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# Global spending on health

## Coping with the pandemic







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## Abbreviations

<b>COVID-19</b>	Coronavirus disease
<b>CRS</b>	Creditor Reporting System
<b>DIS</b>	Classification of diseases and conditions
<b>GDP</b>	Gross domestic product
<b>GHED</b>	Global Health Expenditure Database
<b>HC</b>	Classification of health care functions
<b>HIV/AIDS</b>	Human Immunodeficiency Virus/Acquired immunodeficiency syndrome
<b>MDG</b>	Millennium Development Goals
<b>OECD</b>	Organisation for Economic Co-Operation and Development
<b>OOPS</b>	Out-of-pocket spending
<b>PHC</b>	Primary health care
<b>SDG</b>	Sustainable Development Goals
<b>SHA 2011</b>	System of Health Accounts 2011
<b>UHC</b>	Universal health coverage
<b>WHO</b>	World Health Organization



## Key messages

### Higher global spending on health during the pandemic

- After a surge in 2020 during the first year of the COVID-19 pandemic, global spending on health rose again in 2021, to US\$ 9.8 trillion, or 10.3% of global gross domestic product (GDP). Average health spending per capita increased in all income groups except low income countries, where it fell.
- In most income groups, growth in health spending in 2021 was underpinned by a sharp budgetary response from governments. In high and upper-middle income countries, this reflected a sharply higher prioritization of health within government budgets, while in lower-middle income countries, it reflected mainly an overall increase in general government spending.
- Average out-of-pocket spending (OOPS) on health per capita, after a decline in 2020, rose in 2021 in high, upper-middle and lower-middle income countries, to return to prepandemic levels. Once again, the exception was in low income countries, where OOPS fell in both 2020 and 2021.
- External aid was crucial in supporting government spending in 2021 in low and lower-middle income countries. The sharpest rises in external aid were in lower-middle income countries.
- Sustaining government health spending and external aid at 2021 levels may be challenging given the deterioration in global economic conditions and the rise in debt-servicing obligations.

### Responding to new demands: Spending by health care provider

- For most of the 50 countries analysed, spending per capita at all types of providers increased from 2019 to 2021, with the fastest growth among preventive care providers, such as public health institutions and disease control agencies.
- Spending at three types of providers—hospitals, ambulatory care providers and pharmacies—accounted for most health spending in middle and high income countries in 2021. Spending at hospitals accounted for around 40% of total health spending on average, spending at ambulatory care providers for 19%–24% and spending at pharmacies for 16%–23%.
- Spending on outpatient care and preventive care generally occurs across multiple provider types: outpatient services are provided mainly by hospitals and ambulatory care providers, while preventive care spending is split mainly among preventive care providers, ambulatory care providers and hospitals. Ambulatory care providers and hospitals play a much larger



role in preventive care spending in middle income countries (combined share of 36% in 2021) and high income countries (37%) than in low income countries (19%).

- The composition of services within provider types shifted from 2019 to 2021, most likely reflecting the adaptation of service delivery during the pandemic. Hospitals pivoted away from outpatient care towards inpatient care, while preventive activities generally increased as a share of spending at hospitals and ambulatory care providers—and even at pharmacies in some countries.

### Balancing priorities: COVID-19 and other disease spending

- In 2021, COVID-19 health spending rose in real terms in 39 of 48 countries with data; COVID-19 health spending accounted for 11% of government and compulsory insurance health spending in 2021, up from 7% in 2020.
- COVID-19 vaccination changed the structure of COVID-19 health spending by type of service in 2021, although spending on testing and treatment also rose substantially in middle and high income countries.
- In 18 low and lower-middle income countries with fully disaggregated data by disease for 2019 and 2020, COVID-19 health spending did not appear to reduce spending on other diseases in 2020. Overall health spending rose largely because of spending on COVID-19, with a marginal increase in spending on other major disease categories.

### Building for the future: Health capital investment

- Health capital investment played an important role in the COVID-19 response. In 64 countries with data, capital investment increased in all income groups during the pandemic, to the equivalent of 5.2% of current health spending, or 0.4% of GDP. The fastest growth in health capital investment during the pandemic was in low and lower-middle income countries.
- Across all income groups, hospitals were the health provider with the highest investment during the pandemic, accounting for 66% of investment in high income countries and slightly more than 50% in low and middle income countries. Ambulatory care providers received 6%–19% of investment across income groups.
- In low income countries, there was a surge in the acquisition of machinery and equipment. In high and middle income countries, the distribution of investment—for buildings and structures, machinery and equipment, and software and databases—changed little.
- Government played the main role in funding health capital investment in high and middle income countries, accounting for more than 75% of investment during the pandemic. In low income countries, government and external aid each accounted for around 50%.





## OVERVIEW

# Global spending on health: coping with the pandemic

The 2023 Global Health Expenditure Report focuses on health spending in 2021, the second year of the COVID-19 pandemic. Following massive disruptions to health systems, economies and societies with the onset of the pandemic in 2020, 2021 ushered in a critical new phase as COVID-19 infections and deaths rose sharply. Yet 2021 was also a period of adaptation, as economies slowly recovered from the sharp downturn in 2020 and new COVID-19 vaccines were rolled out.

The two years of data now available for the COVID-19 pandemic period offer new insights into the evolution of global spending on health through this tumultuous period. Global spending on health continued to rise in 2021, reaching a new high of US\$ 9.8 trillion, or 10.3% of global gross domestic product (GDP). Health spending per capita rose in 2021 for all income groups except low income countries, although the growth rate was lower than in 2020. Together with generally strong growth in health spending in 2020, rising average health spending per capita in 2021 reached 11%–12% above its prepandemic level in real terms in high, upper-middle and lower-middle income groups and about 5% above its prepandemic level in low income countries.

Notably, for most income groups, the growth in health spending in 2021 was underpinned by a sharp budgetary response from domestic government spending. In high and upper-middle income countries, this reflected a sharply higher prioritization of health within government budgets. In contrast, in

lower-middle income countries, it reflected mainly an overall increase in general government spending. In low income countries, where government health spending fell in 2021, external aid for health played an essential supporting role. However, lower-middle income countries received the largest increases in external aid. In most income groups, out-of-pocket spending on health recovered in 2021 following a decline in 2020, as economies recovered and the provision and use of routine health services improved compared with 2020 but did not yet return to normal conditions. Once again, the exception was in low income countries, where out-of-pocket spending fell in both 2020 and 2021.

The 2023 report also draws on disaggregated spending data by health service providers to reveal some of the ways that health service delivery systems adapted to the COVID-19 pandemic. Spending at hospitals, ambulatory care providers and pharmacies accounted for most health spending across all income groups. Shifts occurred, however, in the composition of services within provider type during the pandemic. Hospitals generally pivoted away from outpatient care towards inpatient care, most likely reflecting a shift in priorities towards the most acute and pressing treatment needs. Additionally, spending on preventive care increased rapidly during the pandemic. This was reflected in the rising share of spending on preventive care providers—such as public health institutions and disease control agencies—in total



health spending for all income groups. It also reflected the rising share of preventive care spending at hospitals and ambulatory care providers in most countries and at pharmacies in some countries. This pattern of health spending is consistent with the widespread distribution of testing, contact tracing and COVID-19 vaccination across locations and the adaptation of service delivery systems to the changed context.

There was no evidence that the additional health spending on COVID-19-related activities led to lower spending on other communicable diseases (such as HIV, tuberculosis and malaria) or noncommunicable diseases in low and lower-middle income countries. Moreover, the introduction of vaccines did not result in lower spending on testing and treatment for COVID-19. On the contrary, spending on testing and treatment rose substantially in most upper-middle and high income countries with data. Thus, the analysis suggests that the increased spending for COVID-19 did not crowd out spending for other health needs, although it might have affected the rate of growth of spending for these other purposes.

A further novel aspect of this year's Global Health Expenditure Report is that it examines health capital investment. In contrast to current health spending, which involves the day-to-day consumption of existing resources, investment creates new assets, such as buildings, equipment and intellectual property (for example, computer software, databases), which are essential to the proper functioning of health service delivery systems now and into the future. Specifically excluded from the analysis is investment in research and development of vaccines, which lie beyond the scope of health accounts despite their undoubted importance during the COVID-19 pandemic. Also excluded is supranational investment made at the regional or global level, given the focus of health accounts on tracking spending that can be assigned to individual countries.

Investment in health service delivery systems was essential to the COVID-19 response. Investment increased across all income groups compared with prepandemic levels, equivalent to more than 5% of current health spending, or about 0.4% of GDP. Low income countries experienced a surge in spending on machinery and equipment, possibly reflecting a lack of essential equipment—such as ventilators and hospital beds—at the beginning of the pandemic. In high and middle income countries, the structure of investment

changed little. Hospitals received over half of all reported health investment in all income groups during the pandemic. As with current health spending, government spending was a major driver of the rise in health capital investment during the pandemic. The exception, once again, was low income countries, where government and external health aid had critical complementary roles in bolstering investment.

Notably, the COVID-19 pandemic period is unlikely to represent a “new normal” for government health spending. During the pandemic, the strong government budgetary response and increased aid flows to low and lower-middle income countries were prompted by rapidly evolving political agendas that placed public health and emergency response at the forefront of decisionmaking. Sustaining government spending at 2021 levels could, therefore, be challenging for many countries; this is especially true given the deterioration in global economic conditions, with slowing growth and inflation at a multidecade high. Further, increased debt servicing obligations associated with rising indebtedness and tightening financial conditions will likely narrow governments' budgetary space.

Amid this more difficult financing environment, a key challenge for countries will be to resist the urge to deprioritize government spending on health. Doing so risks rolling back progress towards universal health coverage. That has been a central part of the effort to get back on track to achieve the Sustainable Development Goals following the severe COVID-19 pandemic-related disruptions (1,2). Government spending is also essential for building health systems and capacities to respond to future pandemics (3).

Action is also needed at the domestic and international levels to monitor spending patterns and inform global and national decision-making. Data availability remains a major challenge for tracking health spending. While most countries regularly report aggregated health spending data, few consistently report the critical details that underpin these high-level results. Accordingly, only a partial view of the spending dynamics during the COVID-19 pandemic—by provider, function, and disease and condition—is possible in this report. Similarly, few countries regularly report health capital investment, which limits the insights into this critical area of health policy.

More effort is needed, therefore, to improve data collection and increase the number of

countries developing and reporting disaggregated health account data. Key to this is institutionalizing health account practices at the country level, in line with the global standard for the System of Health Accounts framework. The more institutionalized that health accounts are within countries, the better-equipped are ministries of health and others to evaluate health system performance and adjust policy and programmes to improve performance. By shedding new light on how the dimensions of health accounts can be analysed for health policy, the intention is that this report can spur new demands for information and improvement in data collection and reporting.

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## Higher global spending on health during the pandemic

### Key messages

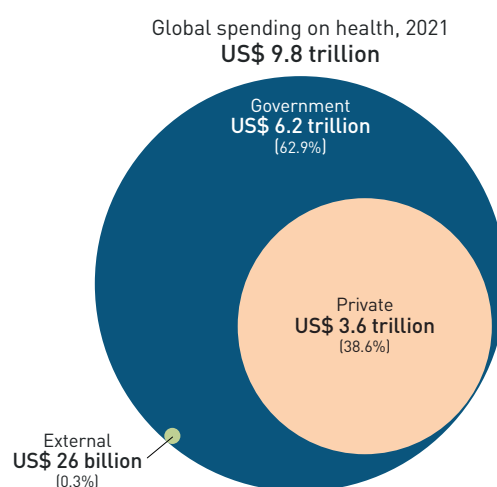
- After a surge in 2020 during the first year of the COVID-19 pandemic, global spending on health rose again in 2021, to US\$ 9.8 trillion, or 10.3% of global gross domestic product (GDP). Average health spending per capita increased in all income groups except low income countries, where it fell.
- In most income groups, growth in health spending in 2021 was underpinned by a sharp budgetary response from governments. In high and upper-middle income countries, this reflected a sharply higher prioritization of health within government budgets, while in lower-middle income countries, it reflected mainly an overall increase in general government spending.
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- Sustaining government health spending and external aid at 2021 levels may be challenging given the deterioration in global economic conditions and the rise in debt-servicing obligations.

Like 2020, 2021 was dominated by the effects of the COVID-19 pandemic and the associated global response. Yet 2021 marked a new phase of the pandemic, bringing fresh challenges for the world's health systems and economies. The emergence of more transmissible variants of concern, such as the Delta variant (B.1.617.2) early in the year and the Omicron variant (B.1.1.529) later on, led to a step-change in the number of COVID-19 infections worldwide and broader geographic reach of the virus (1). It also meant that COVID-19 deaths were higher in 2021 than in 2020. Notably, 2021 was also the first full year of COVID-19 vaccinations, with mass vaccination programmes rolled out simultaneously in many countries. Critically, in 2021, economic activity also began recovering in all income groups following the 2020 global recession. The rebound generally fuelled an upturn in private sector income and boosted government revenue. However, the fiscal response in both 2020 and 2021 and the adaptation of economies to the realities of the COVID-19 pandemic differed by income group, with implications for health spending (2).

### Aggregate global spending on health

After surging during the first year of the COVID-19 pandemic, global spending on health<sup>1</sup> reached US\$ 9.8 trillion in 2021, or 10.3% of global GDP (Figure 1.1).<sup>2</sup> Based on the latest data from 188 countries (Box 1.1; see the Annex for the list of countries), global spending on health was slightly higher in 2021 than in 2020 (US\$ 9.6 trillion in 2021 prices), but as a share of global GDP, it was slightly lower in 2021 than in 2020 (10.8%) because of the return to economic growth. The rise in overall health spending in 2021 was driven by higher spending by both governments and private sources—in contrast to 2020, when growth in government

**FIGURE 1.1 Global spending on health reached US\$ 9.8 trillion in 2021**



**Note:** Data are the sum of total health spending in US dollars across 188 countries. The conversion from national currency units to US dollars is based on country-specific exchange rates in 2021.

**Data source:** WHO Global Health Expenditure Database, 2023.

spending accounted for higher overall health spending, as private spending fell.

The distribution of global spending on health remained highly skewed in 2021: 79% was in high income countries,<sup>3</sup> which are home to less than 16% of the world population.<sup>4</sup> This high proportion of global spending on health, which is roughly the same as in 2020, compares with 16.5% in upper-middle income countries, 3.8% in lower-middle income countries and just 0.2% in low income countries (Figure 1.2). Average health spending per capita in 2021 was US\$ 4 001 in high income countries, which is 8 times the US\$ 531 in upper-middle income countries, 27 times the US\$ 146 in lower-middle income countries and 89 times the US\$ 45 in low income countries.

1. The terms "health spending" and "total health spending" in this report are used synonymously with "current health expenditure." Capital expenditure on health is not included but is discussed separately in chapter 4.

2. The data in Figures 1.1 and 1.2 and the accompanying discussion are the sum of total health spending in US dollars across 188 countries. The conversion from national currency units to US dollars is based on the exchange rate in 2021. The statistics in the rest of the chapter are unweighted cross-country averages (for example, the average of government health spending per capita in low income countries).

3. Income groups in this report correspond to the classification of countries by World Bank for the year 2021. The World Bank did not calculate an income group classification for the Bolivarian Republic of Venezuela in 2020. It is classified as lower-middle income country in this report based on estimates of gross national income and GDP per capita in 2021.

4. The extreme inequality of health spending is underpinned by the United States, which accounts for 41% of spending yet has 4% of the world's population. However, even excluding the United States, global spending on health remains highly unequal, with 38% of spending in high income countries, which are home to 11% of the world's (non-US) population.



**BOX 1.1****Health spending data sources**

Data on health spending for this report are collected and validated annually from WHO Member States (countries) for the Global Health Expenditure Database (GHED) up to  $t-2$  (2021 is the latest year for GHED update in 2023), except for a small set of countries reporting preliminary data on 2022. Data reported by countries identify health financing flows using the international health accounting framework, the System of Health Accounts 2011 (SHA 2011).

Depending on the context, health accounts teams compile information on health spending from several data sources, including countries' national accounts, non-SHA health accounts, government records (such as ministry of health budgetary information and regional government data) and social security data. This information is complemented with other data and metadata from dedicated surveys (for example, of facilities and households), insurance umbrella organizations, trade associations and nongovernmental organization accounts (3).

This chapter uses data on current health spending organized by financing schemes and sources of funds (SHA 2011 classifications HF and FS, respectively) collected from countries. When information from a country was unavailable for specific financing schemes or sources for  $t-2$  (year 2021), the corresponding spending was estimated by WHO (4).

*Government spending on health.* When a country had no reporting on government health spending, WHO

estimations were based mainly on budget information. If no information is available, the estimation assumes the same share of health spending in total government spending as in the previous year.

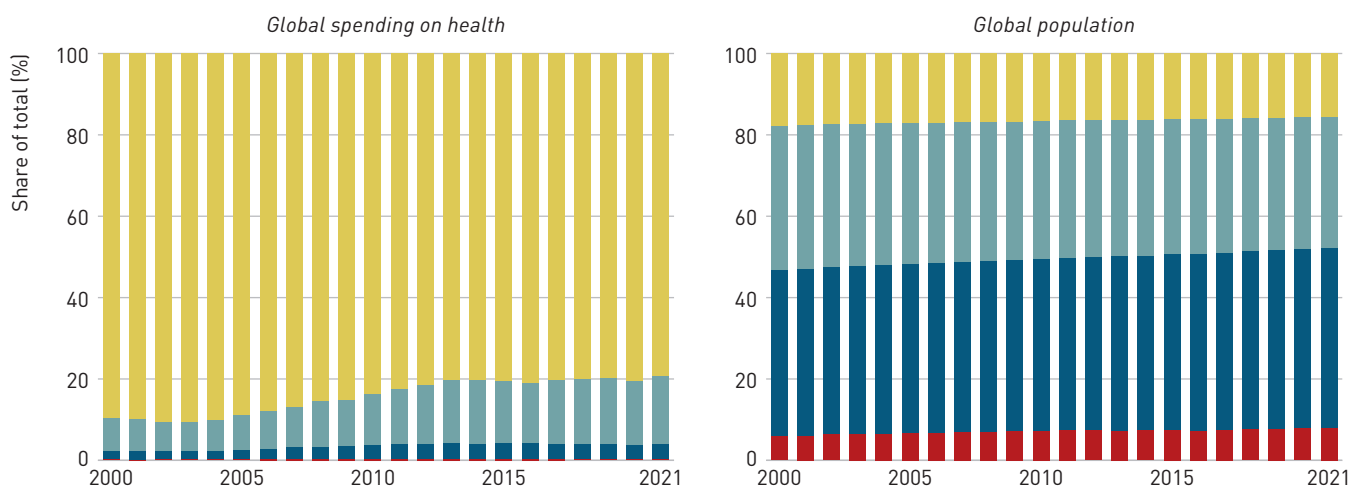
*External aid.* When a country does not report on external aid spending, disbursement amounts from donor reports are used. The main source for donor reports is the Organisation for Economic Co-operation and Development's Creditor Reporting System database, which includes disbursements for current expenditures and for capital investments. Because the database does not report actual expenditures, estimates use a one-year lag to account for recipient capacities to absorb and consume the funds received.

