2 The health impact of COVID-19

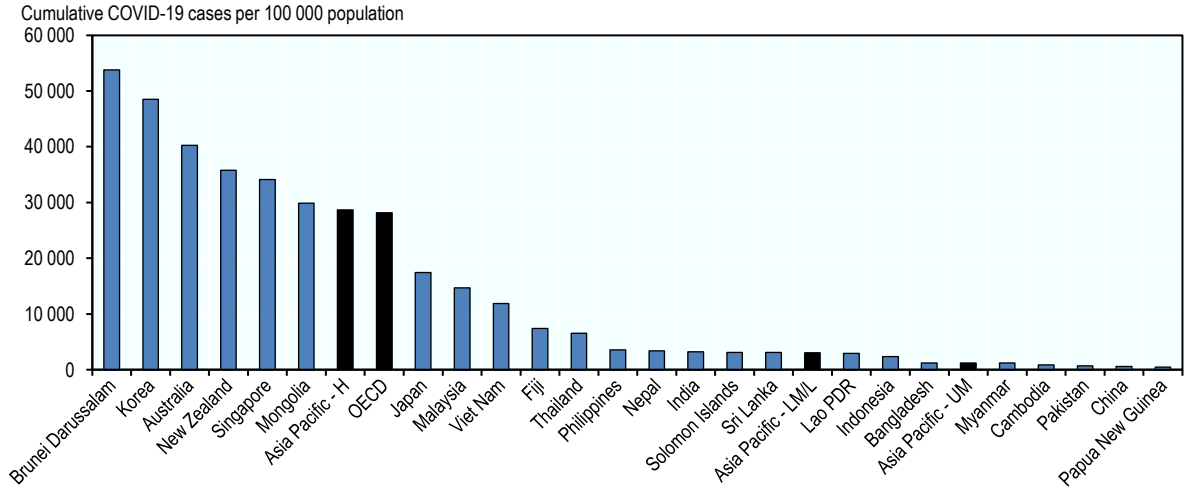
COVID-19 has had a huge impact across the Asia-Pacific region, testing the resilience of economies and health systems, and placing an immense pressure on health workers operating at the front line. This chapter analyses the direct impact of the pandemic on the health of the populations by looking at COVID-19 cases and deaths as well as its indirect impact by assessing the disruption to essential health services due to COVID-19. It also looks at country responses to the pandemic based on the pandemic situations and national capabilities and contexts. These analyses show that COVID-19 has had an unequal impact in the region between high-, middle- and low-income countries, in particular by amplifying inequities and inequalities.

The direct impact of COVID-19

The health impact of COVID-19 in Asia-Pacific countries has been tremendous. More than 144 million people tested positive for COVID-19, and more than 1 million deaths have been registered from the virus from 1 January 2020 to 18 October 2022. Comparing worldwide, the health impact might appear less significant than in other regions, as whilst the Asia-Pacific region makes up 37% of the global population, only 14% of cases and 4% of deaths globally were reported from the region. However, as many infected people are asymptomatic, and due to under-reporting, these figures might not reflect the true impact of COVID-19. This is confirmed by an increasing number of studies that suggest that the real magnitude of infections have been much larger than those officially reported in many regions (Byambasuren, 2021[1]; Ioannidis, 2021[2]).

In Asia-Pacific countries and territories, the average cumulative number of reported cases was 28 016 per 100 000 population in high-income countries, and 3 024 per 100 000 population in lower-middle- and low-income countries from 1 January 2020 to 18 October 2022. The average cumulative number of reported cases in upper-middle-income countries was much lower at 689 per 100 000 population mainly due to the low prevalence of COVID-19 in China (Figure 2.1). Among countries in the Asia-Pacific region, Brunei Darussalam – a country with a good surveillance system – reported the highest number of confirmed cases per 100 000 population of more than 50 000 per 100 000 population, followed by two OECD countries in the Asia-Pacific region, namely Korea, and Australia.

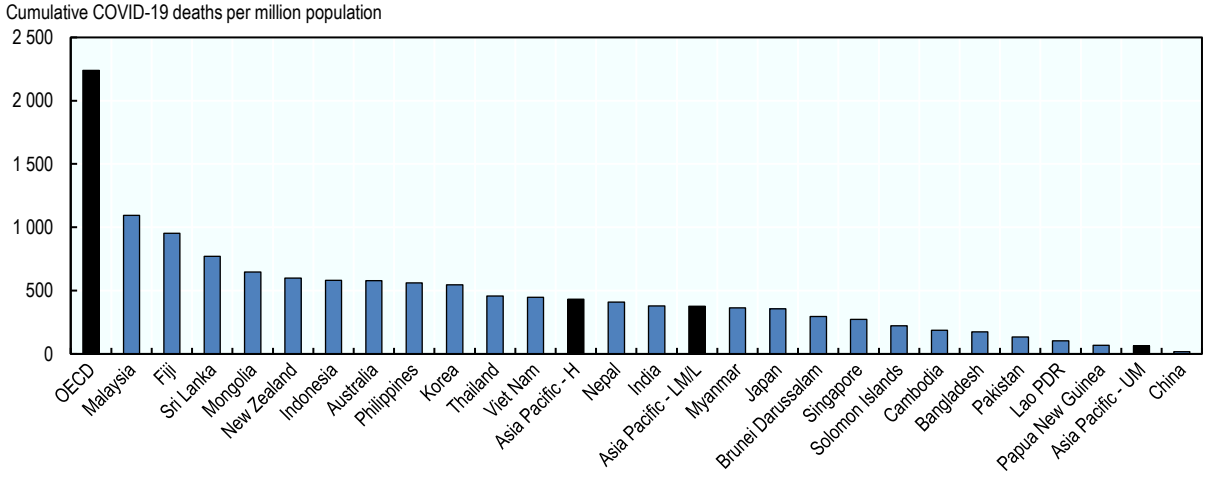
Figure 2.1. COVID-19 cumulative reported cases by country, from 1 January 2020 to 18 October 2022



Note: Data are affected by countries' capacity to detect COVID-19 infections – which was particularly limited in many countries at the onset of the crisis – and by the testing strategies applied. Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries. Population data refer to May 2020.
Source: WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

From 1 January 2020 to 18 October 2022, the average cumulative number of deaths per million population in the Asia-Pacific region were 371, 48 and 247 in high-income, upper-middle-income, and lower-middle- and low-income countries respectively, compared to 2 171 recorded deaths per million population across the OECD. Some countries, such as Malaysia, exceeded the mark of 1 000 deaths per million population, whereas China reported 4 deaths per million population (Figure 2.2). While most Asia-Pacific countries reported lower death ratios compared to OECD countries, this does not necessarily imply that they were less affected, given varying protocols, technical capacity and challenges in the attribution and reporting of the cause of death.

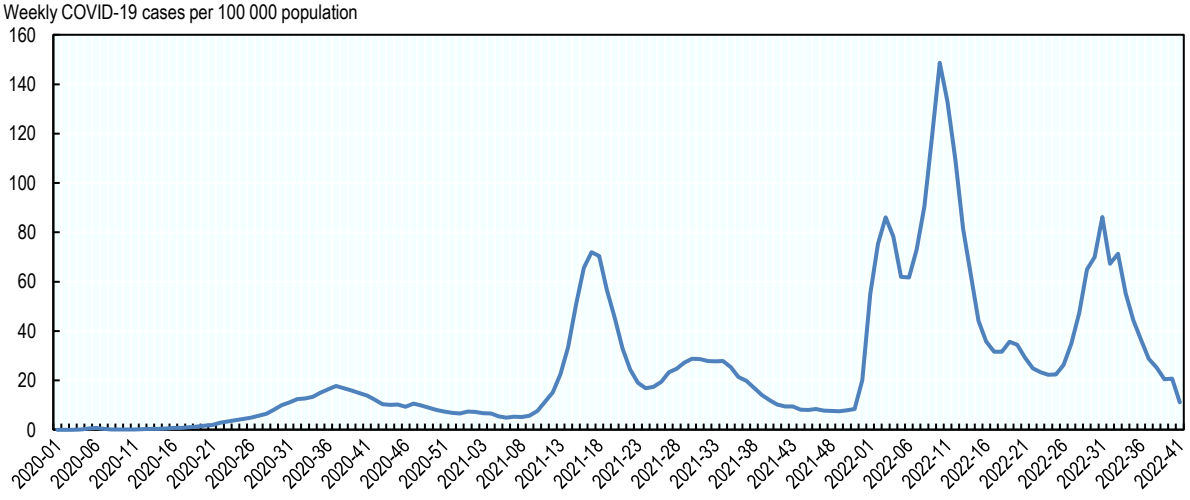
Figure 2.2. COVID-19 cumulative reported deaths by country, from 1 January 2020 to 18 October 2022



Note: Data are affected by countries' protocols and challenges in the attribution and reporting of cause of death. Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries. Population data refer to May 2020.
Source: WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

The number of new COVID-19 cases remained relatively low in 2020 in Asia and the Pacific. However, in mid-2021 the number of new cases spiked in India, Indonesia and Japan. The emergence of the highly contagious "Omicron variant" of concern contributed to the rapid increase in the number of cases in Australia around Christmas 2021 peaking in January 2022. "Omicron" also contributed to the case numbers reaching new heights in Japan, New Zealand and Korea in early and late March 2022, respectively. By comparison, the increase in reported case numbers in India, Indonesia in the first quarter of 2022 was limited.

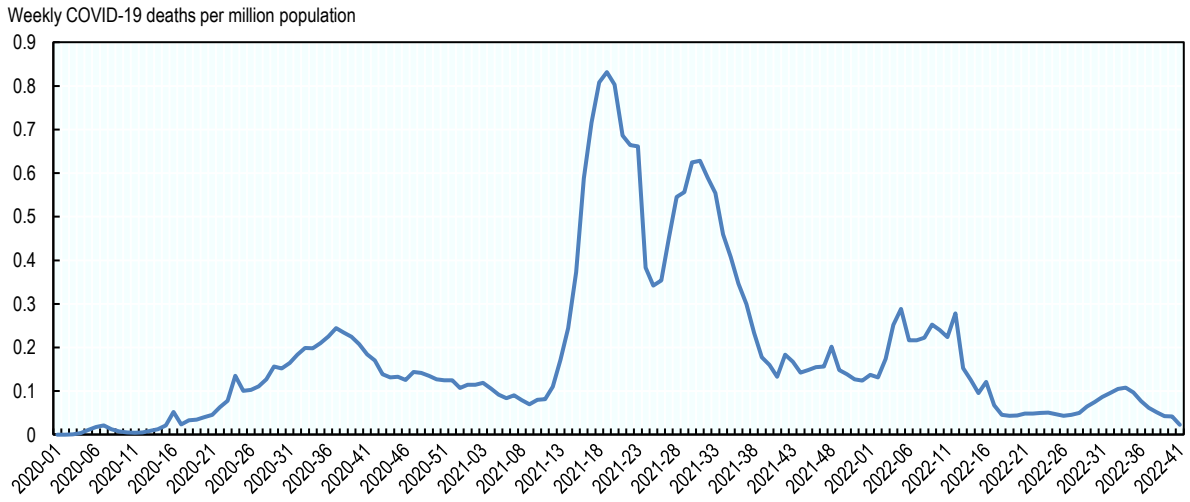
Figure 2.3. Newly reported weekly COVID-19 cases in Asia-Pacific, from 1 January 2020 to 18 October 2022



Note: Data are affected by countries' capacity to detect COVID-19 infections – which was particularly limited in many countries at the onset of the crisis – and by the testing strategies applied. Population data refer to May 2020. Week 2020-01: 3-9 January 2020; week 2022-41: 14-18 October 2022.
Source: WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

The number of reported COVID-19 deaths in Asia-Pacific countries peaked in mid-May 2021, when about 35 000 deaths – almost 1.2 per million population – were recorded (Figure 2.4).

