlling the spread of COVID-19 and preventing healthcare systems from being overwhelmed. Further research and development of vaccines and treatments will be crucial in managing the pandemic in the long term.

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