*Out-of-pocket spending.* When a country does not report household out-of-pocket spending, the estimation assumes the same share of health spending in total private final consumption as in the previous year.

Other disaggregations of health spending for this report, such as current health expenditure by disease, health care function and health care provider, and of investments on capital in the health system are only derived from country-reported data and are not estimated if no information is available. Therefore, detailed breakdowns of health spending by service, provider and disease and of capital expenditure are only for the sets of countries with data indicated in each chapter of this report.

**FIGURE 1.2** Nearly 80 percent of total health spending was in high income countries in 2021

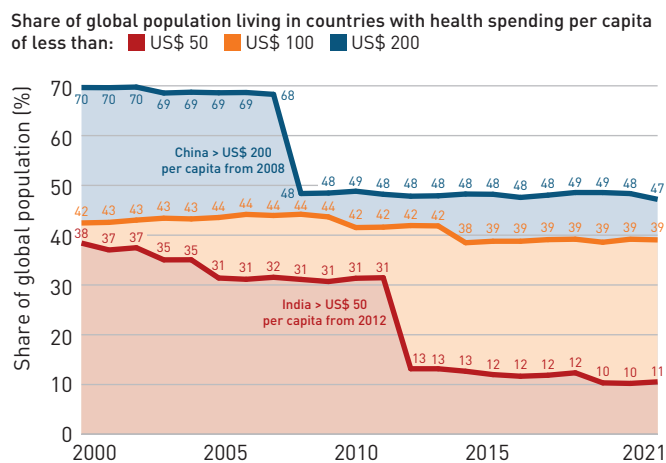
Income group ■ Low ■ Lower-middle ■ Upper-middle ■ High



Data source: WHO Global Health Expenditure Database, 2023. Population data are from United Nations, *World Population Prospects*, 2022 revision.

**Progress in boosting health spending in resource-scarce countries has been limited, despite a commitment to leave no one behind.** In 2021, about 39% of the global population lived in countries that spent less than US\$ 100 per capita on health in constant (2021) values<sup>5</sup>—an arbitrary but simple threshold of health spending (Figure 1.3). Notably, this share has changed little over time. In 2000, the share was about 42%. By 2015, the end of the Millennium Development Goals (MDGs) period, it had improved slightly, to 39%, where it has remained stable. Similarly, the share of the global population living in countries with health spending per capita of less than US\$ 50 in constant values barely changed from 2012 to 2021, remaining around 11%–13%. (The large decrease in 2012 was the result of India passing the US\$ 50 threshold, though India remained below the US\$ 100 threshold until 2021). In 2021, around 47% of the global population lived in countries where health spending per capita was below US\$ 200 in constant values, a proportion that has also remained largely unchanged since China passed the threshold in 2008.

**FIGURE 1.3** The share of the world’s population living in countries that spent less than US\$ 100 per person on health in constant values has fallen only 3 percentage points since 2000



**Note:** Thresholds of health spending per capita are based on constant (2021) values.

**Data source:** WHO Global Health Expenditure Database, 2023.

**Average health spending per capita rose in real terms from 2020 to 2021 across all income groups except low income countries.**<sup>6</sup> Overall, increases in health spending per capita were common, with around three-quarters of countries reporting a rise. However, the change in health spending per capita in 2021 varied considerably and involved some particularly large increases and decreases for individual countries (Figure 1.4). This was reflected in differences in the average growth rate of health spending per capita across income groups. Growth was highest, on average, in lower-middle income countries (7.6%), outpacing upper-middle (5.4%) and high income countries (4.7%). The exception in 2021 was in low income countries, where average health spending per capita fell by 1.6%. Indeed, nearly two-thirds of low income countries recorded a drop in health spending per capita in 2021.

**In all income groups, average health spending per capita in 2021 was above prepandemic levels.** In high, upper-middle and lower-middle income countries, health spending per capita in 2021 was around 11%–12% above the 2019 level in real terms. In low income countries, although health spending per capita fell in 2021, it was still around 5% above the prepandemic level due to the large increase in 2020.

**In all income groups, average health spending as a share of GDP in 2021 remained higher than the prepandemic level, even as GDP grew in 2021** (Figure 1.5 and Box 1.2). In high income countries, average health spending as a share of GDP was around 9% in 2020 and 2021, up from 8.2% in 2019. In upper-middle income countries, health spending as a share of GDP remained steady, at a bit above 7% in 2020 and 2021, up from 6.5% in 2019. In lower-middle income countries, average health spending as a share of GDP rose from 4.8% in 2019 to 5.1% in 2020 and to 5.4% in 2021. In low income countries, health spending as a share of GDP rose from 6.2% in 2019 to 6.9% in 2020 and remained stable at 6.9% in 2021.<sup>7</sup>

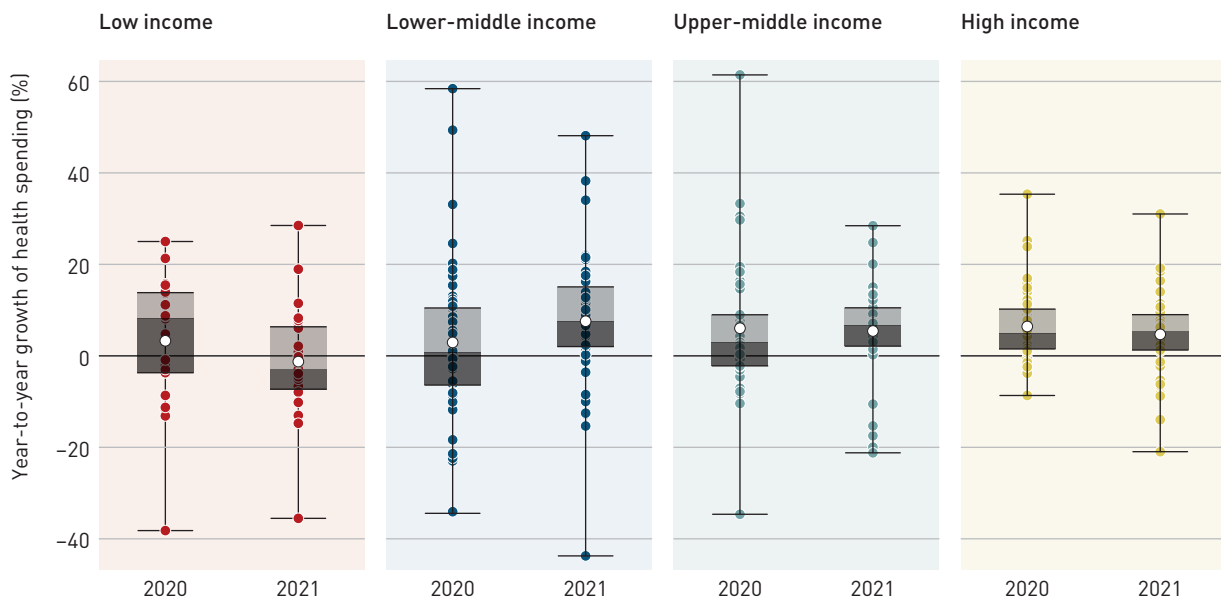
5. Throughout this chapter and the report, the reference year for constant values is 2021; the terms “constant values” and “real terms” are used interchangeably in the report.

6. Group averages in this chapter exclude countries with fewer than 600 000 people in 2021. Population data used in the report are from United Nations, *World Population Prospects*, 2022 revision.

7. The stability of average health spending as a share of GDP in low income countries in 2020 and 2021 at 6.9% masks the decreases in 17 of 24 low income countries in 2021. The low income country average is influenced by Afghanistan, where health spending as a share of GDP rose sharply in 2021, by 6.3 percentage points, from 15.5% in 2020 to 21.9%, due to lower GDP and higher health spending (mainly out-of-pocket spending, which was possibly overestimated). Excluding Afghanistan, average health spending as a share of GDP in low income countries fell from 6.6% in 2020 to 6.3% in 2021.

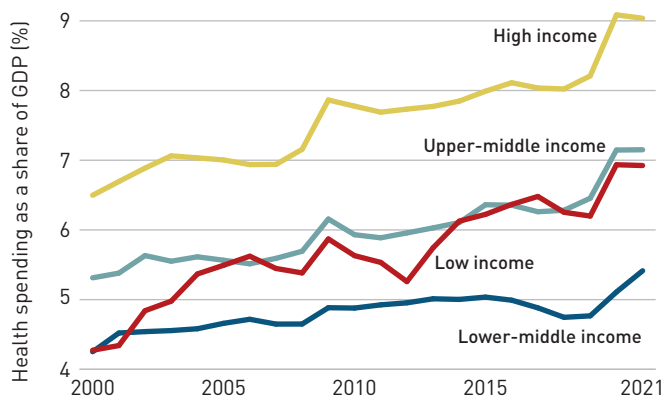


**FIGURE 1.4** Year-to-year growth of health spending per capita varied across income groups in 2020 and 2021



**Note:** Each coloured dot represents one country, and the white circle is the mean. The vertical lines from the bars extend to the maximum and minimum values. The boxplots show the interquartile range (25th–75th percentile) of values; where the darkness of the bar changes is the median. Liberia, where health spending nearly doubled in 2020, is excluded from the graph for better visualization. Growth rates are based on per capita values in constant (2021) national currency units. Country-specific GDP deflators were used to convert current values to constant values. **Data source:** WHO Global Health Expenditure Database, 2023.

**FIGURE 1.5** Health spending as a share of GDP remained higher in 2021 than before the COVID-19 pandemic



**Data source:** WHO Global Health Expenditure Database, 2023.

**BOX 1.2**

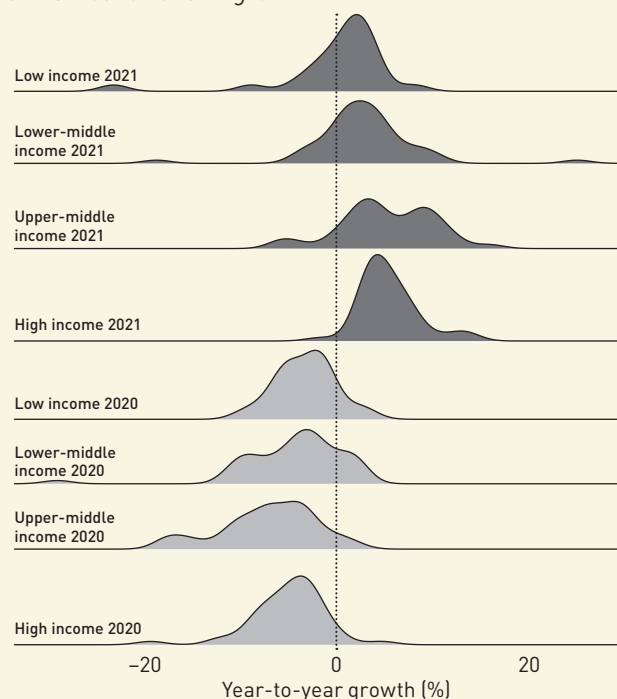
**Macro-fiscal developments in 2020 and 2021**

Among the most notable features of the macroeconomic fluctuations during the first two years of the COVID-19 pandemic was the similarity of the pattern: across all

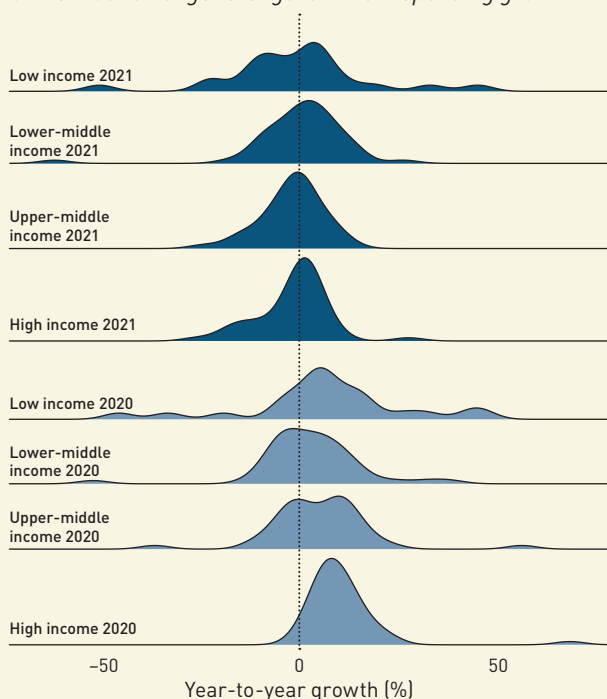
income groups, there was a sharp economic contraction in 2020 followed by a return to growth in 2021 (Box Figure 1a).

**BOX FIGURE 1** Despite a similar pattern of GDP growth across income groups in 2020 and 2021, fiscal responses were more diverse

*a. Distribution of GDP growth*



*b. Distribution of general government spending growth*



**Note:** Guyana (where GDP grew by more than 40% in 2020), Lebanon (where GDP decreased by more than 50% in 2021), the Bolivarian Republic of Venezuela (where government spending decreased by more than 60% in 2020) and Zimbabwe (where government spending increased by more than 75% in 2021) are excluded for better visualization of the graphs. Growth rates are based on per capita values in constant (2021) national currency units. Country-specific GDP deflators were used to convert current values to constant values.

**Data source:** WHO Global Health Expenditure Database, 2023, based on data from Eurostat, the International Monetary Fund, the Organisation for Economic Co-operation and Development, the United Nations Economic Commission for Europe, the United Nations Population Division, the United Nations Statistics Division and the World Bank.

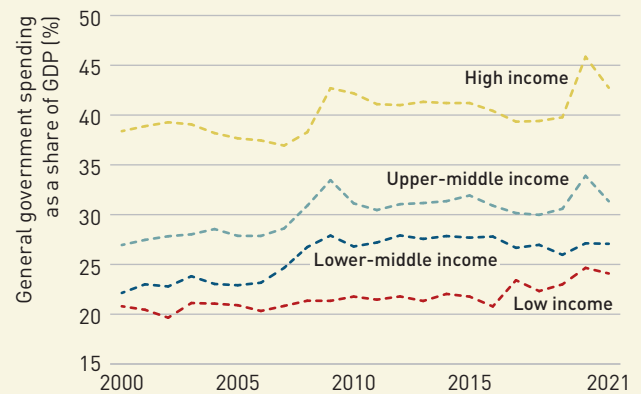
*(continued)*

**BOX 1.2 (continued)**

The initial fiscal response also had a common pattern: general government spending increased markedly across all income groups in 2020. The initial counter-cyclical fiscal response was largest in high income countries, potentially reflecting the early pattern of infections and these countries' greater budgetary flexibility to adapt to changing circumstances, though there was considerable variation among countries (Box Figure 1b).

In 2021, the patterns of government spending differed between income groups. High and upper-middle income countries wound back some of the fiscal stimulus from 2020, evidenced by a drop in average general government spending. The result: government spending as a share of GDP in these economies fell, though it was still high by historical standards (Box Figure 2). In contrast, in both low and lower-middle income countries, average government spending continued to rise, though less than in 2020. The result: government spending as a share of GDP in these economies remained stable in 2021.

**BOX FIGURE 2** General government spending as a share of GDP was high by historical standards during the COVID-19 pandemic across all income groups



Data source: WHO Global Health Expenditure Database, 2023, based on data from Eurostat, the International Monetary Fund, the Organisation for Economic Co-operation and Development, the United Nations Economic Commission for Europe, the United Nations Population Division, the United Nations Statistics Division and the World Bank.

## Government spending on health from domestic sources

**Government spending on health<sup>8</sup> continued to rise in most income groups in 2021, though by less than in 2020.** Building on the strong response in the first year of the COVID-19 pandemic, government spending on health rose from 2020 to 2021, increasing in approximately two-thirds of countries. As a result, government spending on health per capita increased in real terms in 2021 by 5.8% on average in high income countries (to US\$ 2 923), by 4.3% in upper-middle income countries (to US\$ 298) and by 3.4% in lower-middle income countries (to US\$ 68) (Figure 1.6). In each case, this was less than the average growth in 2020. Once again, low income countries were the exception: average government spending on health per capita declined by 3.1% in 2021 (to US\$ 10). Nearly half of low income countries reported a drop in government spending in 2021, though several large outliers in 2020 and 2021 affected the average.