Figure 2.4. Weekly reported COVID-19 deaths in Asia-Pacific, from 1 January 2020 to 18 October 2022

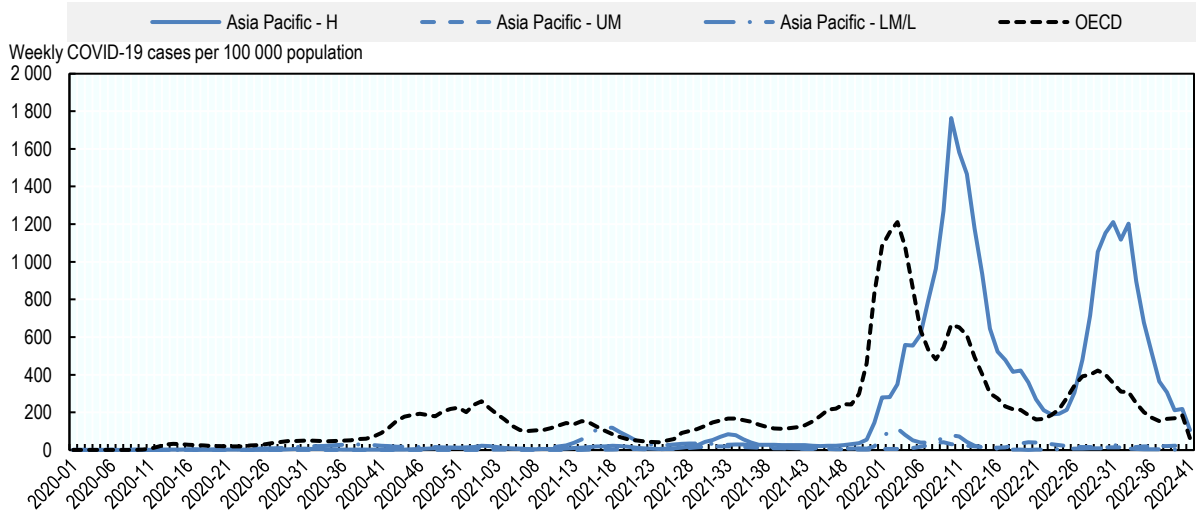


Note: Data are affected by countries' protocols and challenges in the attribution and reporting of cause of death. Population data refer to May 2020. Week 2020-01: 3-9 January 2020; week 2022-41: 14-18 October 2022.
Source: WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

Looking at the differences across countries' income groups, lower-middle- and low-income Asia-Pacific countries (such as Cambodia and Pakistan) showed significantly lower weekly COVID-19 cases and deaths compared to high-income Asia-Pacific countries (such as Brunei Darussalam) and OECD countries from 1 January 2020 to 18 October 2022 (Figure 2.5). Higher testing capacities, different testing requirements, surveillance systems and number of health care professionals to perform testing may be among the reasons for the observed differences.

Among the upper-middle-income Asia-Pacific countries, the low number of cases reported in China, where a dynamic zero COVID-19 approach is still enforced (as of October 2022), has had a significant impact on the average rate.

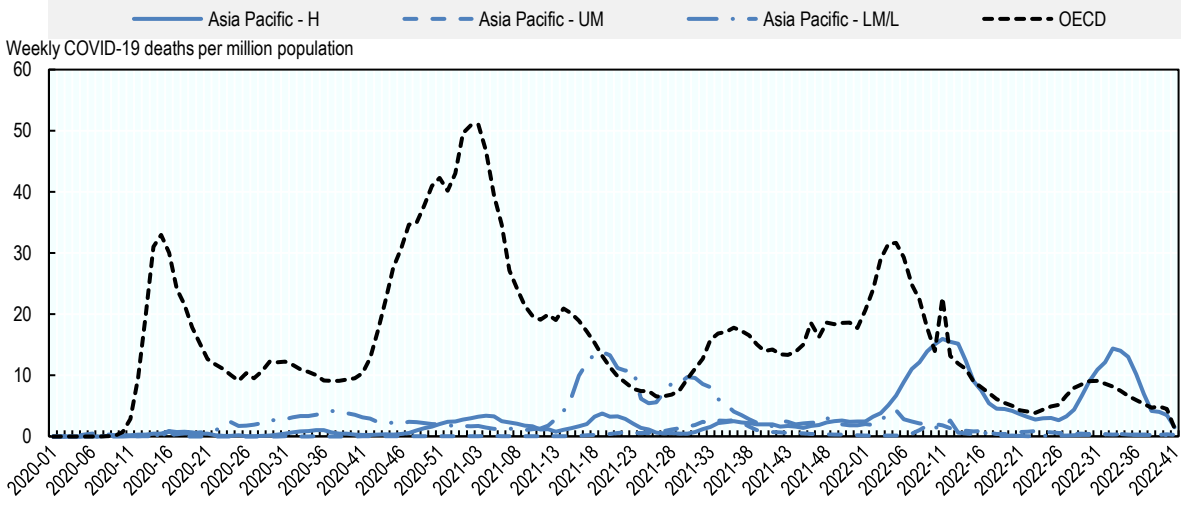
Figure 2.5. Weekly newly reported COVID-19 cases, Asia-Pacific countries by income level and OECD countries, from 1 January 2020 to 18 October 2022



Note: Data are affected by countries' capacity to detect COVID-19 infections – which was particularly limited in many countries at the onset of the crisis – and by the testing strategies applied. Population data refer to May 2020. Week 2020-01: 3-9 January 2020; week 2022-41: 14-18 October 2022.
Source: WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

The weekly death ratios in Asia-Pacific countries show a similar trend, with ratios generally lower compared to the OECD average (Figure 2.6). Lower-middle- and low-income Asia-Pacific countries had generally reported higher mortality ratios compared to high-income Asia-Pacific countries up until the end of 2021 when high-income Asia-Pacific countries started to report surging COVID-19 deaths.

Figure 2.6. Weekly reported COVID-19 deaths, Asia-Pacific countries by income level and OECD countries, from 1 January 2020 to 18 October 2022



Note: Data are affected by countries' protocols and challenges in the attribution and reporting of cause of death. Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries. Population data refer to May 2020. Week 2020-01: 3-9 January 2020; week 2022-41: 14-18 October 2022.
Source: WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

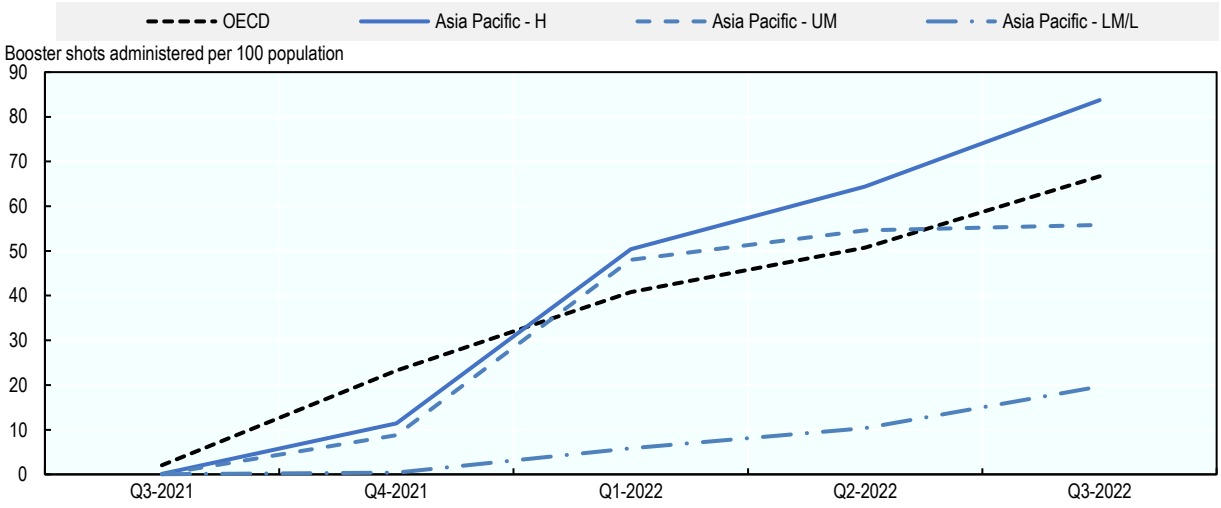
Differences in the evolution of new COVID-19 infections and deaths across countries reflect variations in containment and suppression/mitigation strategies and the timing of their implementation, as well as differences in the capacity of health systems to treat COVID-19 patients and to adapt to ongoing challenges. While case rates peaked in 2022, deaths peaked in 2021. Vaccination campaigns, along with better disease management and strengthened health system capacity have had a major impact in reducing case fatality rates and in decoupling case and death rates. Moreover, the differences of the characteristics (e.g. transmissibility, virulence and severity) in the variant of concern and its effects have also contributed to these trends. The death rates during the Delta variant dominant period were different to the death rates during the Omicron variant dominant period. Still, factors beyond the immediate control of policy makers – such as geographical characteristics, population demographics, and the prevalence of certain risk factors such as comorbidities – made some countries more susceptible than others to high rates of infection and mortality.

Vaccines have reduced the risk of severe illness and death from COVID-19

The rollout of COVID-19 vaccines in 2021 has been a milestone in global efforts to reduce COVID-19 hospitalisation, severe disease and death, and to protect health care systems. Although the vaccination programme started slightly later than in the United States and European countries, Asia-Pacific countries have steadily increased their vaccination rates, reaching 80% of total Asia-Pacific population vaccinated with a second dose at the end of 2021. However, procurement of vaccines and implementation of mass vaccination has been challenging. In most high-income Asia-Pacific countries, vaccines are mainly sourced through national procurement or self-produced, while most low-income Asia-Pacific countries rely on international support by COVAX and bilateral donations to secure necessary doses.

The vaccine deployment in Asia-Pacific countries has further faced challenges such as issues affecting delivery strategies (e.g. human resource capacity, logistical issues, and cold chain management), and issues related to demand generation (e.g. vaccine hesitancy). Asia-Pacific countries started the booster vaccination programme in late 2021. The launch of the third dose/booster vaccination programme was initially delayed compared to OECD countries. However, the roll out of booster vaccination programmes in the Asia-Pacific region was quick and by early 2022 the average number of people with a booster dose in high- and upper-middle-income countries in the Asia-Pacific region exceeded the OECD average (Figure 2.7). As of the end of September 2022 across the region, the percentage of the population who received a booster dose amounts to almost 84% in high-income countries, whereas that of lower-middle- and low-income countries is slightly below 20%. This proves that there is significant inequality and inequity when it comes to vaccine access between high- and low-income countries in the Asia-Pacific region.

Figure 2.7. Booster vaccination progress, Asia-Pacific countries by income level and OECD countries



Note: Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries.
Source: https://ourworldindata.org/coronavirus (accessed on 29 July 2022).

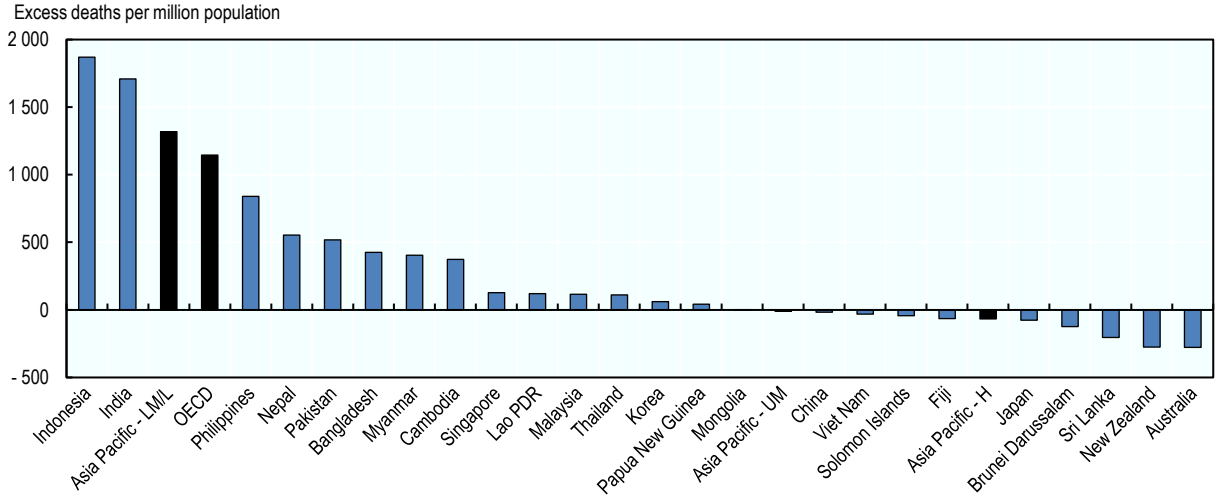
A high number of excess deaths was estimated for India and Indonesia

Whilst reported COVID-19 deaths are a critical measure to monitor the health impact of the pandemic, international comparability of this indicator is limited due to differences in recording, registration and coding practices across countries. Moreover, factors such as the low availability of diagnostic tests at the start of the pandemic are likely to have impacted accurate attribution of the causes of death. Therefore, the reported count of COVID-19 deaths is likely underestimated to varying degrees across countries.

An analysis of mortality from all causes – and particularly excess mortality, a measure of the total number of deaths over and above what would have normally been expected based on death rates in previous years at a given time of the year – provides a measure of overall mortality that is less affected by the factors mentioned above.

In only two Asia-Pacific countries, Indonesia and India, does the number of cumulative excess deaths until the end of 2021 exceed the OECD average, reaching 1 871 and 1 709 excess deaths per 1 million population, respectively. Australia and New Zealand reported the highest number of negative excess deaths (Figure 2.8).

Figure 2.8. Cumulative excess mortality by country, from 1 January 2020 to 31 December 2021

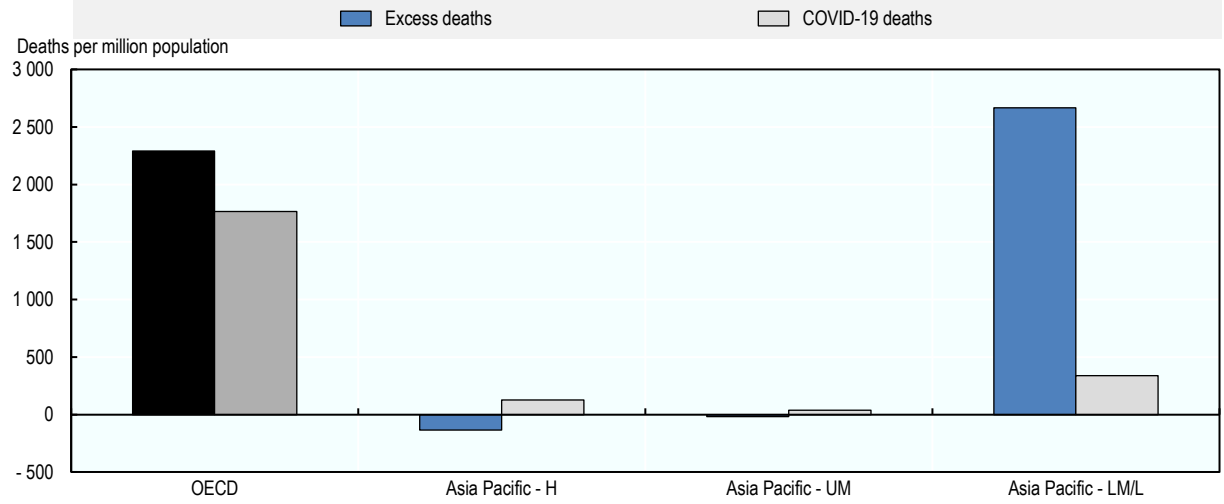


Note: Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries.
Source: WHO, https://www.who.int/data/sets/global-excess-deaths-associated-with-COVID-19-modelled-estimates (accessed on 4 October 2022).

In 2020 and 2021, the overall number of excess deaths in the Asia-Pacific region was more than six times higher than the reported number of cumulative COVID-19 deaths. The lowest number of excess deaths in the Asia-Pacific region was recorded during the initial phase of the pandemic (negative 40 000 excess deaths in April 2020), while the highest rate of excess deaths was recorded in May 2021 (135 000 excess deaths).

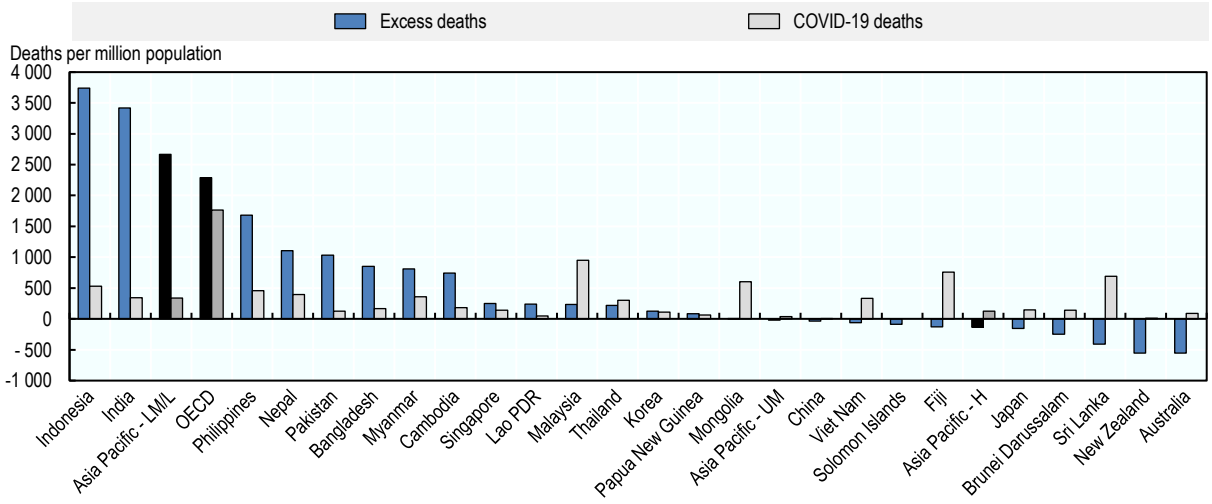
Lower-middle- and low-income Asia-Pacific countries show a significant gap between excess deaths and COVID-19 reported deaths, with excess deaths approximately 8 times higher than COVID-19 deaths (Figure 2.9). This gap is mainly driven by India and Indonesia (Figure 2.10).

Figure 2.9. Comparison of cumulative excess mortality to reported COVID-19 deaths, Asia-Pacific countries by income level and OECD countries, from 1 January 2020 to 31 December 2021



Note: Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries.
Source: WHO, https://www.who.int/data/sets/global-excess-deaths-associated-with-COVID-19-modelled-estimates (accessed on 4 October 2022); WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

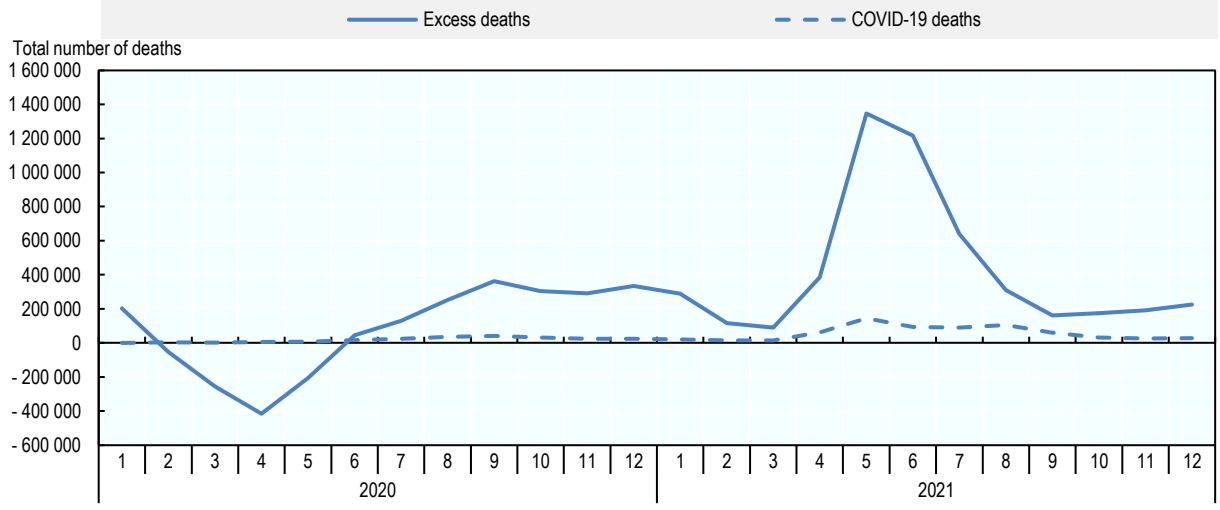
Figure 2.10. Comparison of cumulative excess mortality to cumulative reported COVID-19 deaths, by country, from 1 January 2020 to 31 December 2021



Note: Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries.
Source: WHO, https://www.who.int/data/sets/global-excess-deaths-associated-with-COVID-19-modelled-estimates (accessed on 4 October 2022); WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

When comparing monthly reported COVID-19 deaths and excess deaths, the number of excess deaths exceeds that of COVID-19 deaths except for the early pandemic from February until May 2020 (Figure 2.11). In May 2021, the peak in excess deaths observed is mainly due to India.