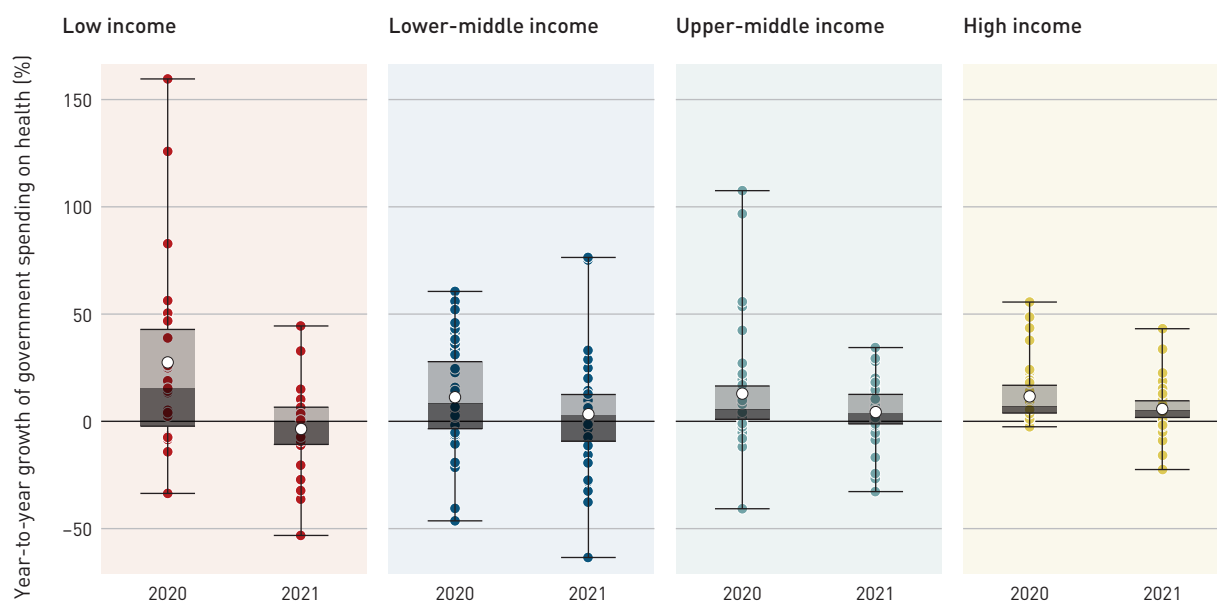
**Across all income groups, government spending on health grew faster, in general, during the COVID-19 pandemic than during the MDGs period and the period between the adoption of the Sustainable Development Goals (SDGs) and the pandemic (from 2015 to 2019).** The compound annual growth rate<sup>9</sup> in government spending on health across the first two years of the pandemic was within a tight band across income groups (medians between 5%–8%; red bar in Figure 1.7). In all income groups, this represented a rapid acceleration of government spending from the median annual growth rate from 2015 to 2019, which itself was a deceleration from the preceding 15 years.<sup>10</sup> This relative lull in growth in global government spending on health from 2015 to 2019, compounded by the severe disruptions in essential service delivery brought about by the pandemic, might partly explain why progress towards the health SDGs is estimated to be proceeding at only a quarter of the necessary pace (5).

8. Throughout this report, government spending on health refers to spending from domestic sources. It excludes external aid that is channelled through the government.

9. The compound annual growth rate presented in Figure 1.7 is a measure of the annualized growth for the analysed variable in each respective period.

10. Comparisons of government spending on health during the COVID-19 pandemic with the MDGs and SDGs periods are most pertinent for low and lower-middle income countries. However, the broad trend of a dip in growth during 2016–2019 was observed across all income groups.

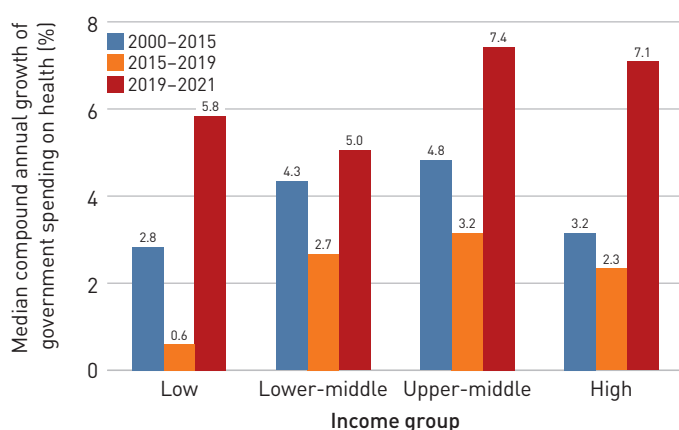
**FIGURE 1.6** Average government spending on health per capita increased in real terms for all income groups except low income countries in 2021



**Note:** Each coloured dot represents one country, and the white circle is the mean. The vertical lines from the bars extend to the maximum and minimum values. The boxplots show the interquartile range (25th–75th percentile) of values; where the darkness of the bar changes is the median. Growth rates are based on per capita values in constant 2021 national currency units. Country-specific GDP deflators were used to convert current values to constant values.

**Data source:** WHO Global Health Expenditure Database, 2023.

**FIGURE 1.7** Government spending on health grew faster during the COVID-19 pandemic than during the Millennium Development Goals period and between the adoption of the Sustainable Development Goals and the pandemic



**Note:** Growth rates are based on per capita values in constant (2021) national currency units. Country-specific GDP deflators were used to convert current values to constant values. The median is used rather than the mean to avoid the domination of extreme values.

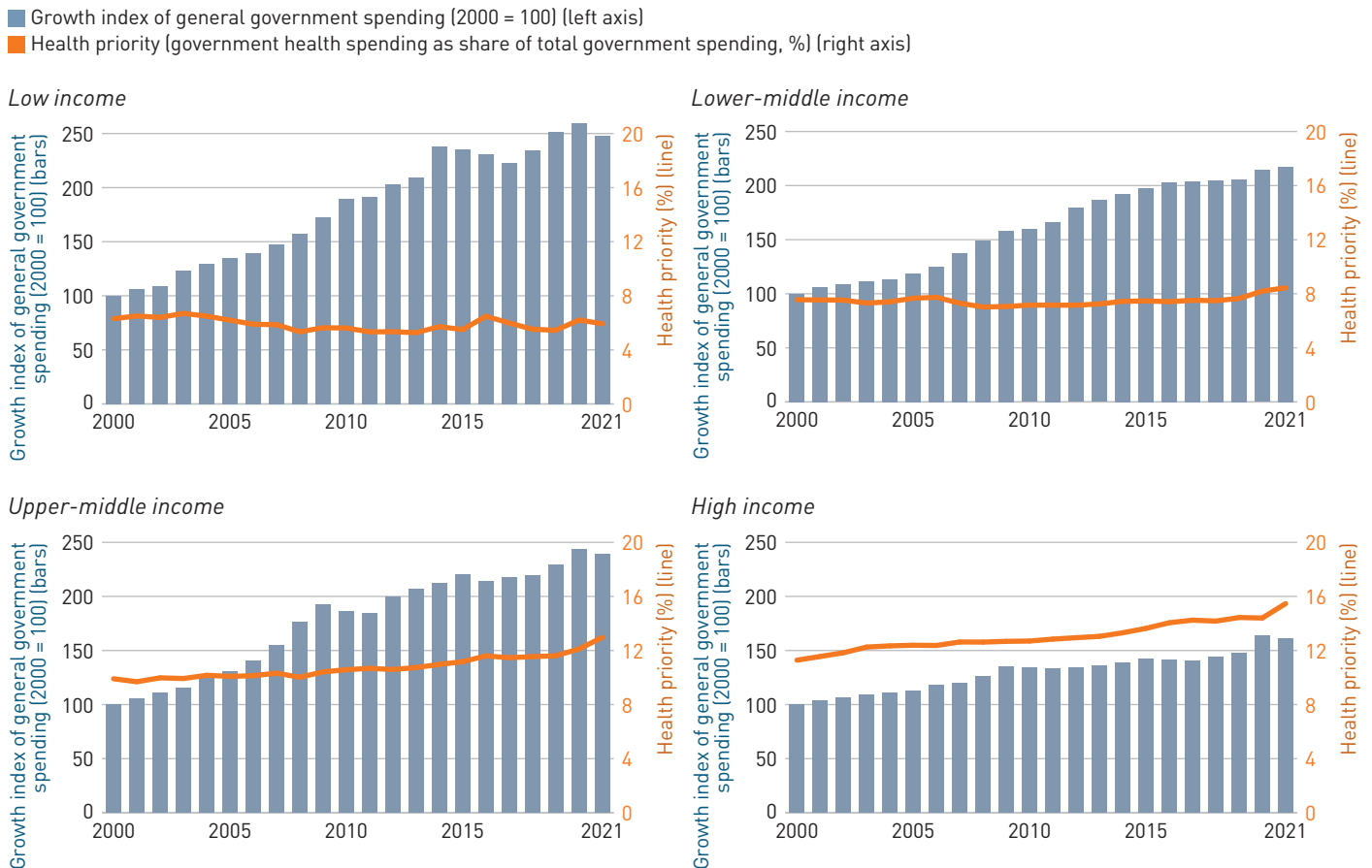
**Data source:** WHO Global Health Expenditure Database, 2023.

**Government spending on health as a share of total government spending reached a new high in 2021 in all income groups except low income countries.** The proportion of total government spending that is allocated to health is a proxy indicator of health priority in the

government budget. Income groups had different patterns of growth in total government spending in 2021 (see Box 1.2). But in most high and upper-middle income countries, where governments scaled back fiscal stimulus measures, government spending on health increased—this appeared in part to be related to the introduction of COVID-19 vaccines, though spending on COVID-19 testing and treatment activities also appeared to increase sharply (see chapter 3). As a result, health priority rose substantially in 2021. In each case, government spending on health as a share of general government spending climbed about 1 percentage point—to 15.5% in high income countries and 13.0% in upper-middle income countries, their highest levels since 2000 (Figure 1.8).

In lower-middle income countries, where average government spending on health and average general government spending continued to rise in 2021, nearly half of countries reported lower health priority. This decline typically occurred because growth in government spending on health did not keep pace with growth in general government spending. But because of a few significant outliers, average health priority in lower-middle income countries nonetheless rose 0.2 percentage point, to 8.4%.<sup>11</sup>

11. The median health priority in lower-middle income countries also rose in 2021, by 0.5 percentage point, to 7.6%.

**FIGURE 1.8** Health priority continued to increase from 2020 to 2021 in high and middle income countries

**Note:** Growth indexes are based on per capita values in constant (2021) national currency units. Country-specific GDP deflators were used to convert current values to constant values. Health priority refers to government spending on health as a share of general government spending.

**Data source:** WHO Global Health Expenditure Database, 2023.

Among low income countries, health priority declined in half of countries as widespread reductions in government spending on health coincided with higher general government spending. On average, health priority fell 0.3 percentage point in low income countries, to 5.9%.

**While the strong government budgetary response to the COVID-19 pandemic may prove temporary, it accelerated the continuous efforts towards prepaid and pooled health financing** (Figure 1.9). In high and upper-middle income countries, the boost to government spending on health in 2020 and 2021 was driven by transfers from government domestic revenue.<sup>12</sup> In both groups, government transfers (which include on-budget and extrabudgetary funding) increased as a share of total health spending, while the share of health spending derived from social insurance

contributions declined to below prepandemic levels. Taking a broader perspective, the combined contribution to health spending from government budgets and social health insurance contributions in 2021 reached nearly 75% of total health spending in high income countries and more than 55% in upper-middle income countries. For both income groups, this was among the highest combined share for these financing sources, which have long been trending upward.

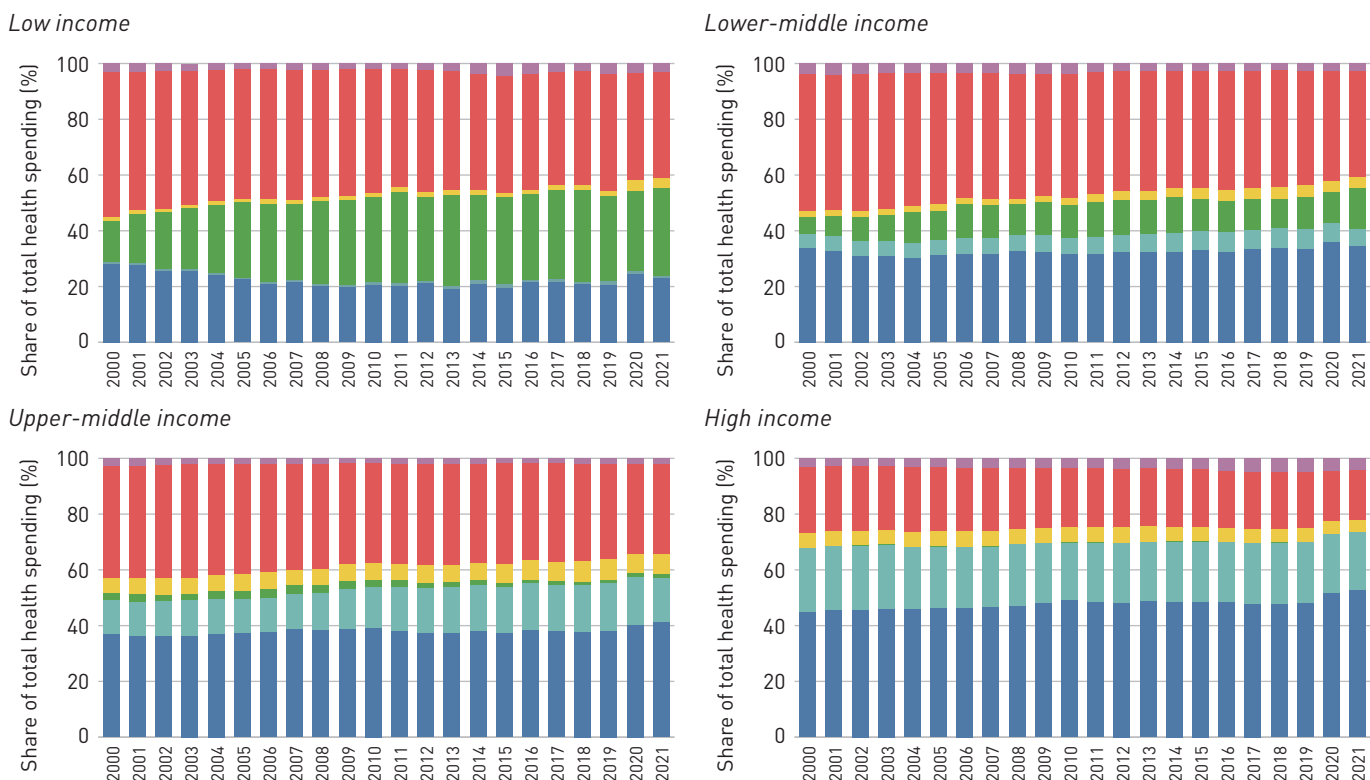
In low and lower-middle income countries, the average share of total health spending from government transfers fell in 2021, after rising in 2020. However, in both groups, government spending was bolstered by substantially higher external funding in 2021. In low income countries, this increase brought the share of total health spending derived from external funding to 31% in 2021, back to its post-2015 trend, after a decline to 29% in 2020.

12. Total domestic general government health spending, which is what is discussed earlier in the chapter, is a combination of spending funded from government transfers and social health insurance contributions.



**FIGURE 1.9** Across all income groups, the share of out-of-pocket spending in total health spending declined, while the share of government spending rose, supported by external spending in low and lower-middle income countries

■ Government transfers ■ Social health insurance contributions ■ External aid ■ Voluntary prepayments ■ Out-of-pocket spending ■ Other



Data source: WHO Global Health Expenditure Database, 2023.

In lower-middle income countries, external aid accounted for 14% of total health spending in 2021, the highest share since 2000. The already small share of social health insurance contributions in total health spending declined in 2020 and 2021 in lower-middle income countries, as it did in high and upper-middle income countries. In low and lower-middle income countries, the combined contribution of government transfers and external aid (and social health insurance in lower-middle income countries) as a share of total health

spending also peaked in 2021, again following an ongoing trend.

The corollary of these broad shifts in health financing is that the share of health spending financed by less equitable OOPS has steadily declined for all income groups since 2020. However, the actual state of financial protections and service coverage within countries, which are what ultimately matters for progress towards universal health care, cannot be easily discerned from spending data alone and require additional information (Box 1.3).

**BOX 1.3**

**Government spending on health and universal health coverage**

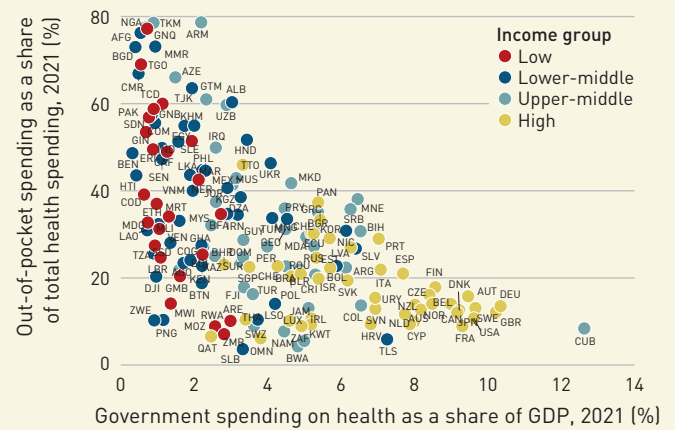
Higher government spending on health as a share of GDP is typically associated with a smaller proportion of out-of-pocket spending (OOPS) in total health spending (Box Figure 1). Nonetheless, a decline in the prominence of OOPS on health does not automatically translate to lower catastrophic spending or financial hardship from illness. What truly matters are the size of out-of-pocket payments and the segments of society that bear them (6). These elements cannot be discerned from spending data alone but instead require disaggregated analysis of household survey data to analyse both forgone care and the burden of OOPS relative to a household’s capacity to pay.

There is a clear positive correlation between government spending on health and coverage of essential services, as indicated by the universal health coverage (UHC) service coverage index (Box Figure 2).<sup>1</sup> Higher income countries generally have higher government spending on health per capita. But there are huge differences across income groups, suggesting that the connection between government spending and access is not determined solely by a country’s economic capacity. Service coverage also varies widely for a given level of government spending across most income groups. This underscores that while government spending is important in driving progress towards UHC, so is how the money is spent and who benefits from government spending in a country. What truly matters for progress towards UHC is how service coverage and financial protection are distributed among the populations of a country, not just country averages.

**Note**

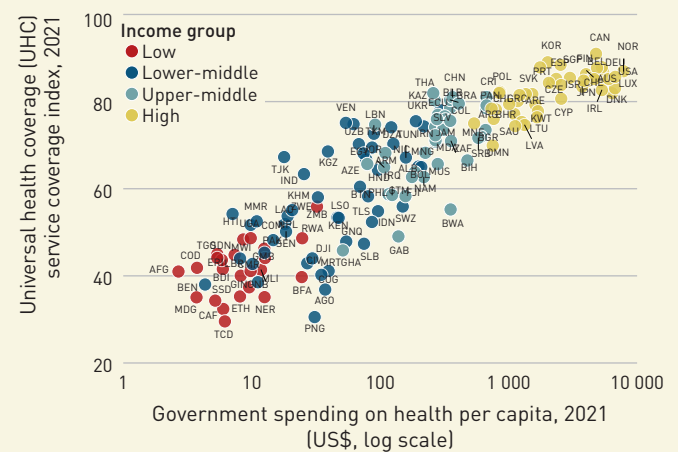
1. The UHC service coverage index (SDG indicator 3.8.1) tracks overall crude health service coverage based on 14 tracer indicators in four domains: reproductive, maternal, newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access. It relies on modelled estimates that use household survey data.