Figure 2.11. Comparison of monthly COVID-19 deaths to monthly excess deaths in Asia-Pacific, from 1 January 2020 to 31 December 2021

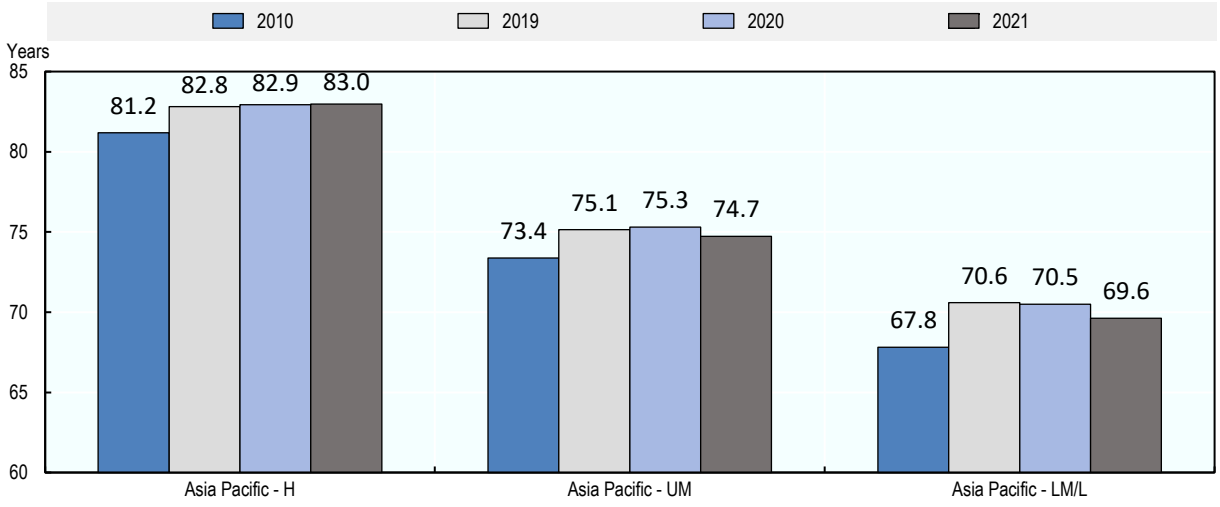


Source: WHO, https://www.who.int/data/sets/global-excess-deaths-associated-with-COVID-19-modelled-estimates (accessed on 4 October 2022); WHO, https://covid19.who.int/data/ (accessed on 21 October 2022).

Life expectancy remained stable in all Asian Pacific countries between 2019 and in 2020, while it decreased by almost one year in lower-middle- and low-income countries between 2020 and 2021

Life expectancy at birth has remained stable – on average – for all country income groups in Asia-Pacific between 2019 and 2020 despite the COVID-19 pandemic (Figure 2.12), while 80% of OECD member countries reported a decrease. However, between 2020 and 2021, life expectancy has decreased by almost one year in lower-middle- and low-income countries, while it has decreased by 0.6 years in upper-middle-income countries and has remained stable in high-income countries. Even if interpreting these trends in life expectancy is not entirely straightforward, evidence suggests that the life expectancy gap by income level increased during the pandemic (Schwandt H, 2022[3]).

Figure 2.12. Comparison of life expectancy at birth in 2010, 2019, 2020, and 2021, Asia-Pacific countries by income level



Note: Asia Pacific-H, Asia-Pacific high-income countries; Asia Pacific-UM, Asia-Pacific upper-middle-income countries; Asia Pacific LM/L, Asia-Pacific lower-middle- and low-income countries.
Source: United Nations World Population Prospects (accessed on 29 September 2022).

COVID-19 has disproportionately hit vulnerable populations

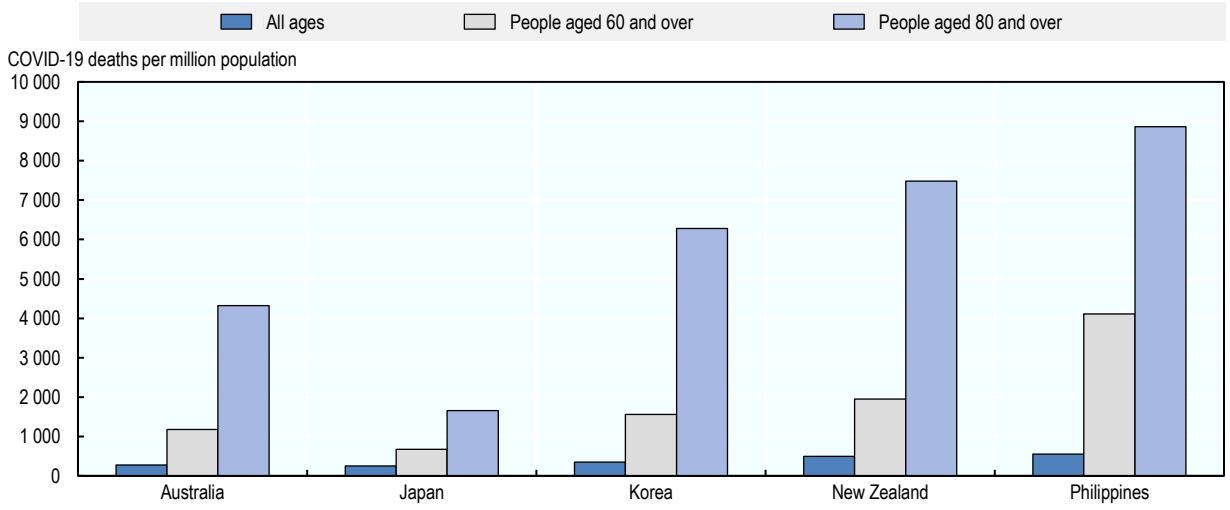
While COVID-19 poses a threat to the entire population, not all population groups are similarly at risk of adverse health outcomes of COVID-19. Vulnerable groups include those at a higher risk of susceptibility to contracting, transmitting and recovering from the virus, such as essential workers in health and long-term care settings with repeated exposure to the virus, and high-risk population for infections. Further, biological based factors such as age and pre-existing health conditions increase the risk of severe health outcomes. While age remains the largest risk factor for severe illness or death, people of all ages with certain underlying health conditions – including obesity, cancer, hypertension, diabetes, and chronic obstructive pulmonary disorder – face an elevated risk (ECDC, 2022[4]). Smoking and harmful alcohol use also increases the likelihood of developing severe illness, experiencing worse health outcomes or dying from COVID-19. The risks of adverse health outcome of COVID-19 are not equally distributed when it comes to the vulnerable groups like refugees, migrants, indigenous peoples, ethnic minorities, people living in slums or informal settlements or experiencing homelessness, persons with disabilities, remote or rural locations, gender and sexual minorities, and people living in closed facilities.

The vast majority of deaths from COVID-19 have occurred in older populations. Statistics from four OECD countries in the Asia-Pacific region show that death rates among older age groups are higher compared to that of all ages in all countries. For example, Korea has 497 deaths per million among all aged population, whereas the over aged 60 group showed 1953 deaths (4 times), and over 80 aged group marked 7 479 deaths (15 times).

Comparing within countries, death rates among people over 80 were significantly higher than in the general population (Figure 2.13). Even for Japan, where the gap in death rates between the total population and the senior population is the lowest, the population over 60 has a 2.7 times and that aged over 80 has a 6.5 times higher death ratio compared to the whole population.

Further, there are additional factors that create inequities and influence the level of vulnerability of specific groups and the access they have to health and social services. This was demonstrated during the pandemic, where the risks of adverse health outcome of COVID-19 were not equally distributed. Many social determinants of health – income, employment, housing, physical environment, gender, disability, indigeneity, social inclusion, education, food security and working conditions – influence COVID-19 outcomes. This includes but are not limited to refugees, migrants, indigenous peoples, ethnic minorities, people living in slums or informal settlements or experiencing homelessness, persons with disabilities, remote or rural locations, gender and sexual minorities, and people living in closed facilities.

Figure 2.13. Reported COVID-19 deaths by population age groups (through August 2022), selected Asia-Pacific countries



Note: Data for Australia include all COVID-19 deaths (both doctor and coroner certified) that occurred and were registered by 30 June 2022. Data for Japan are from 30 April 2020 to 9 August 2022. Data for New Zealand and Korea are up to 17 August 2022. Data for the Philippines are up to July 2021.

Source: Australia: https://www.abs.gov.au/statistics/health/causes-death/provisional-mortality-statistics/jan-apr-2022; Japan: https://covid19.mhlw.go.jp/en/; New Zealand: https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-case-demographics; Korea: http://ncov.mohw.go.kr/en/bdBoardList.do?brdId=16&brdGubun=161&dataGubun=&ncvContSeq=&contSeq=&board_id=; Philippines: Department of Health, Government of the Philippines.

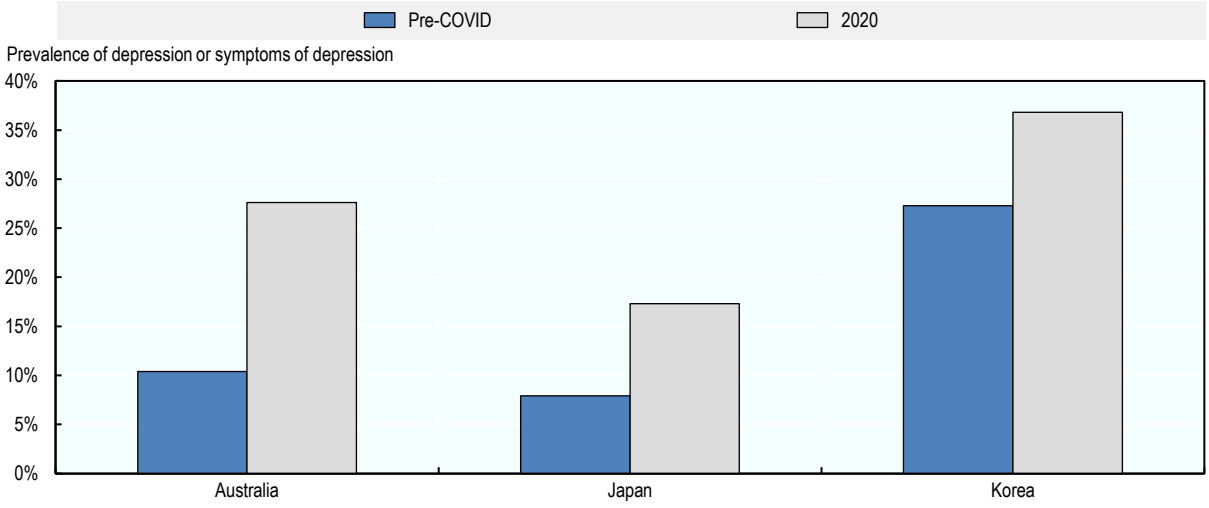
The mental health impact of the pandemic has been enormous

The COVID-19 crisis has had a significant negative impact on population mental health. Social isolation due to restricted mobility during the pandemic was a major driver of the increased prevalence of common mental disorders. Such conditions and disorders, and their associated vulnerabilities may also have a linkage with the consumption of alcohol, tobacco or illicit drugs during a pandemic. Loneliness, fear of infection, personal suffering, grief after bereavement, and financial worries were also contributing factors (WHO, 2022[5]; Loades et al., 2020[6]). Younger age, female gender and pre-existing health conditions were often reported risk factors.

It is estimated that the global prevalence of anxiety and depression increased by more than 25% in the first year of the pandemic, with young people and women particularly affected (WHO, 2022[5]). Figure 2.14 compares the prevalence of depression before and during the COVID-19 pandemic for a few countries that have data. For example, in Australia, the prevalence of depression increased by more than 17 percentage points. Unfortunately, at a time when so many people required support, the pandemic also disrupted the provision of mental health and social services. According to a global rapid assessment conducted from June to August 2020, essential psychosocial support was lacking in many places, with community-based activities and services for vulnerable groups particularly affected. On the other hand, telemedicine was the most frequently reported strategy to overcome these service disruptions (WHO, 2020[7]).

As the full impact of the pandemic on mental health and well-being is likely to take a number of years to fully emerge, there is a need for monitoring and measuring long-term health impacts of the pandemic. As an example, a series of surveys in Australia has collected information from the same group of individuals from just prior to COVID-19 and then 11 times since COVID-19 started to assess changes over time in life satisfaction/well-being; psychological distress and mental health; loneliness; social cohesion; and financial stress (Australian National University. Center for Social Research and Methods, 2022[8]).

Figure 2.14. National estimates of prevalence of depression or symptoms of depression amongst adults, pre-COVID-19 and in 2020, selected Asia-Pacific countries



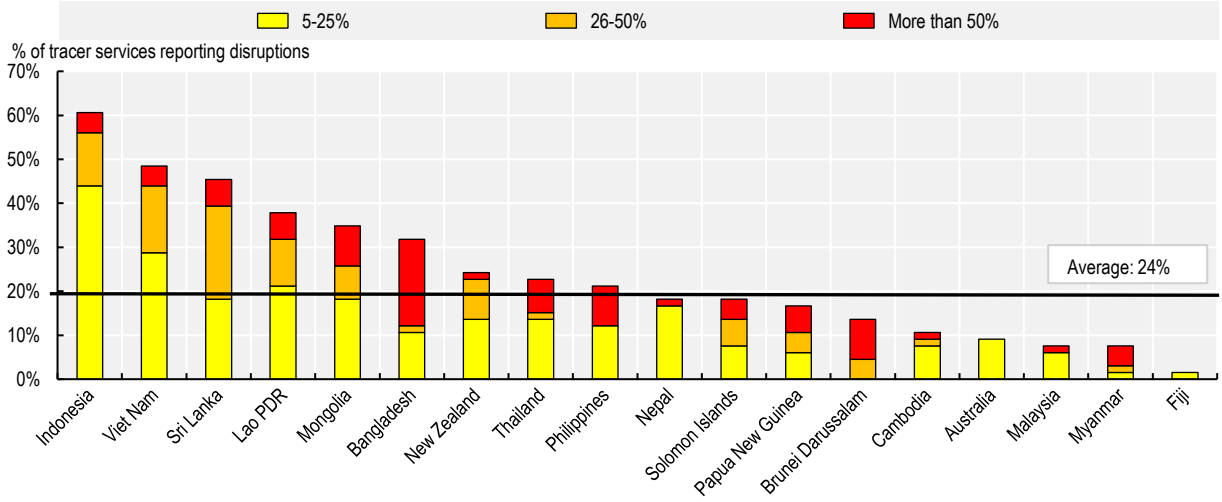
Note: Pre-COVID refers to 2017-18 for Australia, 2014 for Japan, 2011 for Korea. The survey instruments used to measure depression differ between countries and between time points within countries (e.g. Australia), and therefore are not directly comparable, and some surveys may have small sample sizes or not use nationally representative samples.
Source: Korean 2011 data: Park et al. (2012[9]), "A nationwide survey on the prevalence and risk factors of late life depression in South Korea", https://doi.org/10.1016/j.jad.2011.12.038; other data: OECD (2021[10]), "Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response", https://doi.org/10.1787/0ccafa0b-en.

Disruptions of health services during the pandemic

In the early stages of the pandemic, non-COVID-19 outpatient care and hospital care was suspended or slowed down to reduce the risk of transmission and release capacity to avoid the risk of critical care being overwhelmed by COVID-19 patients or having the health care workforce infected and affected and not having staff capacity. This led to major disruptions in the normal flow of patients through the health care system. Prevention activities, primary care and chronic care for patients with non-communicable diseases (NCDs) were paused, disrupted and transformed, to divert resources to urgent pandemic activities and to protect staff and patients from infection, notably through the use of telemedicine and other digital tools. As many interventions were postponed during the peak cycles of the pandemic, waiting times for elective surgery and cancer care increased significantly in many countries.

According to the WHO's Pulse survey on continuity of essential health services during the COVID-19 pandemic, COVID-19 continues to challenge health systems and disrupt essential health services in Asia-Pacific. On average, one-quarter of 66 essential (tracer) services used to assess continuity of care (e.g. elective surgeries and procedures; antenatal care; cancer treatments) were disrupted during the pandemic (Figure 2.15). The average level of disruption reported in the Asia-Pacific is, however, half of the level observed in the world at 45%. These findings should be interpreted with caution given the various response rates across WHO regions. As an example, in the WHO Western Pacific region out of the 35 countries that received the 3rd round pulse survey only four countries submitted a complete survey. Data availability was a factor here, and re-running the survey 12 months later might have improved response rates.

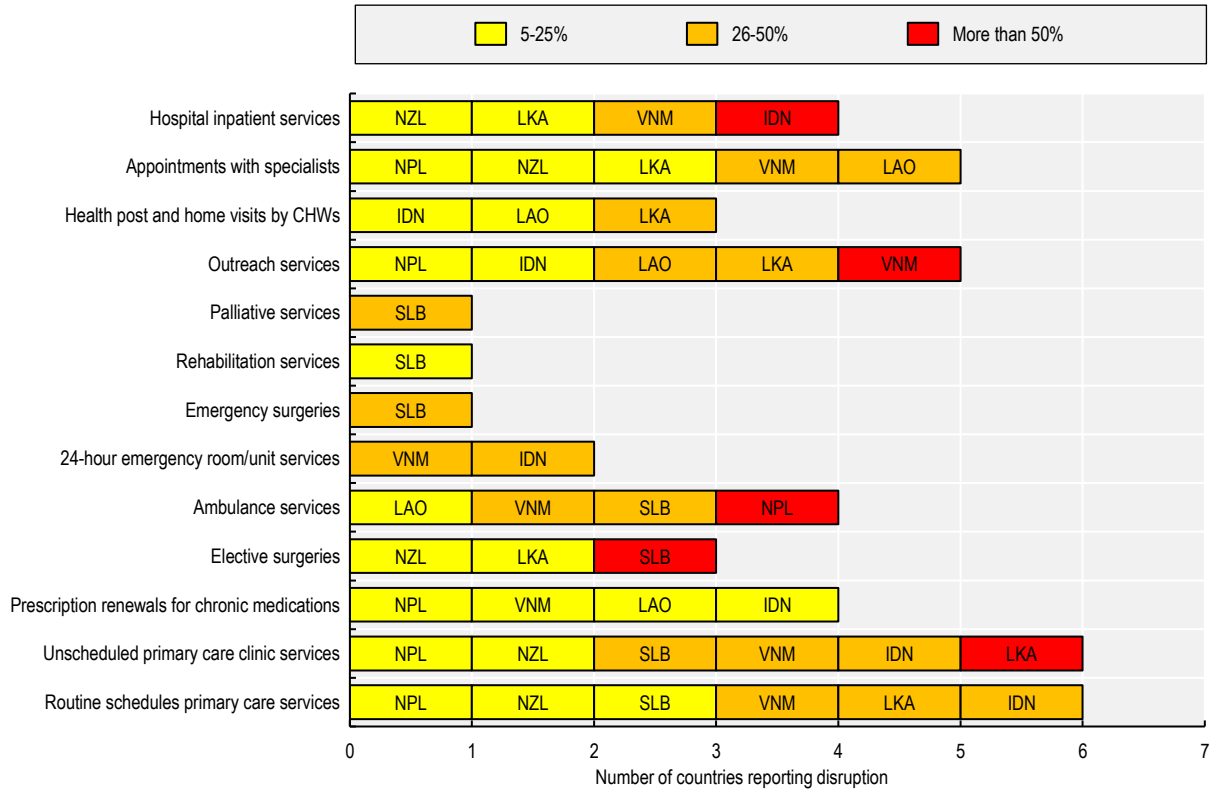
Figure 2.15. Percentage and level of disruption for 66 tracer services by country, fourth quarter 2021



Source: WHO PULSE survey (Round 3), 2022.

Outreach services and primary care services were reported to be the most disrupted across Asia-Pacific reporting countries (Figure 2.16).

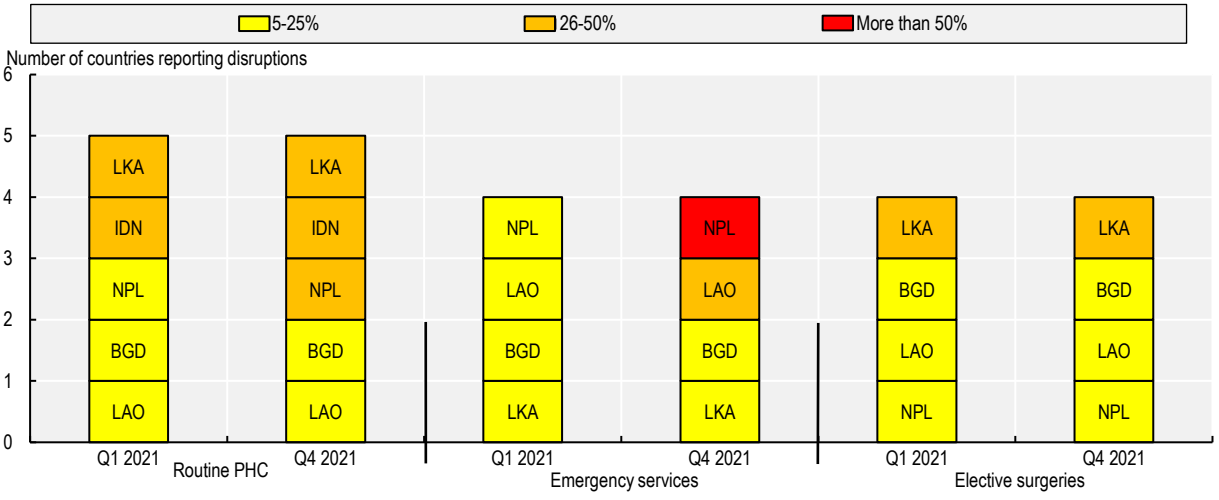
Figure 2.16. Level of disruption to service availability, fourth quarter 2021



Source: WHO PULSE survey (Round 3) 2022.

Emergency services in Lao PDR and Nepal and primary health care service in Nepal showed an increase of disruption over time during the pandemic (Figure 2.17).

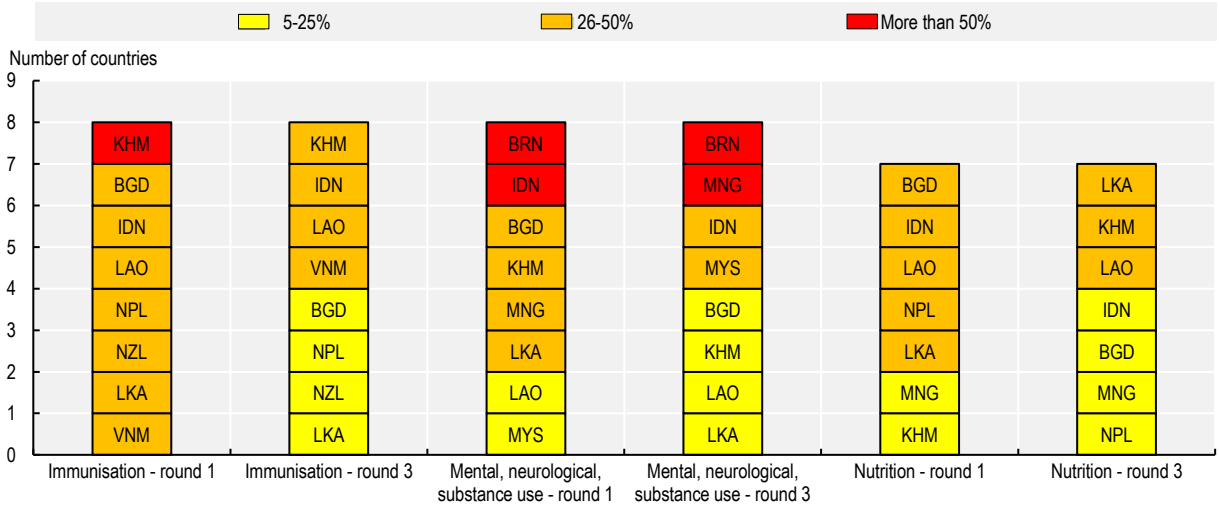
Figure 2.17. Comparison of the disruption to service availability, first quarter 2021 and fourth quarter 2021



Note: Only countries reporting some or zero level of disruption in both rounds of the PULSE survey were included in this chart.
Source: WHO PULSE surveys, 2021 and 2022.