**BOX FIGURE 1** Higher government spending on health is associated with lower reliance on out-of-pocket spending



Data source: WHO Global Health Expenditure Database, 2023.

**BOX FIGURE 2** Higher government spending is associated with higher service coverage, but other factors also matter

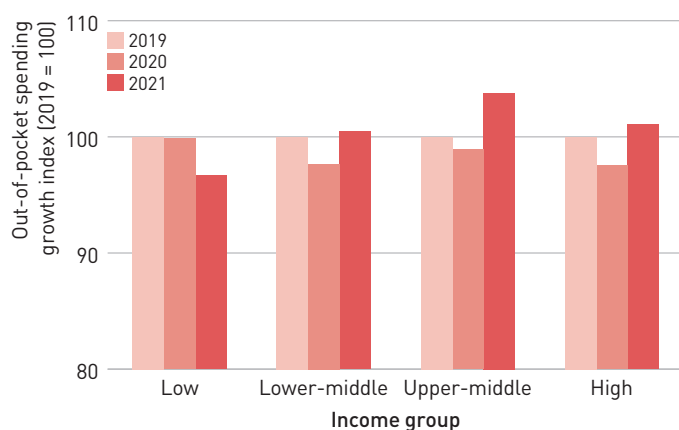


Data source: WHO Global Health Expenditure Database, 2023. UHC service coverage index data from WHO Global Health Observatory and (6).

## Out-of-pocket spending on health

**Average OOPS on health per capita increased in 2021 in all income groups except low income countries after falling in 2020 in all income groups.** Higher OOPS on health per capita was widespread in 2021, with around two-thirds of countries reporting a real increase. In upper-middle income countries, average OOPS per capita rose by 5.2% in 2021—slightly more than the average increase in high income (3.5%) and lower-middle income countries (2.6%). In low income countries, average OOPS on health per capita

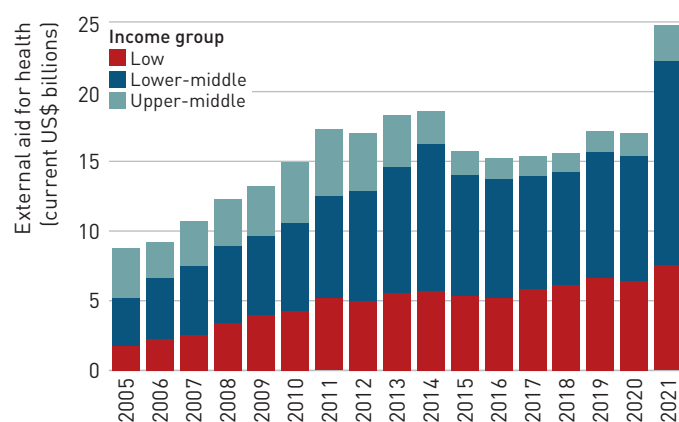
**FIGURE 1.10** In 2021, out-of-pocket spending (OOPS) on health per capita generally returned to its pre-pandemic level in real terms



Note: Growth index is based on per capita values in constant (2021) national currency units. Country-specific GDP deflators were used to convert current values to constant values.

Data source: WHO Global Health Expenditure Database, 2023.

**FIGURE 1.11** External aid for health rose sharply in 2021



Data source: WHO Global Health Expenditure Database, 2023.

declined by 3.3% in 2021. The net effect is that OOPS on health per capita generally returned to its prepandemic levels in real terms in high, upper-middle and lower-middle income countries in 2021, while in low income countries, it remained below its prepandemic level (Figure 1.10).<sup>13</sup> In all income groups, the share of OOPS in total health spending fell during the pandemic because of larger increases in government spending on health.

The overarching pattern of OOPS during the COVID-19 pandemic—a dip in 2020 followed by an increase in 2021—is consistent with available data on health service utilization. In 2020, financial barriers, supply limitations and COVID-19-related restrictions gave rise to considerable forgone care, while in 2021 the provision and use of routine health services improved compared with 2020 but did not yet return to normal conditions (6).

## External aid for health

**External aid for health<sup>14</sup> rose sharply in 2021, driven mainly by higher aid receipts in lower-middle income countries** (Figure 1.11). Health aid to low and middle income countries rose to nearly US\$ 24 billion from US\$ 17 billion in 2020 (in current values). In general, external aid for health is highly targeted to low and lower-middle income countries, which have received 85%–90% of the total since 2014. This trend continued in 2021.

**The strong growth in external aid for health in 2021 was driven mainly by higher aid receipts in lower-middle income countries.**

Average health aid per capita in lower-middle income countries leaped from US\$ 10.50 in 2020 to nearly US\$ 13.80 in 2021 (Figure 1.12a). In low income countries, the figure also rose, albeit more modestly, from around US\$ 12.50 in 2020 to US\$ 13.70 in 2021. In both cases, the average masks considerable variation among countries—particularly lower-middle income countries, a third of which received less than US\$ 5 per capita in health aid in 2021 while a small group received as much as US\$68 per capita (Figure 1.12b).

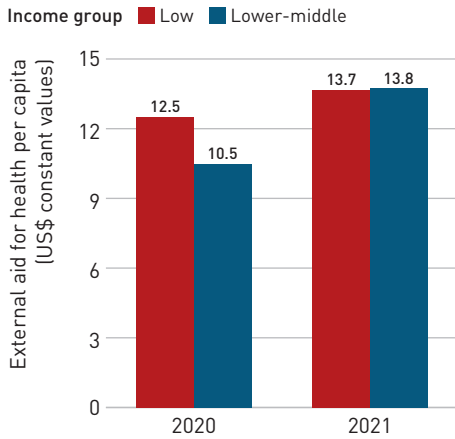
External aid for health has been an enduring feature for health financing in developing countries. In addition to directly supporting health spending needs, the focus of external

13. This was the case irrespective of whether averages or medians were used to characterize annual changes in OOPS on health per capita by income group.

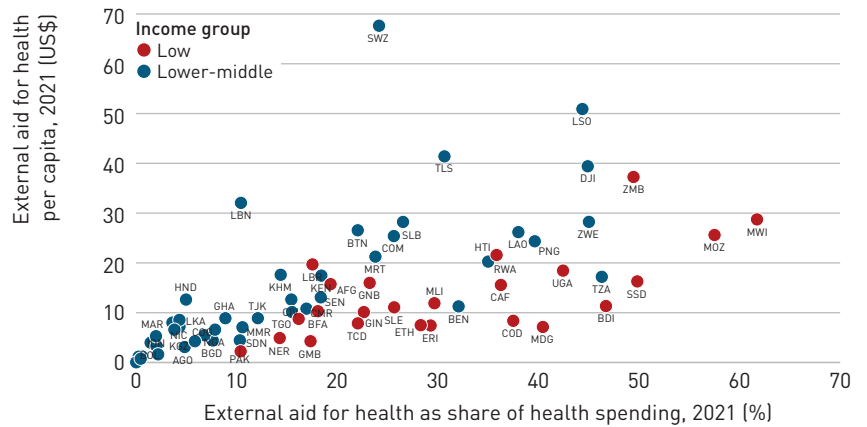
14. External aid on health refers to total current health spending from external aid, including aid channelled through governments and nongovernmental organizations. It excludes health capital investment from external aid.

**FIGURE 1.12** There was considerable variation in external aid for health per capita among low and lower-middle income countries

a. Average external aid for health per capita



b. External aid for health per capita and as a share of health spending, 2021



Data source: WHO Global Health Expenditure Database, 2023.

aid and its modalities can shape health policy and institutional capacity within health systems (7). Over the past 15 years, disease control has generally been a strong focus of health aid, though in 2020 and 2021,

there was also a sizeable increase in aid for COVID-19 control (Box 1.4). The result: external aid likely financed an important share of COVID-19 health spending in low and lower-middle income countries (chapter 3). During

**BOX 1.4**

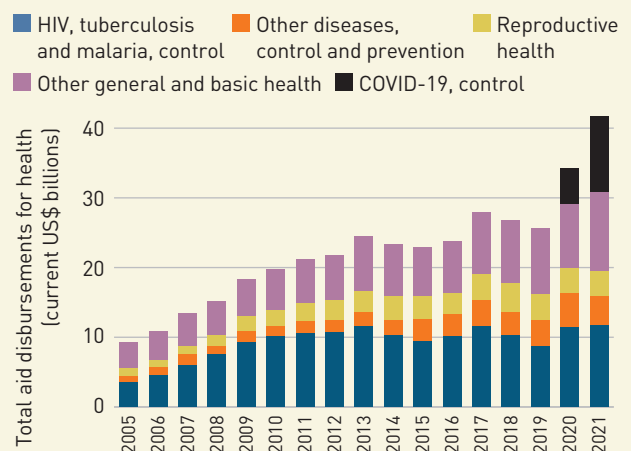
**External aid for health by purpose and channel using Organisation for Economic Co-operation and Development–Development Assistance Committee data**

As a complement to the World Health Organization’s Global Health Expenditure Database, data reported by bilateral, multilateral and private external donors in the Organisation for Economic Co-operation and Development (OECD) Creditor Reporting System (CRS) provide insights on disbursements of health aid to developing countries from the donors’ perspective (but not actual spending).

Disbursements reported in the CRS are categorized by purpose and channel of funding. Knowing the focus areas of external aid for health and the types of institutions through which aid is channelled is highly relevant for policy. However, the scope of CRS data is broader than that in the System of Health Accounts 2011 and includes activities related to health that fall outside current health spending (such as research and development), capital investment and global and regional activities that are not included in country health accounts.

In 2020 and 2021, disbursements of external aid for health<sup>1</sup> were boosted by disbursements for COVID-19 control (Box Figure 1). In 2020, disbursements for COVID-19

**BOX FIGURE 1** In 2020 and 2021, disbursements of external aid for health were boosted by disbursements for COVID-19-related activities



**Note:** Purpose categories of the disbursements reported in the Organisation for Economic Co-operation and Development’s Creditor Reporting System are reagggregated here into five categories for better visibility.  
**Data source:** Organisation for Economic Co-operation and Development, Creditor Reporting System aid activity database (8).

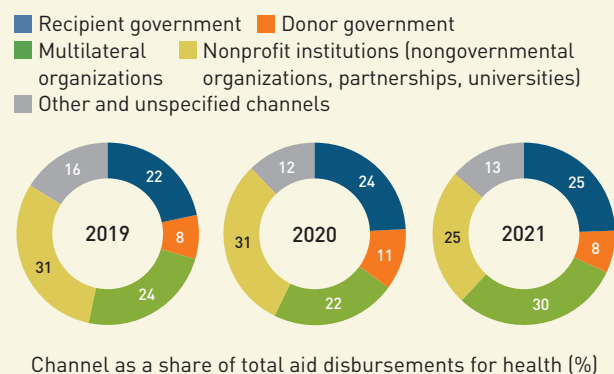
(continued)

**BOX 1.4 (continued)**

control accounted for 14.7% of total disbursements of external aid for health. The share rose to 26% in 2021 as COVID-related aid doubled from US\$ 5 billion to US\$ 11 billion. However, the increase in 2021 likely reflected a combination of additional support for countries' emergency response and the emergence of multilateral and bilateral mechanisms (such as the COVAX initiative) to support countries in procuring and delivering COVID-19 vaccines. Excluding disbursements for COVID-19 control, disbursements of external aid for health rose in 2020 and 2021, following declines in 2018 and 2019. In 2020, growth coincided with solid increases in disbursements for HIV, tuberculosis, malaria control and other disease control, while in 2021, growth was more broadly based across categories (though a drop in other disease control activities unwound much of the growth from the previous year). But there was likely considerable reprogramming during the pandemic, so drawing firm conclusions on growth drivers is difficult.

Disbursements of external aid for HIV, tuberculosis and malaria control have generally accounted for a substantial share of total disbursements of health aid, though their prominence has waned since the Millennium Development Goals period. Between 2005 and 2015, the three diseases accounted for 46% of disbursements of external aid for health. The increase in aid between 2005 and 2015 was driven by disbursements for these three diseases. Between 2016 and 2019, the share of aid disbursed for the three diseases fell to 39% and remained broadly unchanged through 2020 and 2021, excluding disbursements for COVID-19 control. The decline in disbursements for HIV, tuberculosis and malaria control occurred alongside higher disbursements for other disease control and prevention and other basic/general health purposes. Reproductive health rose in prominence during the Sustainable Development Goals period, peaking in 2018 before dropping every year from 2019 to 2021.

During the first two years of the COVID-19 pandemic, changes were also evident in the way that health aid was channelled—that is, in the type of institution to which funds were disbursed (Box Figure 2).<sup>2</sup> In 2020 and 2021, around 25% of external aid for health was disbursed to governments of recipient countries, an increase from 22% in 2019. Multilateral organizations accounted

**BOX FIGURE 2 About one-quarter of disbursements of external aid for health were channelled through recipient governments**

Note: Values may not sum to 100 due to rounding.

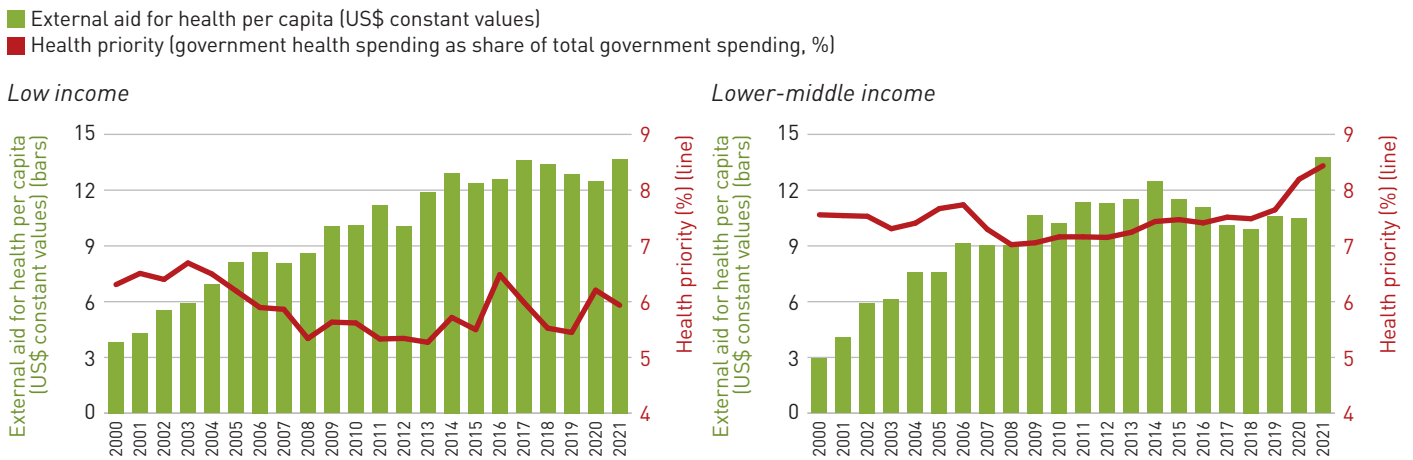
Data source: Organisation for Economic Co-operation and Development, Creditor Reporting System aid activity database (8).

for 30% of disbursements in 2021, much higher than the 22% in 2020 and the 24% in 2019. External aid for COVID-19 control shaped the distribution of health aid in 2021, with developing country governments accounting for 24% of COVID-19 aid distribution (up from 17% in 2020) and multilateral organizations for 54% (up from 42% in 2020). The share of external aid for health disbursed to nonprofit institutions was generally lower in 2021 than before, though nonprofit institutions remained prominent, accounting for around 25% of the total in 2021.

**Notes**

1. Disbursements of external aid for health refer to official development assistance and donations from private foundations registered in the Organisation for Economic Co-operation and Development's Creditor Reporting System (CRS) that are allocated to activities in developing countries in sectors 120 (Health) and 130 (Population policies/programmes & reproductive health).
2. The channel of funding corresponds to the type of institution that received the external aid flow (first recipient). Recipient government refers to the governments of the developing countries where the projects took place; donor government to a governmental institution of the donor country. The category nonprofit institutions in box figure 2 includes CRS channel categories: Non-Governmental Organisations (NGOs) and civil society; public-private partnerships (PPPs) and networks; University, college or other teaching institution, research institute or think-tank. The category "others and unspecified channels" in box figure 2 includes CRS channel categories: private sector institutions; Other; and whenever the channel was not specified in the CRS database.

**FIGURE 1.13** In low income countries, government budgets deprioritized health in 2021 while external aid for health was increasing



**Note:** Health priority refers to government spending on health as a share of total general government spending.

**Data source:** WHO Global Health Expenditure Database, 2023.

the pandemic, a small share of aid was distributed directly to recipient governments, continuing a prepandemic trend.

Notably, external aid has not been purely additive. One trend through the MDGs period is that higher external funding in low income countries was accompanied by lower health priority within government budgets (Figure 1.13). This occurred even as total government spending continued to rise, on average. On the face of it, the MDGs period differed from the initial phase of the COVID-19 pandemic in 2020, which combined strong growth in government and health aid. However, in 2021, as health aid per capita rose, 40% of low income countries deprioritized government spending on health. In lower-middle income countries, the share was 50%, which was obscured by the average increase in prioritization during the period. Novel strategies are required to enhance the effectiveness of aid in leveraging domestic financing and strengthening health system institutions.

## Implications

The COVID-19 pandemic redefined the role of governments worldwide and their importance in financing health spending. Following a government-led surge in health spending across all income groups in 2020, another strong government budgetary response in 2021 helped set new high-water marks for government spending for all income groups except low income countries. In high and upper-middle income countries, the rise in

government spending in 2021 was driven by higher prioritization of health within budgets, while in lower-middle income countries, it reflected higher overall government spending. Critically, substantial external aid flowed to the health sector in low and middle income countries in 2021 in an essential demonstration of global solidarity and recognition that pandemic control is a global public good.

As the COVID-19 pandemic's emergency phase wanes, the impetus—and fiscal capacity—for extraordinary government spending on health and health aid will likely ebb. Indeed, data from a limited number of countries indicate that real government health spending per capita lost momentum in 2022 (Box 1.5). World Bank analysis of 78 developing countries also indicates that central government budget allocations for health per capita declined in real terms in 2022, converging towards its prepandemic trajectory (9).

The environment for sustaining and increasing government health spending has also become more challenging since 2021, with strong and widespread inflationary pressures and slowing growth severely crimping the fiscal space available for health and other social spending. Tighter global monetary conditions to combat inflation have also weakened economies and governments' capacity to generate revenue. Set against a backdrop of widespread government borrowing—often in foreign currency—to finance the fiscal response to the COVID-19 pandemic, higher interest rates and depreciating currencies



## BOX 1.5

## Health spending in 2022 among a small set of countries

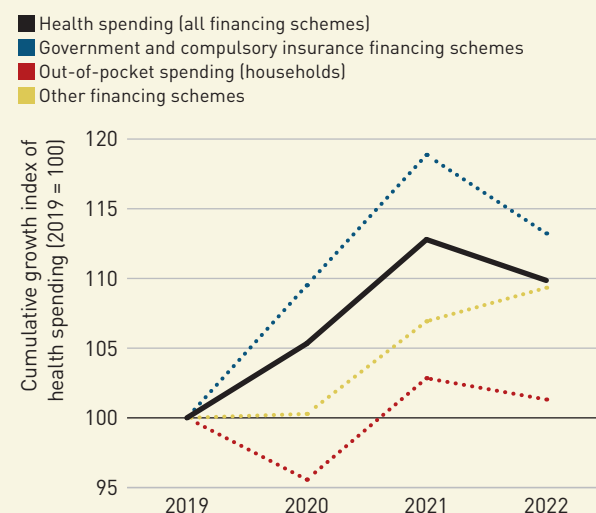
Preliminary data on 2022 total health spending and spending by financing schemes are available for 19 countries,<sup>1</sup> almost all of them high income. Given the small number of countries and their composition, patterns are not internationally representative or generalizable beyond the group. Nonetheless, the data offer a glimpse into the evolution of health spending beyond 2021.

Across the 19 countries, health spending per capita fell by an average of 2.1% in real terms in 2022 (compared with a 7.1% increase in 2021), with a reduction reported by 15 countries. Health spending as a share of GDP fell in 17 of the 19 countries, from an average of 9.7% in 2021 to 9.1% in 2022. This decline seems to have been driven mainly by lower government and compulsory insurance health spending (reported by 13 countries in 2022), which fell by 4% per capita on average in real terms, after two years of sustained high growth in 2020 (9.5%) and 2021 (8.2%). A small drop in out-of-pocket spending per capita in real terms (by an average of 1.3%) was also reported by 15 countries (Box Figure 1).

## Note

1. Canada, Chile, Denmark, Estonia, Georgia, Germany, Iceland, Ireland, Italy, Lithuania, Luxembourg, Philippines, Poland, Portugal, Republic of Korea, Slovenia, Sweden, the United Kingdom of Great Britain and Northern Ireland, and the United States of America.

**BOX FIGURE 1** Health spending declined in 2022 in 19 countries with data



**Note:** Values are averages for 19 countries with data. Cumulative growth data are based on per capita values in constant (2021) national currency units. Country-specific gross domestic product deflators were used to convert current values to constant values.

**Data source:** WHO Global Health Expenditure Database, 2023.

have substantially raised debt servicing costs (10) and made future borrowing more difficult.<sup>15</sup>

Rather than a global public spending target, ambitions should be informed by countries' circumstances, national health strategic plans, income level, health system development status and current spending level, as well as countries' macro-fiscal situation and government spending on other social and non-social sectors. To be meaningful, spending targets for health ultimately need to be realistic and politically acceptable. This is best achieved when targets are specific, measurable, regularly monitored and reported on.

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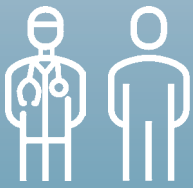
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# 2

## Responding to new demands: spending by health care provider

### Key messages

- For most of the 50 countries analysed in this chapter, spending per capita at all types of providers increased from 2019 to 2021, with the fastest growth among preventive care providers, such as public health institutions and disease control agencies.
- Spending at three types of providers—hospitals, ambulatory care providers and pharmacies—accounted for most health spending in middle and high income countries in 2021. Spending at hospitals accounted for around 40% of total health spending on average, spending at ambulatory care providers for 19%–24% and spending at pharmacies for 16%–23%.
- Spending on outpatient care and preventive care generally occurs across multiple provider types: outpatient services are provided mainly by hospitals and ambulatory care providers, while preventive care spending is split mainly among preventive care providers, ambulatory care providers and hospitals. Ambulatory care providers and hospitals play a much larger role in preventive care spending in middle income countries (combined share of 36% in 2021) and high income countries (37%) than in low income countries (19%).
- The composition of services within provider types shifted from 2019 to 2021, most likely reflecting the adaptation of service delivery during the pandemic. Hospitals pivoted away from outpatient care towards inpatient care, while preventive activities generally increased as a share of spending at hospitals and ambulatory care providers—and even at pharmacies in some countries.

Health services and goods are provided to individuals and populations in diverse settings, including hospitals, clinics, health centres, residential long-term care facilities, disease control centres and pharmacies (Box 2.1). Monitoring health spending on services and goods, in concert with the type of provider involved, can therefore provide important insights about the organization of service delivery in country health systems and the resource allocations within them. It can also reveal disparities in resource distribution, which can affect the availability and accessibility of health services and providers.

In 2021, the second year of the COVID-19 pandemic, countries faced a new set of service delivery challenges. As the pandemic progressed, new demands were placed on health care providers as new diagnostic and therapeutic activities emerged and additional preventive measures—including, most notably, mass vaccination campaigns—were introduced. In addition to meeting the urgent and changing needs of the pandemic, countries faced the challenge of maintaining routine essential health services and catching up on

postponed treatment from the previous year. These increased demands on the health system required additional resources and meant that health spending per capita in 2021 was well above its prepandemic level in real terms (Chapter 1). Critically, it also necessitated changes in the distribution of resources within health systems. Providers stretched their capacity to provide essential services while pausing or shifting nonessential or elective services to other providers (1).

This chapter capitalizes on health spending information that is disaggregated by both provider and health care function to examine the roles of different providers in delivering inpatient, outpatient and preventive care services and medical goods (see Box 2.1). It also shows how these roles changed during the COVID-19 pandemic, though data limitations mean that comparisons can be made only between 2019 and 2021 (Box 2.2). In addition to the composition of spending by individual provider types, the data show how certain health care functions (namely, outpatient care and preventive care) are delivered across different providers.

## BOX 2.1

### Categories of health care providers and their functions

This chapter analyses health spending by type of health care provider and the services they provide, according to the health care provider and function classifications under the System of Health Accounts 2011 (SHA 2011) (2).

**Health care providers** are entities that deliver health care goods and services. They are classified based on the main activity that they perform, meaning that not all providers classified under one category perform the same set of activities (Box Table 1).

**Hospitals** usually offer inpatient care services and, depending on country arrangements, may also provide outpatient care, day care, rehabilitation and long-term care services, as well as ancillary services, and they can sell medical goods to patients. Hospitals service provision does not include tertiary-only care.

**Ambulatory care providers** are clinics, health centres and doctors' offices that provide outpatient and preventive care as their main functions. They may also provide day care and home care services.

**Pharmacies** (including retail sellers and other suppliers of durable medical goods and appliances) are facilities whose primary activity is the retail sale of medical goods for individual or household consumption.

**Preventive care providers** are organizations that primarily provide collective preventive, surveillance and public health programmes and campaigns for specific groups of individuals or the population at large, such as health promotion and protection agencies and public health institutes.

**Providers of health care system administration and financing (or health administration institutions)** are organizations such as health authorities and insurance agencies that regulate the activities of health care providers and the overall administration of the health care sector, including the administration of health financing.

In this chapter, the **Others** category includes long-term care facilities (such as nursing homes, drug addiction rehabilitation facilities and palliative care establishments),

*(continued)*



### BOX 2.1 (continued)

ancillary services providers (such as patient transportation, emergency rescue services and diagnostic laboratories), rest of the economy providers (which offer health care as a secondary activity) and nondomestic providers (when residents consume services and goods abroad).

The **health care function classification** under SHA 2011 provides information about spending levels and distribution by type of health care service and good. Functions relate to the purpose of a health service or product transaction, including curative, rehabilitative, long-term and preventive care, ancillary services, medical goods and health system governance and administration.

**Inpatient care** involves a formal admission to a health care facility and an overnight stay. In this chapter, inpatient care refers to inpatient curative care only and excludes inpatient rehabilitative and long-term care.

**Outpatient care** involves health services delivered on the premises of a health care provider without formal admission or overnight stay. In this chapter, it refers to outpatient curative care only and excludes outpatient rehabilitative and long-term care.

**Medical goods** are mainly pharmaceuticals but also therapeutic appliances and other durable and non-durable medical goods. They exclude medical goods consumed during inpatient care and in other health services and settings.

**Preventive care** is limited to primary and secondary prevention in SHA 2011, which includes interventions aimed at avoiding diseases and risk factors and detecting disease. It includes information and promotion programmes, immunization, early disease detection and healthy condition monitoring programmes, epidemiological surveillance and risk and disease control programmes, and programmes to prepare for disasters and emergency responses.

**Health system governance and administration** involves governance and administration of the health system, as well as administration of health financing, which focuses on the overall health system.

In this chapter, the **Others** category involves services such as rehabilitative care, long-term care, ancillary care, day and home-based curative care and unclassified health services.

**BOX TABLE 1** Health services provided by different types of health care providers

	Hospitals	Ambulatory care providers	Pharmacies	Preventive care providers	Health administration institutions
Inpatient care					
Outpatient care					
Medical goods					
Preventive care					
Health system governance and administration					

**Note:** Cells in blue highlight the type of health service or good generally provided by the respective health care provider. Other combinations are also possible, depending on a country's health care system and service delivery structure.

### BOX 2.2

#### Data in this chapter

Data on spending by health care providers for 2016–2021 were published for the first time on the Global Health Expenditure Database (GHED) in 2023. This chapter analyses the growth in spending by health care provider and health function from 2019 to 2021 for 50 countries with data for both years (Box Table 1).

Lower- and upper-middle income countries were combined into one group—middle income countries—due to the limited number of countries in one of the original groups. Given that the data refer mostly to

*(continued)*

**BOX 2.2 (continued)**

high income countries in this chapter, patterns in low and middle income countries should be interpreted with caution.

The data in this chapter related to combination of classifications are not published in the GHED but are publicly available at <https://apps.who.int/nha/database/DocumentationCentre/en/>.

Additionally, many countries do not produce spending data combined across providers and funding sources, so it is unfeasible to analyse whether changes in government, donor or private health spending

influenced changes in spending by provider type during the COVID-19 pandemic.

**BOX TABLE 1** Number of countries with 2019 and 2021 data

Income group	Health care provider by health function
Total	50
Low	7
Middle	14
High	29

Source: WHO Global Health Expenditure Database, 2023.

## Health spending by type of provider

**Across the 50 countries with data, spending on three types of health care providers—hospitals, ambulatory care providers and pharmacies—accounted for most health spending in 2021.** Together, the three providers—essential for individual-based service delivery—accounted for 80% of total health spending in high income countries, 84% in middle income countries and 65% in low income countries (Figure 2.1).

Hospitals were the single largest provider type in terms of health spending in all income groups in 2021. Spending at hospitals as a share of total health spending was considerably larger, on average, in middle income countries (42%) and in high income countries (40%) than in low income countries (26%). The share of health spending on ambulatory care providers was greater, on average, in high income countries (24%) than in middle income countries (19%) and low income countries (14%). The result: the combined average share of health spending at hospitals and ambulatory care providers in middle (61%) and high income countries (64%) was broadly comparable—and much higher than in low income countries (40%).

In contrast, among the small sample of low income countries, spending at pharmacies and preventive care providers accounted for a larger share of total health spending. The average share of health spending at pharmacies in 2021 was much higher in low (25%) and middle income countries (23%) than in high income countries (16%). This is consistent with the

greater tendency for self-medication in low and middle income countries resulting from financial and nonfinancial barriers to accessing services provided by hospitals and ambulatory care providers (3). Preventive care providers (such as public health institutions and disease control agencies) accounted for 13% of total health spending in low income countries in 2021—substantially higher than in middle and high income countries (both 3%). This likely reflects the additional preventive activities and programmes in low income countries and the prominent role of preventive care providers in the COVID-19 response in low income countries (see Figure 2.11 later in the chapter).

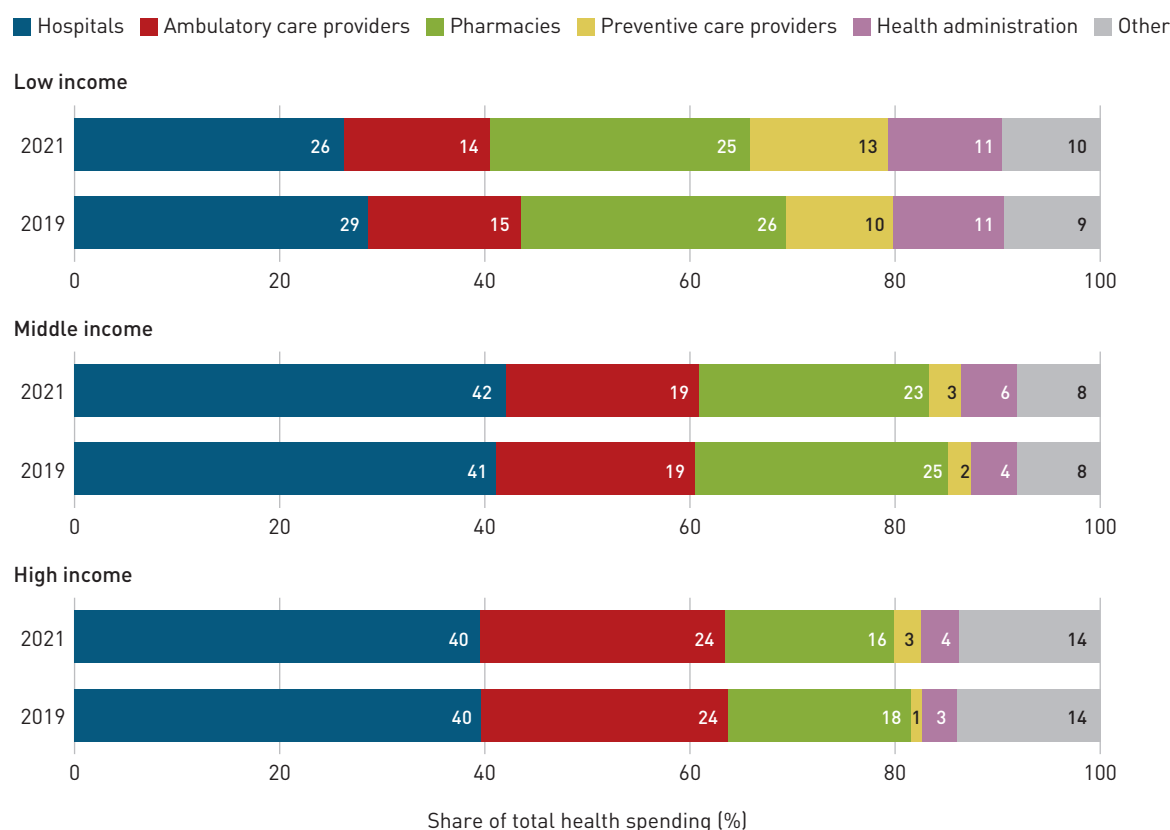
Additionally, the average share of health spending at health administration institutions in 2021 was highest in low income countries: 11%, compared with 5% in middle income countries and 4% in high income countries. While this may partly reflect the different priorities, organizational structures and additional functions of ministries and local health authorities in low income countries—even before the COVID-19 pandemic (see Box 2.3 later in the chapter)—the small sample size (only seven countries) means that firm conclusions cannot be drawn from this result.<sup>1</sup>

**In both middle and high income countries, spending at hospitals and ambulatory care providers as a share of total health spending changed little on average from 2019 to 2021.**

In both income groups, the share of health spending at hospitals and ambulatory providers remained broadly unchanged, but the share

1. For instance, two of the seven countries—Niger (25%) and the Democratic Republic of the Congo (22%)—had much larger shares of spending on governance and administration than the average.

**FIGURE 2.1** The composition of health spending by type of health care provider changed little from 2019 to 2021 across all income groups, with spending at hospitals accounting for the largest share of total health spending



Data source: WHO Global Health Expenditure Database, 2023.

of health spending at pharmacies declined by 2 percentage points. In low income countries, the share of health spending at hospitals fell by 3 percentage points, and the shares of health spending at ambulatory care providers and pharmacies fell by 1 percentage point each.

**Across all income groups, spending at preventive care providers as a share of total health spending rose during the COVID-19 pandemic.** This was most notable in low income countries, where the average share jumped by 3 percentage points from 2019 to 2021 (see Figure 2.1). Similarly, in middle and high income countries, the share of spending at preventive care providers increased, albeit from a much lower base: from 2% to 3% in middle income countries and from 1% to 3% in high income countries. The higher share of spending at preventive care providers is likely related to various preventive measures introduced during the pandemic as well as vaccine rollouts.