At service type level, a decrease in the level of disruption between the third quarter of 2020 and the fourth quarter of 2021 was observed (Figure 2.18).

Figure 2.18. Comparison of the disruption to selected tracer services, second quarter 2020 and fourth quarter 2021



Source: WHO PULSE surveys (rounds 1 and 3), 2021 and 2022.

Disruption is due to a mix of supply and demand side factors. The most commonly reported factor on the supply side was the cancellation of elective services and the redeployment of staff to provide COVID-19 relief, unavailability of services due to closings, and interruptions in the supply of medical equipment and health products. On the demand side, decreased care seeking decisions due to a fear of infections are the most common cause of disruption of essential services (Table 2.1).

Table 2.1. Reported cause of disruption by type of service, Q4 2021

Type of service	Indonesia	Lao PDR	Nepal	New Zealand	Sri Lanka	Viet Nam
Routine schedules PHC care clinic services	Intentional service delivery modifications		Decreased care-seeking	Decreased care-seeking	Decreased care-seeking	Decreased care-seeking
Unscheduled PHC services	Decreased care-seeking		Decreased care-seeking	Decreased care-seeking	Intentional service delivery modifications	Unintended disruptions due to lack of health care resources
Prescription renewals for chronic medications	Intentional service delivery modifications	Decreased care-seeking	Decreased care-seeking			Intentional service delivery modifications
24-hour emergency room/unit services	Unintended disruptions due to lack of health care resources					Unintended disruptions due to lack of health care resources
Ambulance services		Unintended disruptions due to lack of health care resources	Decreased care-seeking			Unintended disruptions due to lack of health care resources

Type of service	Indonesia	Lao PDR	Nepal	New Zealand	Sri Lanka	Viet Nam
Elective surgeries				Unintended disruptions due to lack of health care resources	Decreased care-seeking	
Health post and home visits by CHWs	Intentional service delivery modifications	Decreased care-seeking			Decreased care-seeking	
Outreach services	Unintended disruptions due to lack of health care resources	Decreased care-seeking	Decreased care-seeking		Decreased care-seeking	Unintended disruptions due to lack of health care resources
Hospital inpatient services	Decreased care-seeking			Unintended disruptions due to lack of health care resources	Decreased care-seeking	Decreased care-seeking
Appointment with specialists		Decreased care-seeking	Decreased care-seeking		Decreased care-seeking	Decreased care-seeking

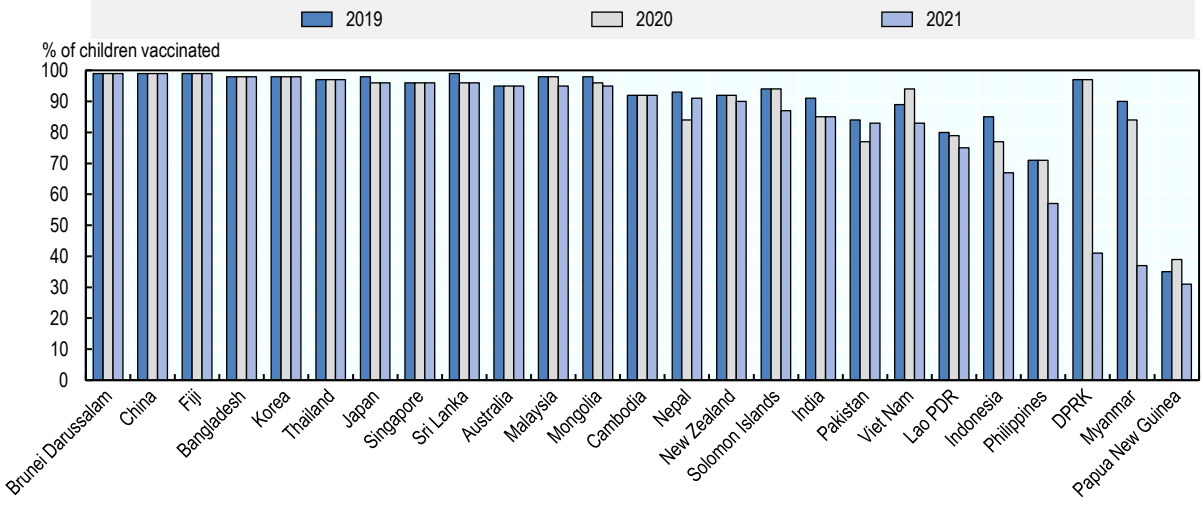
Source: WHO PULSE survey (round 3), 2022.

Generally decreased routine vaccination rates

Routine vaccination is a backbone of individual and public health, and a prerequisite for resilient health systems. The COVID-19 pandemic, however, has challenged the continuation of routine vaccination programmes, and induced disruptions in infancy and childhood vaccination programmes covering children aged 9 weeks to 6 years in Asia-Pacific countries, due to patients' fear of infection, restrictions on movement/travel, and limited access to health care (Harris et al., 2021[11]).

In about one-third of countries in the Asia Pacific, childhood vaccination rates decreased in 2020 (Figure 2.19). Between March and April 2020, vaccination coverage decreased by 23% for measles and 22% for bacille Calmette-Guérin (BCG) (GAVI, 2020[12]). In Pakistan, for example, all mass vaccination programmes were suspended between April and June 2020 and 40 million children missed their polio vaccination during this period (Haqqi et al., 2020[13]). In Korea, however, vaccination rate increased 1% for Hep B and BCG for infant and measles and pneumococcus for children in 2020, compared to the rate in 2019.

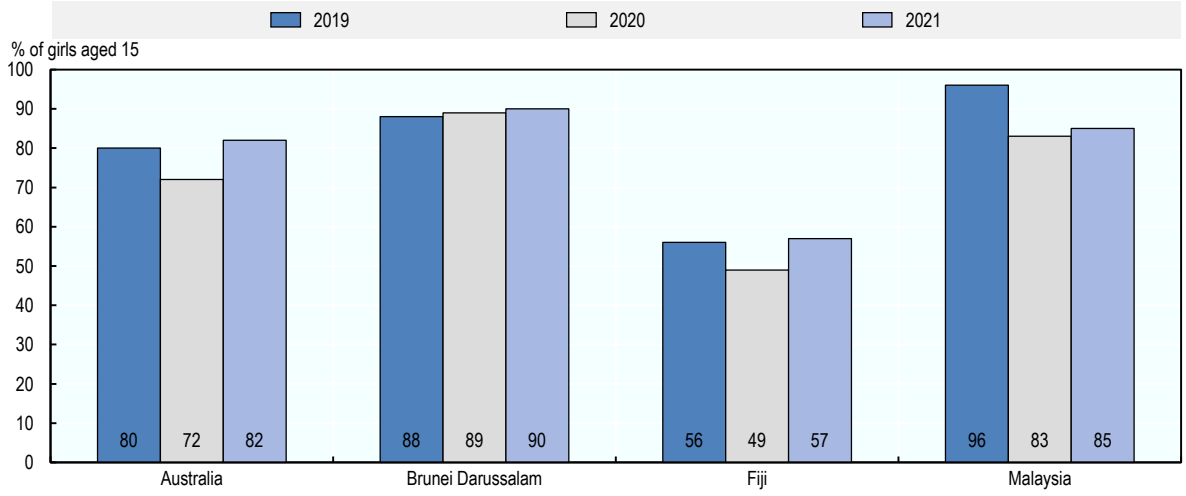
Figure 2.19. DPT vaccination rate decreased in about one-third of countries in Asia Pacific in 2020



Source: WHO/UNICEF estimates of national immunisation coverage (WUENIC) 2022.

The HPV vaccination rate decreased in Australia, Fiji and Malaysia in 2020 (Figure 2.20), to then increase to reach the 2019 levels in 2021.

Figure 2.20. HPV vaccination rate decreased in some countries in 2020

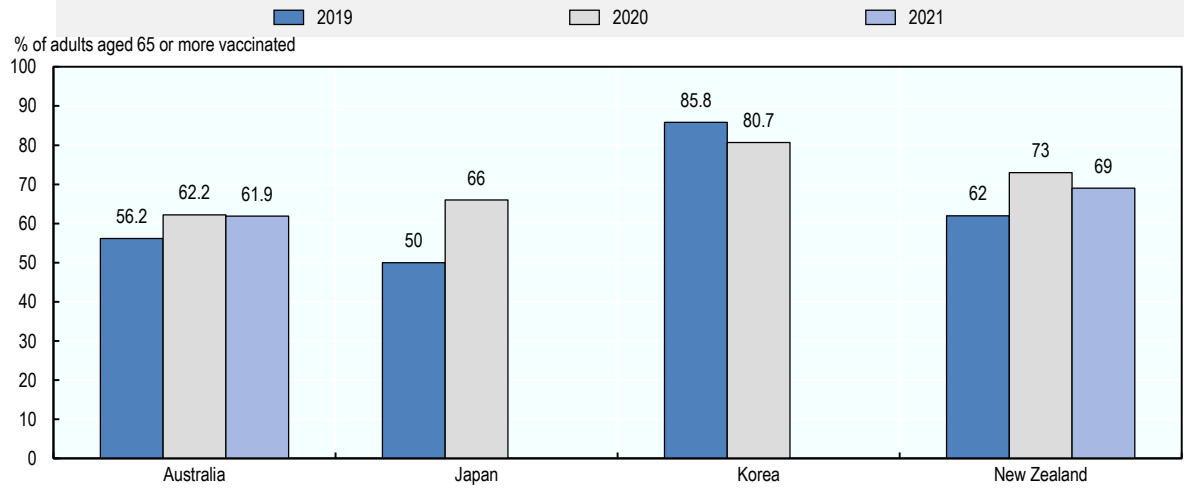


Source: WHO/UNICEF estimates of national immunisation coverage (WUENIC) 2022.

The vaccination rate of influenza among the elderly increased between 2019 and 2020 in Australia, Japan and New Zealand, whereas it decreased in Korea (Figure 2.21).

A study found that the major reasons for vaccination reluctancy among Asian general populations were doubts about the safety and efficacy of the vaccine. Many people did not regard themselves to be vulnerable to the flu and regarded vaccination as unnecessary. Looking at an individual country, a Chinese study on parent-reported vaccination behaviours showed that children and adolescents from larger families whose parents had lower levels of education were less likely to improve prevention behaviours (Hou et al., 2021[14]). As socio-economic status also affects vaccination behaviours, improvements in health literacy and promotion of vaccine safety might be a key to achieve higher flu vaccine coverage.