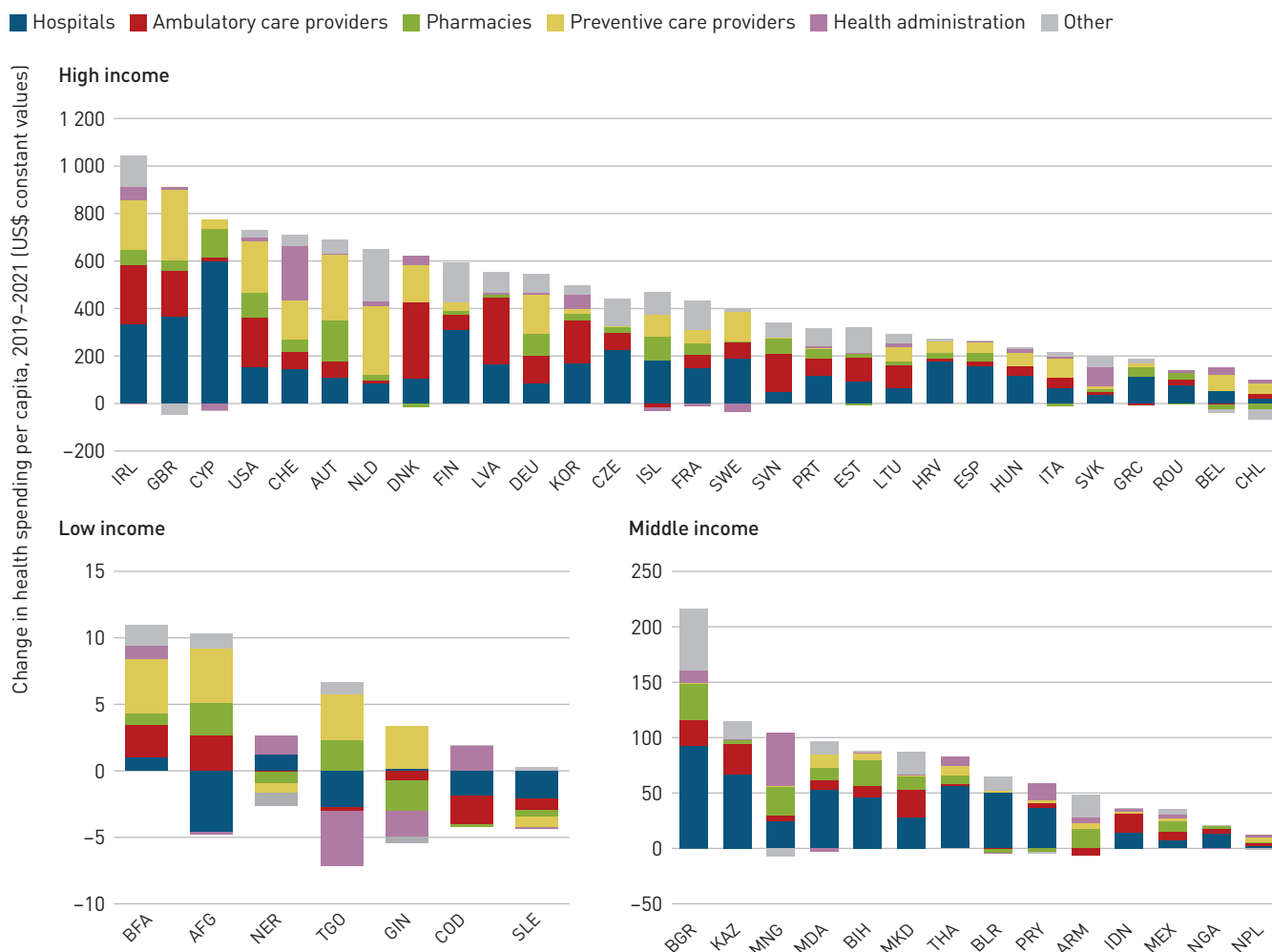
In parallel, the average share of health spending at health administration institutions rose by 1 percentage point in middle and high

income countries, likely reflecting their additional coordination activities in response to the COVID-19 pandemic. In contrast, the share of health spending at health administration institutions remained stable in low income countries.

### Health spending per capita by provider and changes during the COVID-19 pandemic

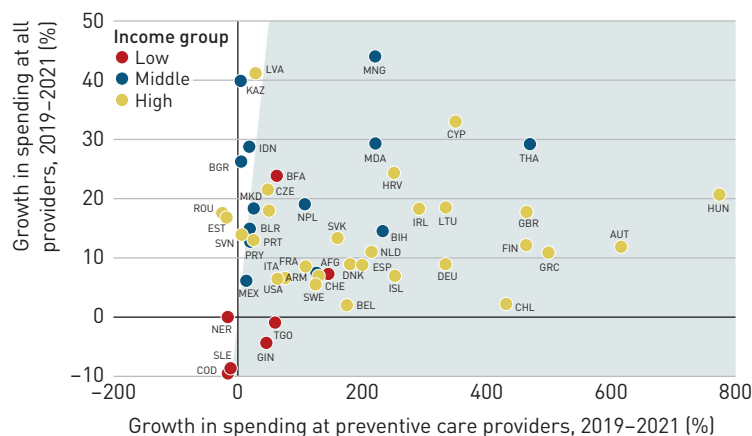
**For most countries in the sample, the increase in total health spending from 2019 to 2021 in real terms reflected higher spending at most types of providers.** Hospitals accounted for the largest contribution to growth in health spending in middle and high income countries. All middle and high income countries in the sample reported higher spending per capita at hospitals in real terms, with particularly large rises in some countries interspersed with smaller increases in others (Figure 2.2). In contrast, declines in health spending at hospitals were concentrated in low income countries, which explains the drop in spending at hospitals as a share of health spending from 29% to 26% (see Figure 2.1).

**FIGURE 2.2 Health spending per capita at most types of health care providers increased from 2019 to 2021**



Data source: WHO Global Health Expenditure Database, 2023.

**FIGURE 2.3 The fastest growth in health spending per capita from 2019 to 2021 was spending at preventive care providers**



**Note:** Nigeria is excluded from the graph because of its extremely high growth rate for preventive care providers. Growth rates are based on per capita values in constant (2021) national currency units.

Data source: WHO Global Health Expenditure Database, 2023.

In most countries, the fastest growth in health spending from 2019 to 2021 was spending at preventive care providers. Almost all countries in the sample reported higher spending per capita at preventive care providers, with particularly large rises observed in some countries. Accordingly, growth in spending at preventive care providers between 2019 to 2021 greatly exceeded growth in total health spending (see the shaded area in Figure 2.3).

## Health spending per capita and structure of health services for each major provider type

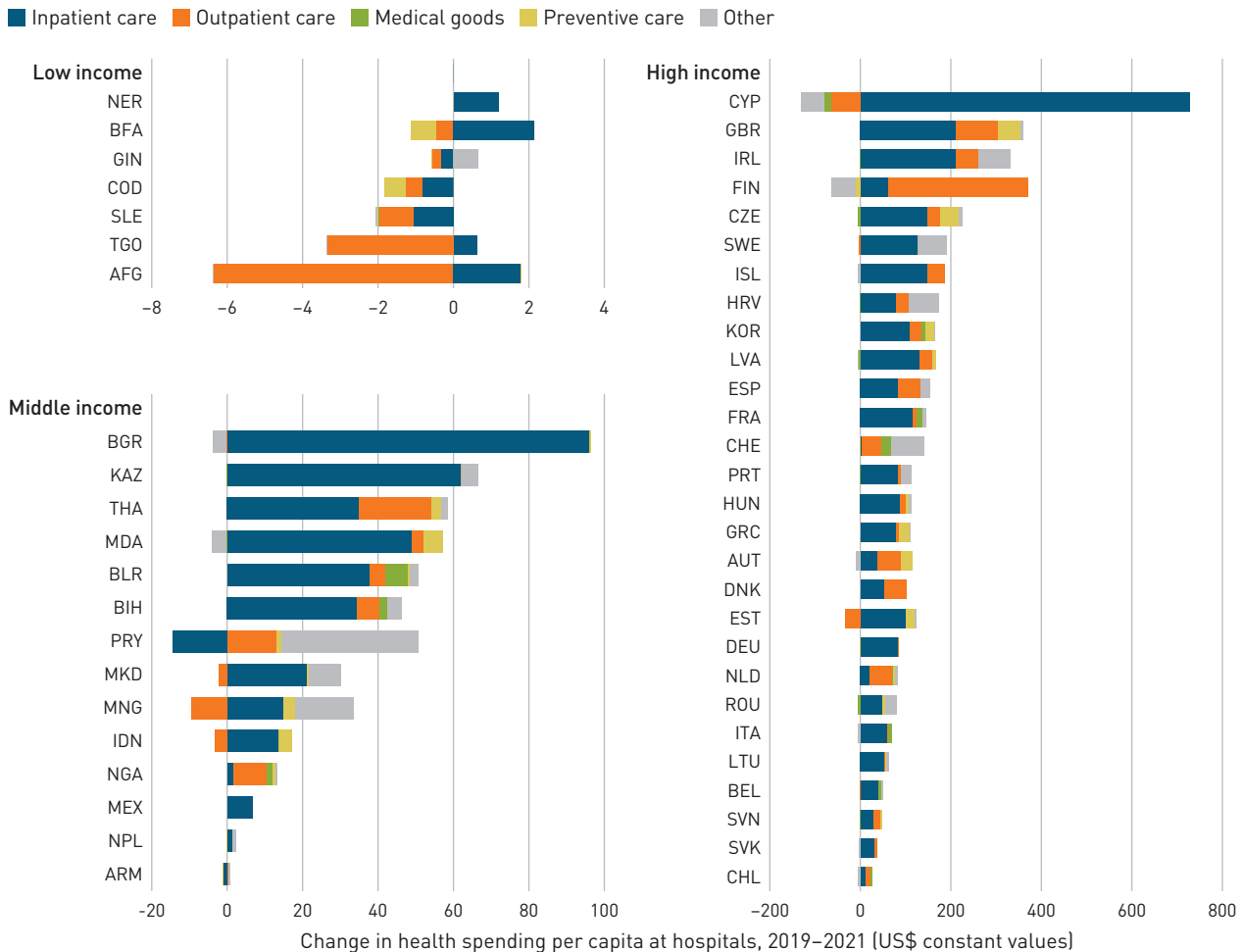
### Spending at hospitals

The increase in spending per capita at hospitals during the COVID-19 pandemic was driven mainly by growth in spending on inpatient services. Spending per capita on inpatient care at hospitals rose in real terms from 2019 to 2021 in 45 of the 50 countries in the sample (Figure 2.4). Spending on inpatient care rose as a share of total spending at hospitals from 62% to 75% in low income countries and from 59% to 61% in high income countries, suggesting that the growth in spending on inpatient care was faster, on average, than growth in spending on other services

(Figure 2.5). In contrast, spending on inpatient care remained unchanged as a share of total spending at hospitals in middle income countries (70%).

Spending on outpatient care declined as a share of total spending at hospitals in all income groups, with the largest decline in low income countries. In general, spending per capita on outpatient services at hospitals rose in real terms between 2019 and 2021 but by much less than real spending per capita on inpatient care (see Figure 2.4). Accordingly, the average share of spending on outpatient care in total spending at hospitals declined across all income groups, with low income countries experiencing the largest drop (see Figure 2.5). Additionally, of the 37 middle and high income countries where hospitals reported spending

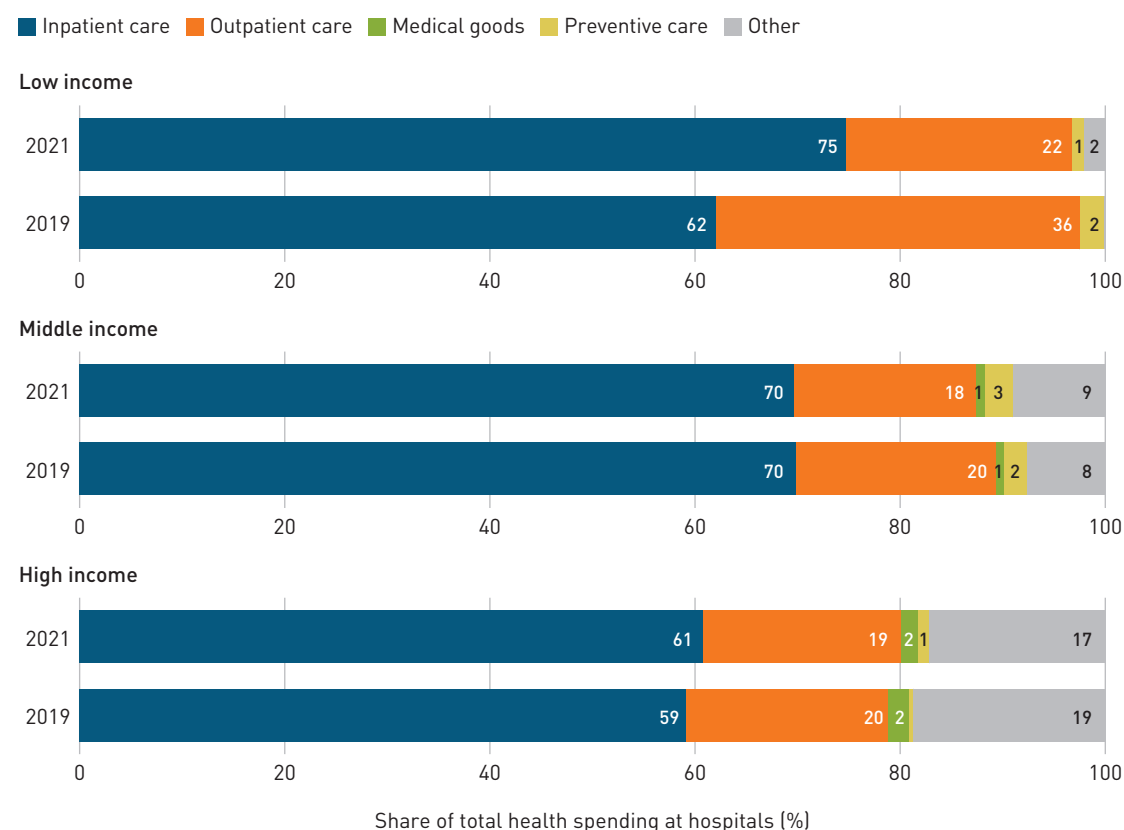
**FIGURE 2.4** In 45 of 50 countries, spending per capita on inpatient care at hospitals rose during the COVID-19 pandemic



Note: The United States of America is excluded due to the lack of details for spending at hospitals.  
Data source: WHO Global Health Expenditure Database, 2023.



**FIGURE 2.5** At hospitals, the share of spending on inpatient care increased during the COVID-19 pandemic, while the share of spending on outpatient care fell



Data source: WHO Global Health Expenditure Database, 2023.

on other services (mainly long-term care), 25 saw a decline.

Further data are needed to discern why spending on inpatient care at hospitals increased. However, it likely reflects shifting priorities during the COVID-19 pandemic—for instance, the suspension or rationing of nonurgent health care (consultations with specialists, rehabilitation services) to contain infection risks and prevent hospitals from becoming overwhelmed (4), as well as temporary transformation of other clinical wards into intensive care units (5). It may also reflect higher costs for inpatient service delivery.

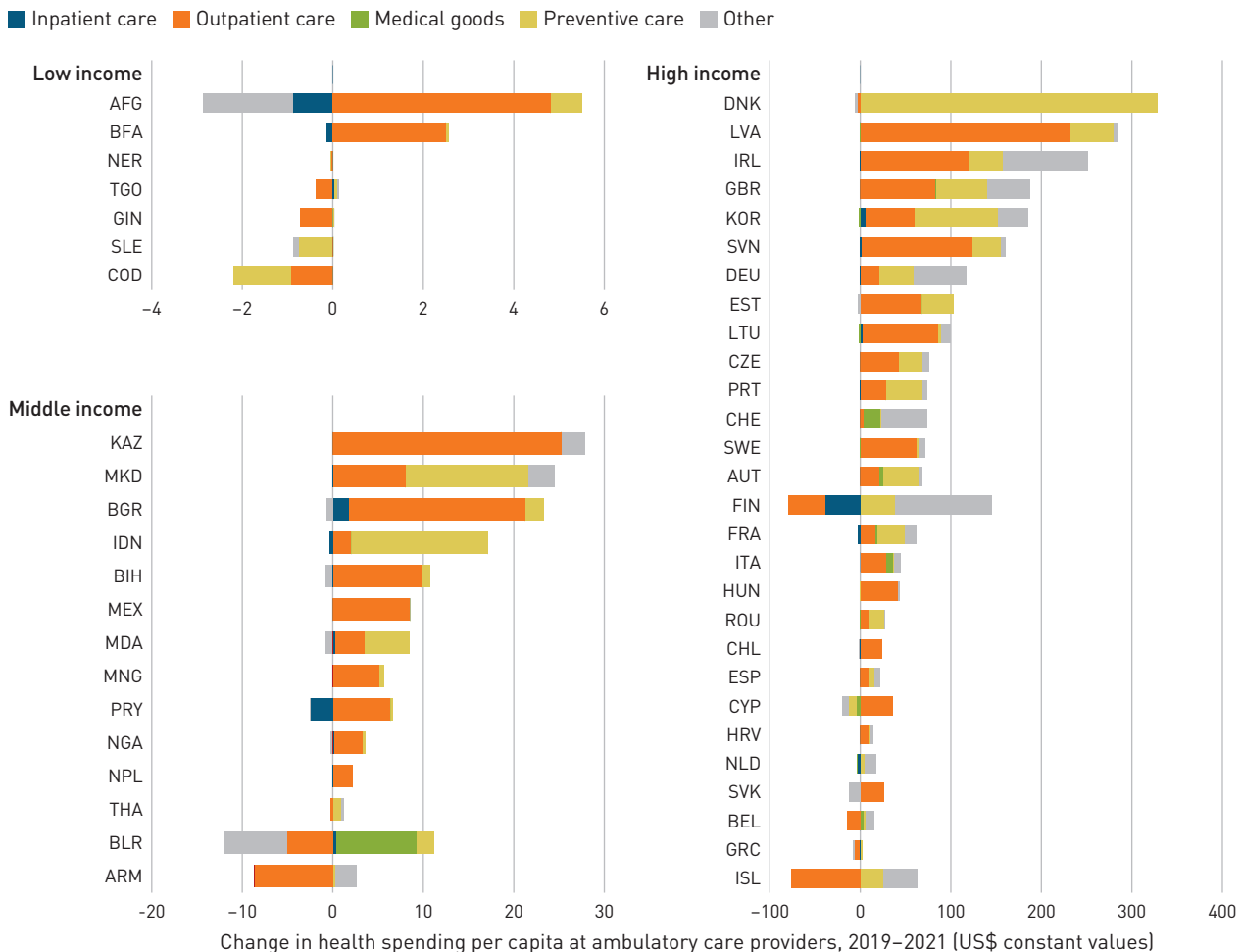
**Spending on preventive care as a share of total spending at hospitals rose in middle and high income countries between 2019 and 2021, albeit from a low base.** Spending on preventive care as a share of total spending on hospitals rose from almost negligible to 1% in high income countries and from 2% to 3% in middle income countries. Spending per capita on preventive care at hospitals rose in

37 of 50 countries, which may reflect the fact that some hospitals delivered preventive care, such as COVID-19 vaccinations, testing and early detection.

### Spending at ambulatory care providers

**Spending per capita on outpatient care and preventive care at ambulatory care providers rose in real terms in most countries during the COVID-19 pandemic.** Of 50 countries with data, 39 reported higher spending per capita on outpatient care from 2019 to 2021, and 40 reported higher spending per capita on preventive care (Figure 2.6). In about half the countries where spending per capita on both outpatient care and preventive care at ambulatory care providers increased, spending on preventive care grew faster. The result: spending on preventive care as a share of total spending at ambulatory care providers rose in middle and high income countries, while spending on outpatient care as a share of total spending at ambulatory care providers

**FIGURE 2.6** Spending per capita on outpatient care and preventive care at ambulatory care providers rose in most countries from 2019 to 2021



**Note:** In a few countries, ambulatory care facilities in remote area have beds to allow patients to temporarily stay overnight. In Belarus, ambulatory care providers offer special medicines with discounts.

**Data source:** WHO Global Health Expenditure Database, 2023.

declined modestly in high income countries and changed little in middle income countries (Figure 2.7). In low income countries, the share of spending on outpatient care rose from 2019 to 2021, while the share of spending on preventive care fell. Given that the sample includes only a few low income countries, firm conclusions cannot be drawn from these results.

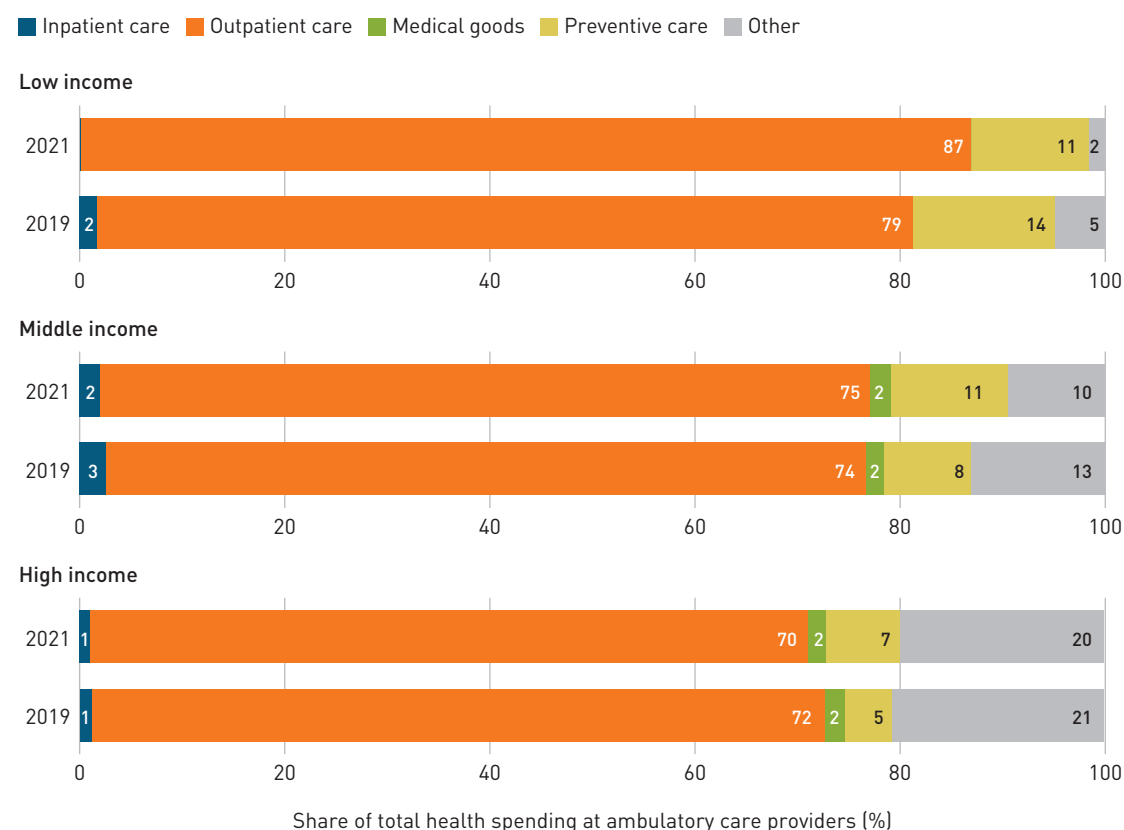
### Spending at preventive care providers and pharmacies

**Across most of the 50 countries in the sample, spending per capita at preventive care providers rose in real terms from 2019 to 2021 because of increased preventive activities during the COVID-19 pandemic** (Figure 2.8). Preventive care providers carried out

extensive activities related to COVID-19, such as operating public health laboratories, conducting surveillance, building information campaigns, making emergency preparations, communicating risks, testing and tracing contacts, and carrying out vaccinations.

Few countries saw lower spending at preventive care providers—likely because of the distribution of preventive care functions across provider types. For instance, in Estonia, the drop in real spending per capita at preventive care providers reflected the strong shift in funding of monitoring programmes from preventive care providers to ambulatory care providers during the COVID-19 pandemic. In many countries, some preventive care activities are also carried out by ministries of health, or more generally by health

**FIGURE 2.7** Spending on preventive care at ambulatory care providers increased in middle and high income countries during the COVID-19 pandemic



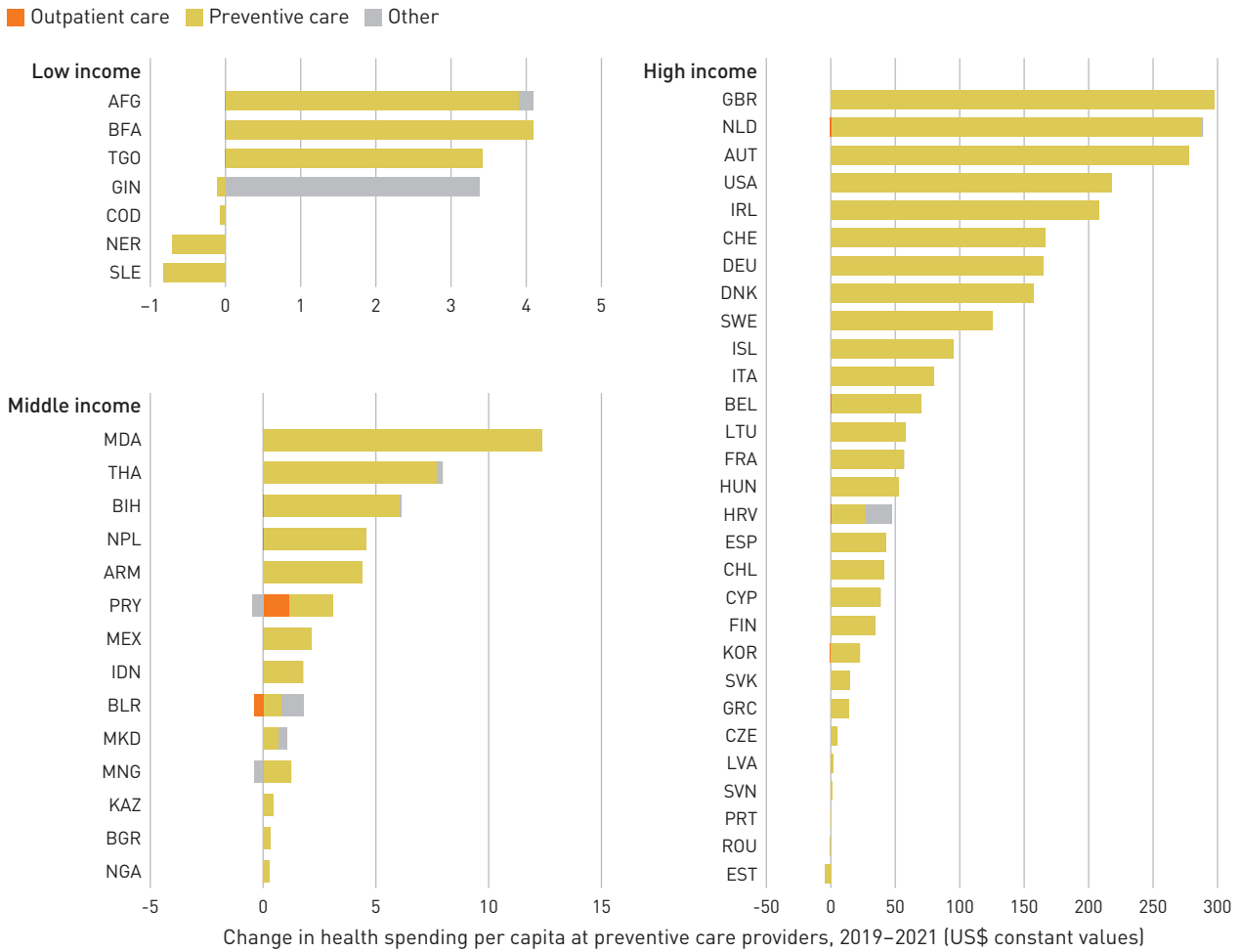
Data source: WHO Global Health Expenditure Database, 2023.

administration institutions, on which spending also increased during the pandemic (Box 2.3).

**Providing medical goods is the core activity of pharmacies, but they also played a role in preventive care in some countries during the COVID-19 pandemic.** Spending per capita at pharmacies rose in real terms in most countries in the sample between 2019 and 2021 (Figure 2.9). In general, higher spending

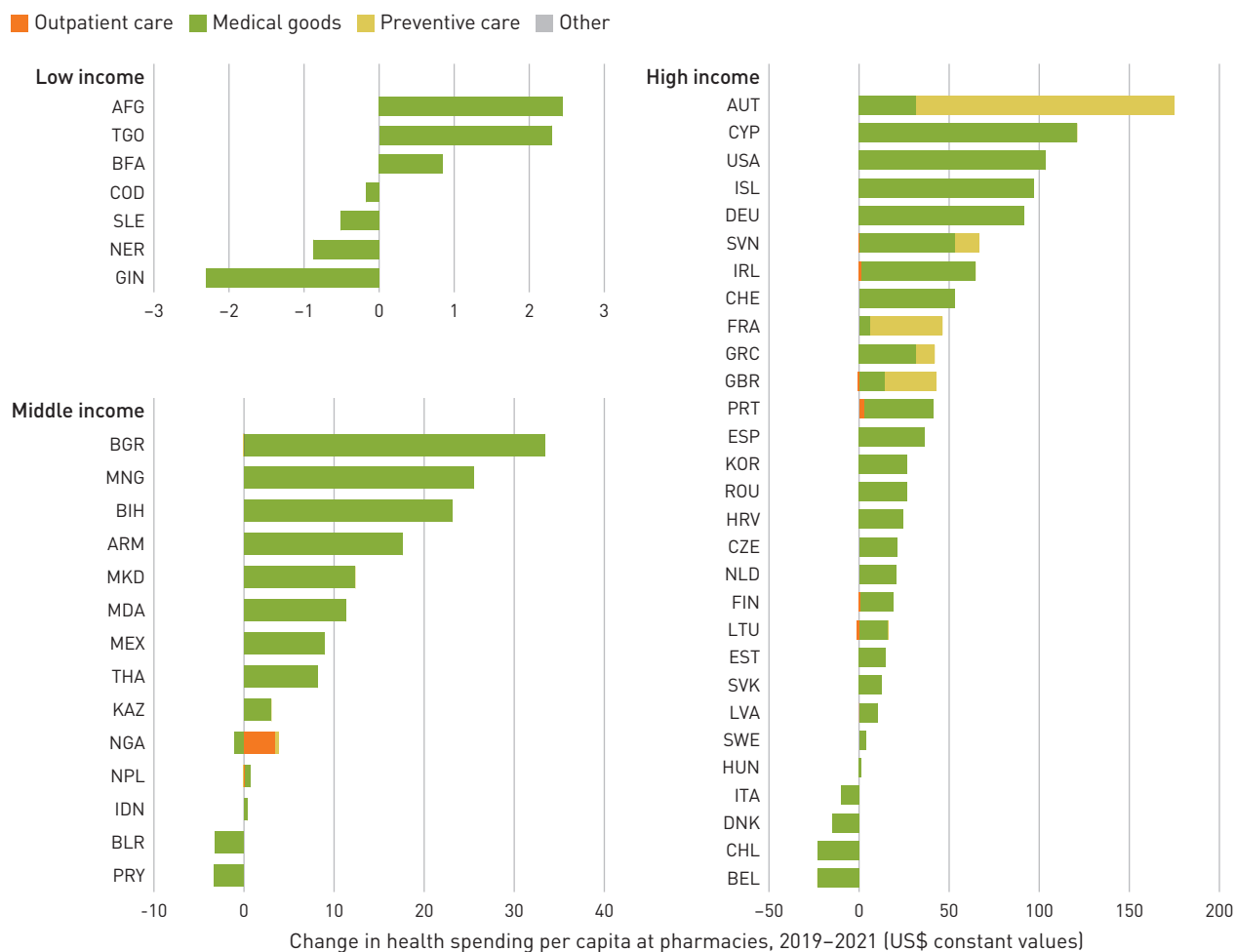
at pharmacies reflected higher spending on medical goods. However, some countries allowed pharmacies to administer COVID-19 and flu vaccinations to increase coverage, so in five high income countries, spending on preventive services at pharmacies rose, and in three countries (Austria, France, and the United Kingdom of Great Britain and Northern Ireland) spending on preventive care increased more than spending on medical goods.

**FIGURE 2.8** Spending per capita on preventive care at preventive care providers rose in nearly all countries during the COVID-19 pandemic



**Note:** In Belarus, hygiene centres provide outpatient care consultations with medical specialists as part of paid medical services. In Paraguay, family units provide outpatient care and implement Ministry of Health vertical programmes.  
**Data source:** WHO Global Health Expenditure Database, 2023.

**FIGURE 2.9** Spending per capita at pharmacies rose from 2019 to 2021, with some starting to play an important role in preventive care during the COVID-19 pandemic



Data source: WHO Global Health Expenditure Database, 2023.

**BOX 2.3**

**Understanding the functions of health administration institutions**

Health administration institutions can be ministries of health, central and local health authorities, social health insurance agencies, private insurance companies, pharmaceutical procurement organizations, or pharmaceutical and medical devices regulatory agencies (2). These entities are involved in governance, regulation and management of the health care system and health insurance.

Among 49 countries with data for 2021,<sup>1</sup> spending at health administration institutions as a share of total health spending varies widely, ranging from 0.5% in Moldova to over 25% in Niger. Low income countries spent, on average, 11.2% of total health spending at health administration institutions, compared with 5.5%

in middle income countries and 3.6% in high income countries (Box Figure 1).

In more than three-quarters of these countries, spending per capita at health administration institutions rose during the COVID-19 pandemic (see Figure 2.2), reflecting the increasing functions needed to manage the pandemic. For example, Germany’s Federal Ministry of Health was responsible for enforcing pandemic control measures nationwide and across states according to legislation passed in 2020 (6). Indonesia’s government established a COVID-19 special fund under the National Economic Program, which funded interventions from the Ministry of Health, the National Health Insurance programme and subnational entities. *(continued)*





### Distribution of spending on outpatient and preventive care among health care providers

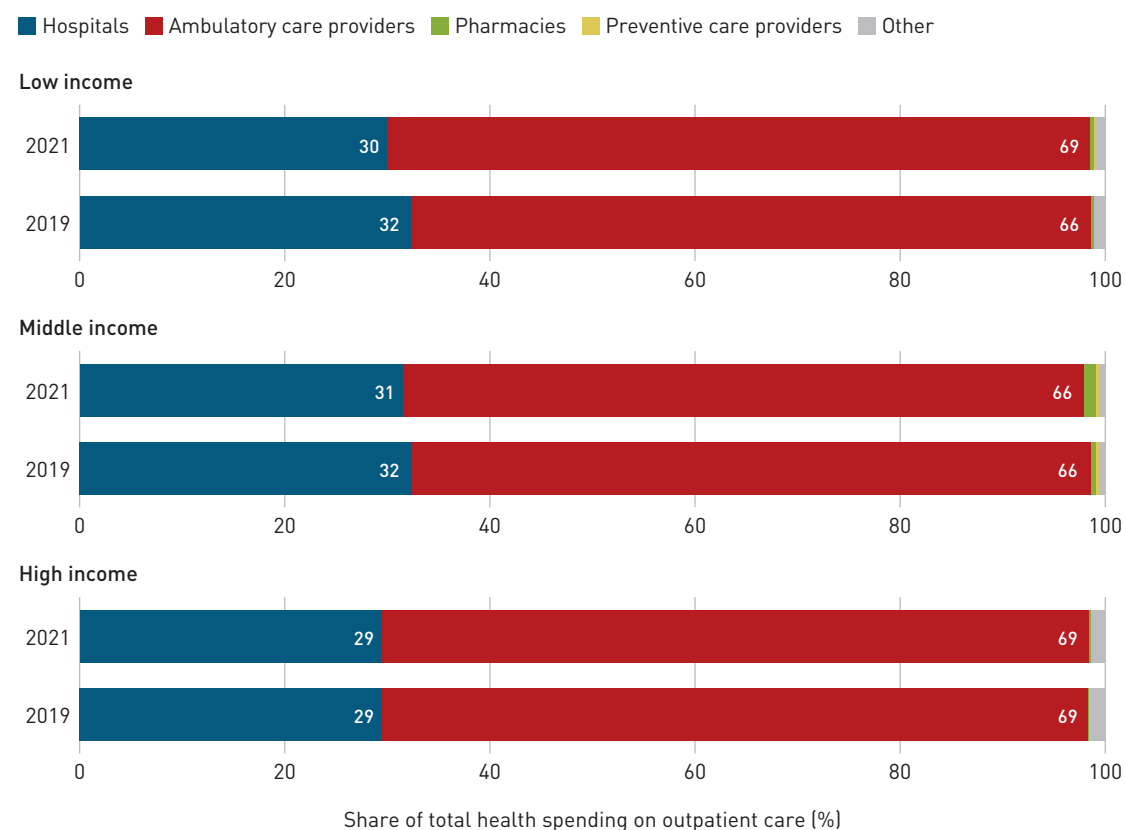
**Outpatient care is provided mainly by hospitals and ambulatory care providers.** In many instances, spending on health care functions is well aligned with the type of provider (for example, inpatient curative care is typically provided at hospitals). However, some health functions, such as outpatient curative care, are delivered across multiple settings. In all income groups, ambulatory care providers accounted for most spending on outpatient care (including both general and specialized outpatient care) in 2021, ranging from 66% to 69% (Figure 2.10). However, in each income group, hospitals also accounted for around 30% of spending on outpatient care. This indicates that hospitals have some role in providing primary health care services (Box 2.4). Whether hospitals should provide general outpatient care can be answered only by considering a country’s service delivery context.