Figure 2.21. Influenza vaccination rate among the elderly generally increased in 2020



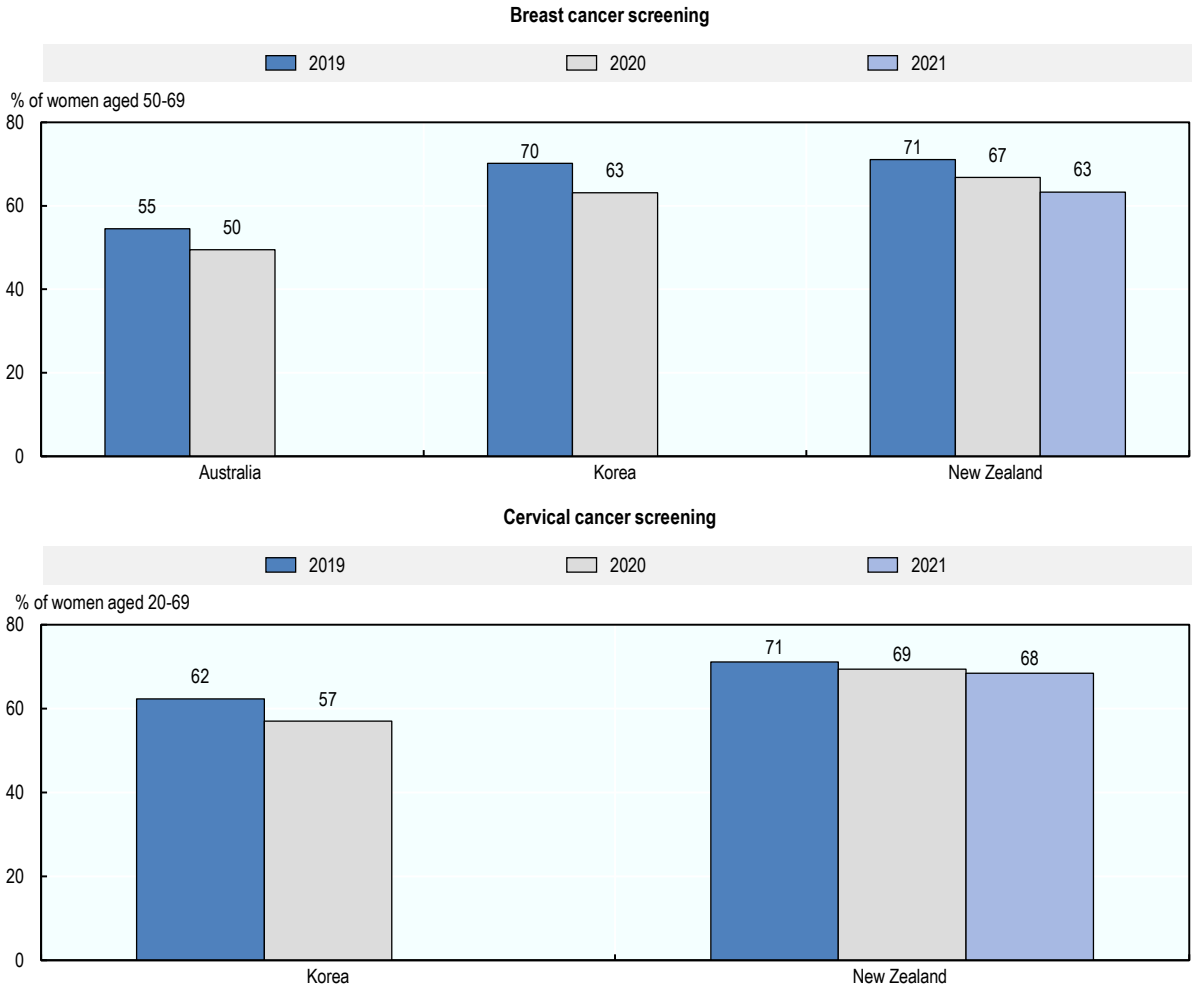
Source: OECD Health Statistics 2022, https://doi.org/10.1787/health-data-en.

Cancer screening was disrupted in some countries in the Asia-Pacific region

During the early period of the pandemic, cancer screening was substantially disrupted (Fujisawa, 2022[15]). Cancer screenings were halted in countries including Australia, Japan, New Zealand and Singapore. In Japan, local governments and health care providers suspended cancer screening programmes in accordance with the recommendation issued by the Ministry of Health, Labour and Welfare based on the first declaration of a state of emergency on 7 April 2020. Countries also faced additional indirect challenges in relation to cancer screening. In Australia, for instance, the drop in cancer incidence could be explained by the need to confirm any diagnosis with pathological tests in laboratories that are already under pressure from CVOID-19 testing (IJzerman et al, 2020[16]).

The challenges in providing and accessing cancer screening resulted in lower breast cancer screening uptake during the initial phase of the pandemic, and the screening rate for 2020 was also lower than the rate for 2019 (Figure 2.22). In Australia, screening for breast cancer among women aged 50-69 fell by 20% between January and September 2020, compared to the same period in 2018, with the decline particularly pronounced between March and May 2020, when breast screening services were paused (Australian Institute of Health and Welfare, 2021[17]). A decline was also observed at the early stage of the pandemic in 2020 in other countries including Japan (Toyoda et al., 2021[18]). In New Zealand, mammography screening rates continued to decrease in 2021. Similar trends are reported for screening of cervical cancer. A decline in cervical cancer screening was seen in Australia (Australia Government Department of Health, 2020[19]) and Japan (Japan Times, 2020[20]). The number of Cervical Screening Tests conducted was expected to be lower in 2020 than in 2019, irrespective of the COVID-19 pandemic and subsequent restrictions. This is largely due to the programme changing from 2-yearly Pap tests to 5-yearly Cervical Screening Tests from December 2017, as most screening people were due for their first HPV test 2 years after their last Pap test (during the years 2018 and 2019), with screening in 2020 mainly comprised of people overdue for their first HPV test and those newly-screening (Australian Institute of Health and Welfare, 2021[17]).

Figure 2.22. Cancer screening rates decreased across countries



Note: Programme data.
Source: OECD Health Statistics 2022, https://doi.org/10.1787/health-data-en.

Colorectal cancer screening was also suspended in several countries, including New Zealand and Singapore during early stage of outbreak in 2020 (Chiu et al., 2021[21]; OECD, 2021[22]). In Korea, beside breast, cervical and colorectal cancer, the uptake for gastric, liver and lung cancer screenings also declined in 2020 compared to 2019 (Kim, 2021[23]). Another Korean study also found that metropolitan areas faced a larger decrease in stomach, colorectal, breast and cervical cancer screening compared to rural areas. Consequently, newly diagnosed cancer cases declined in countries with available data including Australia, Japan, Korea, and Hong Kong (China).

Hong Kong (China)'s public laboratory faced a drastic decrease in the number of pathologic specimens received (Vardhanabhuti and Ng, 2021[24]). As a result, the reduction in the diagnosis of malignant lesions was observed compared to the expected number from past three years. Large declines were observed especially for colorectal (–10.0%) and prostate (–19.7%) cancers.

A Japanese study reveals the number of newly diagnosed cancer in 2020 was 5.8% lower compared to the previous year. Especially, May 2020 when the country was under the state of emergency showed the most significant decrease of 22%. Gastric cancer saw the most substantial decrease of 39.1% compared to the last four years.

Delayed cancer screening is expected to increase the future burden of cancer. An Australian study estimated that a one-year pause in screening reduces 5-year breast cancer survival from 91.4% to 89.5% (Feletto et al., 2020[25]). In New Zealand, cancer registrations – as recorded in a nationally-mandated register of all new diagnoses of primary malignant cancers diagnosed – declined by 40% during its national lockdown in 2020, compared to the previous year (Gurney et al., 2021[26]). While it took few months to go back to its pre-COVID level, the cumulative of cancer registrations finally surpassed that of 2019 in September 2020.

After the initial phase of the pandemic, cancer screening uptake started increasing across countries, although to a varying degree. In Australia, for example, screening uptake between mid-July and mid-September 2020 exceeded the corresponding period in 2018 (Cancer Australia, 2020[27]). To increase the uptake of cancer screening, Japan ran public awareness campaigns.

Delayed and missed care for chronic conditions has been associated with worse health outcomes

Patients with chronic health conditions have high health care needs and are at risk of complications if their conditions are not well managed. Evidence shows how delays or missing regular care for a range of chronic conditions, such as diabetes, exacerbates health complications and leads to severe health consequences.

In Korea, chronic respiratory disease such as COPD and asthma all saw a substantial decrease in hospitalisations during COVID-19 (Huh et al., 2021[28]). The cumulative incidence of admissions was 58% (COPD) and 48% (asthma) of the average rate during the four preceding years.

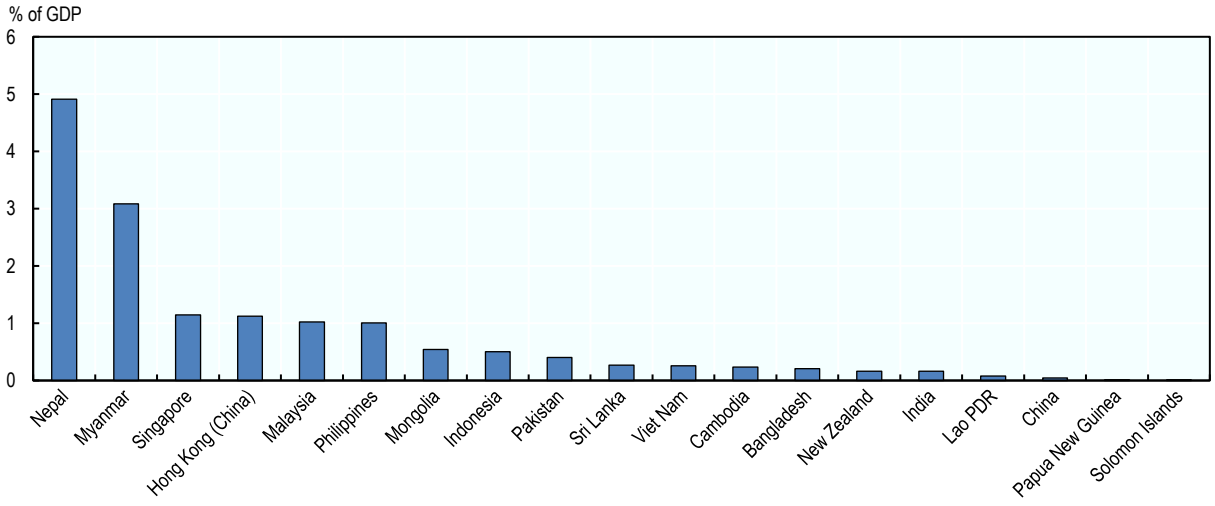
Early evidence shows that rates of diabetes-related complications have increased in several countries during the pandemic due to decreased access to diabetes care and services (Khader, Jabeen and Namoju, 2020[29]; Ghosal et al., 2020[30]). For example, in Indonesia, 69.8% of patients with diabetes experienced difficulties in managing their diabetes during the pandemic (Kshanti et al., 2021[31]). The difficulties included attending diabetes consultation (30.1%), access to diabetes medication (12.4%), and checking blood glucose levels (9.5%). Complications related to diabetes occurred in 24.6% of patients, with those who had diabetes management difficulties 1.4 times more likely to have diabetes complications than those who did not. In addition, a study on central India found that glycaemic control deviated during the lockdown period, with a 0.51% increase in mean haemoglobin (HBA1c) for diabetes patients immediately after lockdown, which may lead to a considerable increase in the annual incidence of complications associated with diabetes (Khare and Jindal, 2021[32]).

In Japan, the severity of myocardial infarction also increased (Yasuda et al., 2021[33]).

Countries responded differently to the pandemic based on the pandemic situations and national capabilities and contexts

Governments within the Asia-Pacific region and beyond put together substantial response packages to combat COVID-19. The health sector was an early recipient of these additional resources. Amongst Asia and Pacific countries with comparable data, central government budgetary commitments to health system responses to COVID-19 between April 2020 and mid-November 2021 ranged from around 5% of GDP in Nepal to around 0.1% in Lao PDR (Figure 2.23). However, for some countries this may not represent the full picture of mobilisation of resources in response to COVID-19 as funds granted by international agencies, foreign government or NGOs are not included.

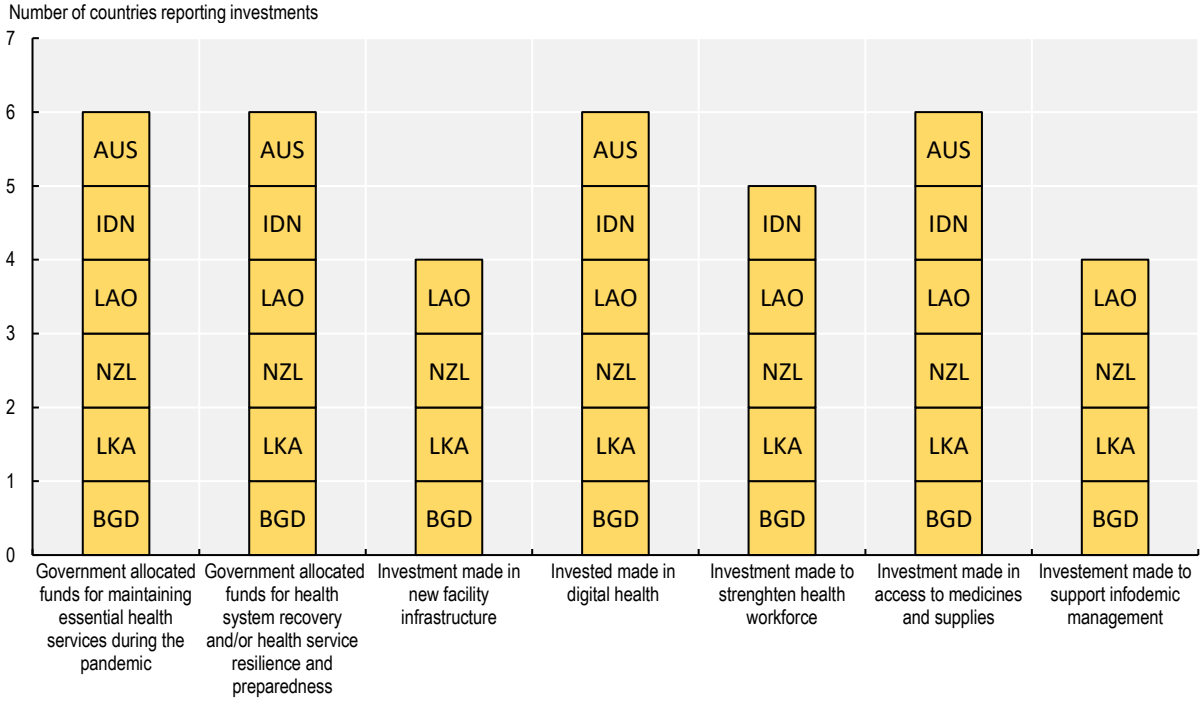
Figure 2.23. Government financial commitments to health from April 2020 to November 2021



Note: Reported as a percentage of the 2020 GDP. The Asian Development Bank Policy Database displays the monetary amounts announced or estimated by the 68 members of the Asian Development Bank, two institutions, and nine other economies (i.e. a total of 79 entries) to fight the COVID-19 pandemic.
Source: Asian Development Bank COVID-19 Policy Database (accessed on 27 September 2022).

In addition to allocating funds for maintaining essential health services improving resilience, governments invested in digital health and in access to medicines and supplies (Figure 2.24).

Figure 2.24. Countries reporting investments for long-term health system recovery and/or resilience for future health pandemics in selected areas, Q4 2021



Source: WHO PULSE survey (round 3), 2022.

The rapid development of remote consultations has offset at least partly the reduction of in-person encounters with GPs and specialists

Examples of regulatory and policy interventions in the Asia-Pacific region include India's Telemedicine Practice Guidelines 2020 and interim guidance on use of telemedicine by Indonesia permitting doctors and dentists to provide telemedicine services through mobile apps and Information and Communication Technologies (ICT) systems. This latter was further supported by the Indonesian Medical council issuing a regulation regarding the Clinical Authority and Medical Practice through Telemedicine during COVID-19.

Australia expanded the range of telehealth services subsidised on a fee-for-service basis to enable GPs, specialists and other providers to maintain care for patients and temporarily doubled the incentive fee payable for GPs to see certain categories of patients without any upfront cost. Furthermore, there were two additional temporary incentive payments established to provide further incentive for GPs to see patients at risk of COVID-19 without any upfront cost. Some telehealth items that were temporarily added have now been permanently included in the MBS schedule (Australian Government - Department of Health and Aged Care, 2022[34]). In Australia, telemedicine was also utilised to maintain health care support for diabetes patients, with 80.8% of patients having a telehealth consultation during the pandemic[1] (Imai et al., 2022[35]; Olson et al., 2021[36]). Six-monthly HbA1c testing and HbA1c levels had no significant difference between those patients who had telehealth services and those who had face-to-face consultations. In the quarter ending September 2020, 13.3% of all Medicare Benefits Schedule services processed, 15.5 million, were telehealth consultations, indicating the importance of such services in maintaining access to care throughout the pandemic (AIHW, 2021[37]). Remote consultations were also widely used to provide mental health related services and between 16 March 2020 and 27 September 2020, 2.5 million Medicare-subsidised mental health related services were delivered via telehealth nationally, which accounts for more than a third of all mental health related services delivered in that period (AIHW, 2022[38]). The positive impact of telehealth was particularly pronounced in antenatal care, where a 10% drop in in-person care between January and September 2020, compared to 2019, was almost entirely offset by an uptake of 91 000 telehealth services (AIHW, 2021[39]). Australia further implemented e-prescribing from May 2020 onwards, allowing health care providers to send electronics prescription to individuals via SMS or email (Australian Digital Health Agency, n.d.[40]). Moreover, pharmacists were allowed to dispense essential medicines without a prescription from a physician in the event that it was not practicable for a patient to receive a new prescription to allow continuity of care to a patient that had been previously prescribed the medicine (Australian Government. Department of Health and Aged Care, 2022[41]).

While in New Zealand telehealth services were used even before the pandemic, after March 2020 some restrictions were relaxed, which, for instance, enabled the provision of telehealth services also to patients who had not consulted a provider in-person before (OECD, forthcoming[42]). In New Zealand, remote technologies were further used to facilitate repeated medication prescriptions (Al-Busaidi IS, 2020[43]).

Japan and Korea also temporarily allowed the use of telehealth services to ensure access and continuity of care during the pandemic and made the legal and policy changes required to do so (OECD, forthcoming[42]). In Korea as in many other countries, such legislative or regulatory changes were introduced for a limited amount of time only to respond to the unprecedented effects of the COVID-19 pandemic, even though some countries are considering a permanent integration of telehealth into their health care systems (OECD, forthcoming[42]).

While the widespread use of telehealth during the pandemic is remarkable, there is an urgent need for more evidence about quality and cost-effectiveness of telehealth services in improving outcomes for those living with chronic diseases, which is still rather limited (Al-Busaidi IS, 2020[43]). At the same time, many obstacles to care still exist, including equal access to technology and new digital tools, and appropriate digital health literacy (Hinchman et al., 2020[44]).

An expanded role of community health workers and general practitioners

Community health workers (CHWs) in the South-East Asian countries responded to the COVID-19 pandemic by expanding their routine work in different ways (Bezbaruah et al., 2021[45]). In Bangladesh, community health volunteers (CHVs) in refugee camps performed multiple roles such as visiting the camps' residents, providing COVID-19 information on hygiene and symptoms, and looking for suspicious cases and advising on patient care (Rahman and Yeasmine, 2020[46]). They also provided mental health support where necessary, while maintaining their routine health care support. India's most crowded slum's COVID-19 response was achieved by relying on CHWs who knew the local area and gained trust by the community (Singh, 2020[47]; Shaikh, 2020[48]). CHWs in slums provided necessary information on COVID-19 and delivered essential groceries and medicine, while supporting screening with thermal scanner and pulse oximeter.

Thailand utilised pre-existing village health volunteers (VHV) to address the nation-wide COVID-19 pandemic. VHVs were given new roles in the primary health care system, supported local epidemiological surveillance, helped to distribute the necessary medications for patients with chronic disease, and promoted the COVID-19 prevention scheme.

General practices in Australia and New Zealand, which experienced several disasters between 2009 and 2016, undertook a range of critical roles in providing responsive health care. These included providing primary health care in alternative health care facilities, adapting existing health facilities for the purposes of providing disaster health care, and maintaining care continuity for management of chronic diseases. As such, primary health care is key for effective health emergency management both for absorbing and recovering from a shock.

Singapore's Public Health Preparedness Clinics, which are pre-existing community-based facilities, provided increased access to primary care during the COVID-19 pandemic (Lim and Wong, 2020[49]). These facilities helped to distribute PPEs, provide patients with necessary care, and thereby helped reduce local transmission (Sim et al., 2021[50]).

Conclusions

COVID-19 has had a huge impact across the Asia-Pacific region, testing the resilience of economies and health systems, and placing an immense pressure on health workers operating at the front line. However, COVID-19 has had an unequal impact in the region between high-, middle- and low-income countries, in particular by amplifying inequities and inequalities.

In terms of the overall health impact, India and Indonesia were the most affected, based on data on COVID-19 reported deaths. In contrast, most countries situated in South-East Asia as well as Pacific Islands countries, have been less adversely affected to date. Variation in population density, the rural-urban composition, the degree of international visitors, as well as demographic characteristics, among others, may well explain these observed differences in death rates. Differences in the timing, use and intensity of public health and social measures, in particular restrictions on movement, the speed and effectiveness in which they were implemented, and testing and contact tracing infrastructure have also played a role (International Monetary Fund, 2020[51]).

As of September 2022, the percentage of the population who received a booster shot amounts to almost 84% in high-income countries, whereas that of lower-income countries is slightly below 20%. This confirms that there is significant Inequity when it comes to vaccine access between high- and low-income countries in the Asia-Pacific region.

A WHO rapid situation assessment survey also illustrates that essential services have been severely disrupted since the COVID-19 pandemic began. This could lead to a substantial number of additional deaths and years of life lost, in particular in low- and middle-income countries.

While the widespread use of telehealth during the pandemic is remarkable, there is an urgent need for more evidence about the cost-effectiveness of telehealth in improving outcomes for those living with chronic diseases.

COVID-19 has had major effects on countries' economies, social and health systems. It is critical to ensure that economic pressures do not divert already limited resources away from essential health services in low- and middle-income countries.

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Note

[1] These statistics were compiled using data supplied from practice management systems of approximately 800 general practices, so isn't comparable with statistics derived from Medicare service data.

From:

Health at a Glance: Asia/Pacific 2022

Measuring Progress Towards Universal Health Coverage

Access the complete publication at:
https://doi.org/10.1787/c7467f62-en

Please cite this chapter as:

OECD/World Health Organization (2022), "The health impact of COVID-19", in *Health at a Glance: Asia/Pacific 2022: Measuring Progress Towards Universal Health Coverage*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/ea3c4d38-en