Notably, spending on outpatient care at hospitals as a share of total spending on outpatient care declined sharply in low income countries during the COVID-19 pandemic, consistent with the general prioritization of spending on inpatient care at hospitals.

**Most spending on preventive care is split among preventive care providers, ambulatory care providers and hospitals.** However, the provider mix differs across income groups. In the seven low income countries analysed, the dominant provider of preventive care is preventive care providers such as public health institutions or disease control agencies, which accounted for 80% of total spending on preventive care in 2021. Ambulatory care providers and hospitals accounted for smaller shares: 17% and 2%, respectively (Figure 2.11).

In contrast, ambulatory care providers and hospitals play a much larger role in preventive care in middle income countries (a combined share of 36% of total spending on preventive

**FIGURE 2.10 Most outpatient care was provided by hospitals and ambulatory care providers**



Data source: WHO Global Health Expenditure Database, 2023.

**BOX 2.4****Spending on primary health care**

The System of Health Accounts 2011 (SHA 2011) does not include a readymade classification for spending on primary health care (PHC). To rectify this, the WHO initiated a far-reaching and comprehensive expert consultation process in 2018 to devise a globally applicable measure of PHC spending that could be consistently applied across countries regardless of their service delivery architecture or health system configuration. The result was a measure of PHC spending based on the functional classification (HC) of health spending. This characterized PHC spending in terms of first-contact personal health services, population-based interventions and system coordination (7).

Accordingly, the global measure of PHC spending is defined based on health care function classification, including the following spending categories:

- unspecialized outpatient care (including general and dental outpatient curative care, home-based curative care, outpatient and home-based long-term health care, and unclassified outpatient care);
- 80% of spending on medical goods purchased as a result of consultation and self-treatment;
- 80% of spending on health system governance and administration.

Because of data availability, this analysis includes 43 countries (7 low income, 13 middle income and 23 high income).

PHC spending differed widely as a share of total health spending in 2019 and 2021 (Box Figure 1a). PHC spending per capita rose from 2019 to 2021 in most countries, with over half (27 out of 43) reporting an increase in PHC spending as a share of total health spending (Box Figure 1a).

Across all income groups, PHC services are consumed mainly at ambulatory care providers, hospitals

and preventive care providers (Box Figure 1b). In 2021, these three providers accounted for 52% of PHC spending in low income countries, 48% in middle income countries and 49% in high income countries. As highlighted elsewhere in the chapter, low income countries rely more on preventive care providers than other countries (and the reliance rose during the COVID-19 pandemic). However, all income groups have a sizeable share of PHC spending at hospitals (7%–13% in 2021). Between 2019 and 2021, the share changed little in high and middle income countries but fell from 17% to 11% in low income countries. Without further information on the configuration of service delivery and resource allocation, it is unclear whether this reflects an inefficient use of hospital resources or is reasonable in the context. Retail pharmacies are mostly responsible for providing prescribed pharmaceuticals and other goods and over-the-counter sales.

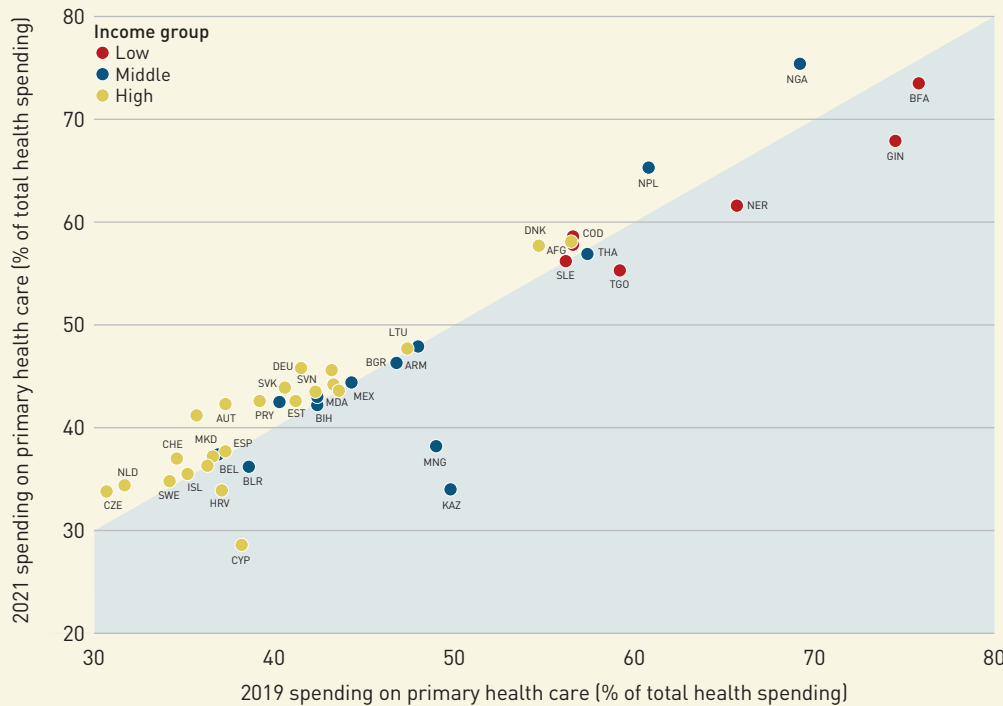
Recognizing that countries organize health service delivery systems differently, health care provider classifications in the SHA 2011 are not equally relevant to all countries. The global PHC measure provides a coherent global standard for producing comparable evidence on PHC across countries. However, as a proxy of PHC spending, it involves compromises and cannot be an optimal measure for all countries. Therefore, countries are encouraged to establish their own national PHC measure according to their health service delivery configuration. Detailed data on health spending by provider, health care function and funding source can provide valuable insights for improving service delivery systems to advance access and financial protection.

*(continued)*

**BOX 2.4 (continued)**

**BOX FIGURE 1** Spending on primary health care as a share of total health spending grew in more than half of countries with data, and the structure of health services by provider changed from 2019 to 2021

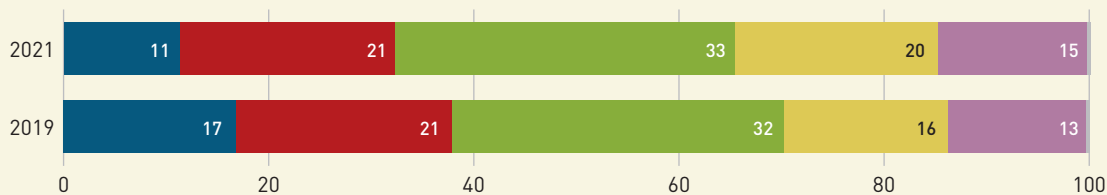
a. Spending on primary health care, 2019 and 2021



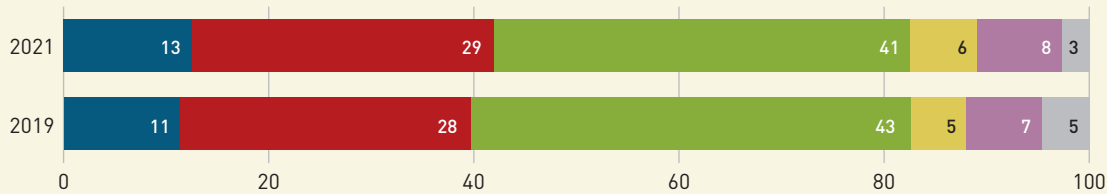
b. Spending on primary health care, by type of provider and income group

■ Hospitals ■ Ambulatory care providers ■ Pharmacies ■ Preventive care providers ■ Health administration ■ Other

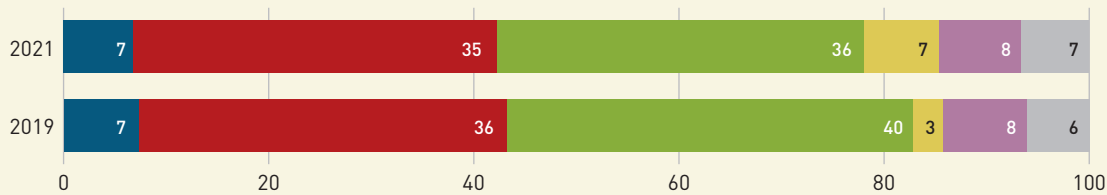
**Low income**



**Middle income**



**High income**

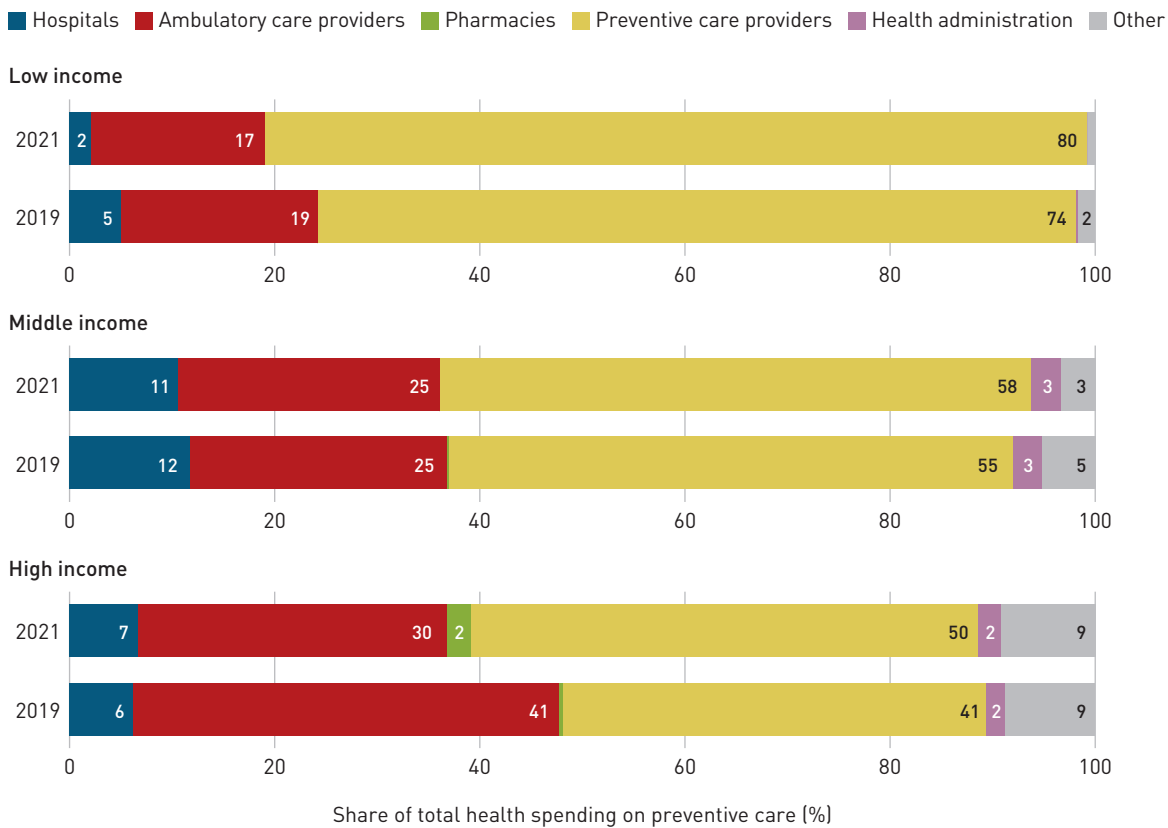


Share of total spending on primary health care (%)

**Note:** Chile, Greece, Indonesia, Ireland, Italy, Portugal, and the United States of America are excluded due to lack of detailed data on spending by health function.

**Data source:** WHO Global Health Expenditure Database, 2023.

**FIGURE 2.11 Multiple types of health care providers offered preventive care**



Data source: WHO Global Health Expenditure Database, 2023.

care in 2021) and high income countries (37%) (see Figure 2.11). The different patterns across income groups reflect the varying roles of providers in health service delivery. In some countries, preventive care providers focus on population-based preventive interventions (such as surveillance), and ambulatory care providers and even hospitals provide individual-based preventive services (such as vaccination) during routine treatments.

Notably, there were divergent trends in the role of ambulatory care providers in providing preventive services during the COVID-19 pandemic.

### Implications

New spending data by type of health care provider from 50 countries suggest that, by 2021, health systems had adjusted to the demands of the COVID-19 pandemic. In addition to the overall higher health spending in most countries, the composition of spending in health systems—across providers and on services at providers—changed relative to the period immediately before the pandemic (2019). Notable examples include the adaptation of hospitals to the additional demands for inpatient

care and the wide range of health care providers that became involved in critical population health activities, such as preventive care and mass vaccination campaigns.

However, the available information provides only a partial snapshot of the COVID-19 response. Spending data by health care provider were unavailable for many countries for 2020, when countries faced the initial shock of the pandemic. The adaptation within health systems in 2020 may have been materially different from that in 2021, though this cannot be confirmed with current data. Spending by type of provider could not be combined with funding sources for many countries, so it remains unclear whether some shifts in spending were driven by changes in government spending, external aid or household spending. These insights are critical for better understanding changes in resource availability and the equity implications of any adjustments that occurred through the pandemic. Additionally, data quality faces substantial challenges.

Notwithstanding these challenges, the spending data by type of health care provider and function in this chapter are helpful for identifying how priorities changed during the COVID-19 pandemic. More generally, data on



health spending by providers and their services offer critical new insights on how service delivery systems are organized, which can be immensely valuable for understanding how service delivery systems can be reoriented based on the primary health care approach to meet future health needs. This can include, for instance, ways to respond to new and increasing demands for health services and the need to improve pandemic preparedness.

However, to capitalize on the potential of health spending data and better understand the dynamics of any internal shifts, more in-depth country studies are needed. This includes disaggregated data that connect health spending by type of service and provider to health financing revenue sources, health financing schemes, diseases and provision factors. Ideally, studies would also combine health accounts data with other information, such as service volumes, service costs, financing policies and health labour statistics. More effort is needed to strengthen country information systems and analytical capabilities.

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## Balancing priorities: COVID-19 and other disease spending

### Key messages

- In 2021, COVID-19 health spending rose in real terms in 39 of 48 countries with data; COVID-19 health spending accounted for 11% of government and compulsory insurance health spending in 2021, up from 7% in 2020.
- COVID-19 vaccination changed the structure of COVID-19 health spending by type of service in 2021, although spending on testing and treatment also rose substantially in middle and high income countries.
- In 18 low and lower-middle income countries with fully disaggregated data by disease for 2019 and 2020, COVID-19 health spending did not appear to reduce spending on other diseases in 2020. Overall health spending rose largely because of spending on COVID-19, with a marginal increase in spending on other major disease categories.



In 2020, COVID-19 response costs accounted for a large share of government health spending in many countries, especially for COVID-19 testing and treatment in high income countries and for preventive measures and general response coordination in low income countries (1). In 2021, the second year of the pandemic, the numbers of confirmed cases and deaths increased globally from those in 2020, and the response was marked by the rollout of the COVID-19 vaccines in nearly all countries. By the end of July 2021, most WHO Member States had started to vaccinate their populations (2). This chapter uses information from 48 countries to identify the changes in COVID-19 health spending during 2020 and 2021. Knowing how much countries spent on COVID-19 in 2020 and 2021, and on which activities, helps in understanding how the response of health systems evolved during the second year of the pandemic. Additionally,

the chapter uses data on health spending categorized by disease from 18 low and lower-middle income countries to identify how much the pandemic altered patterns of spending on other diseases and conditions between 2019 and 2020 (Box 3.1).

### Evolution of COVID-19 health spending in 2020 and 2021

**In 2021, COVID-19 health spending rose in real terms in 39 of 48 countries with data for both 2020 and 2021.** Half of the 8 low income countries reported an increase in COVID-19 health spending per capita, as did 5 of the 6 lower-middle income countries, all 9 upper-middle income countries and 22 of the 25 high income countries (Figure 3.1). Average COVID-19 health spending across all 48 countries rose by 69%, from US\$ 100 per capita in 2020 to US\$ 169 in 2021 in constant values.<sup>1</sup>

#### BOX 3.1

### Data on spending on COVID-19 and other diseases and conditions

#### Methodology and data collection

Spending on COVID-19 and other diseases and conditions in this chapter refers to current health expenditure under the System of Health Accounts 2011 (SHA 2011) framework (3)—that is, final consumption of health care goods and services, individual and collective, associated with specific categories of diseases and conditions.<sup>1</sup> These data are collected annually from the WHO Member States that produce statistics disaggregated by these classifications of health spending and are reported in the Global Health Expenditure Database with a two-year lag (2021 is the most recent year with data as of 2023). Countries that report spending on COVID-19 and other diseases use one of two approaches:

- Countries, mostly low and lower-middle income, produce full disease-distributed health accounts using five main disease and condition categories (DIS classification): infectious and parasitic diseases, reproductive health, nutritional deficiencies, noncommunicable diseases and injuries. This approach allows countries to completely distribute current health spending by disease and condition, including COVID-19, and

to disaggregate these data by all other dimensions of health accounts (financing schemes, revenues, functions, providers, factors of provision and the like).

- Countries that do not produce accounts by disease and condition, for which WHO, the Organisation for Economic Co-operation and Development and Eurostat have, since 2021, included five special reporting items to track current health spending on COVID-19 within the annual data collection (4,5): COVID-19 treatment, testing and contact tracing, vaccination, medical goods and other COVID-19-related health care costs (included in current health spending).<sup>2</sup> For these countries, COVID-19 health spending corresponds to the sum of these five reporting items.

#### Data availability and countries analysed in this chapter

The analysis in this chapter is limited to two subsets of countries based on data availability. Averages presented throughout the chapter reflect only the situation in these sets of countries:

- 48 countries that reported health spending on COVID-19 for both 2020 and 2021<sup>3</sup> are used in the

*(continued)*

1. Health spending per capita throughout this chapter is reported in constant US dollars for all years (using 2021 as the reference year) and were converted from current values using country-specific GDP deflators and 2021 exchange rates.

**BOX 3.1 (continued)**

first section to analyse the evolution of COVID-19 health spending during the pandemic: 8 low income countries, 6 lower-middle income countries, 9 upper-middle income countries and 25 high income countries. The majority of countries with data (38) reported only COVID-19 health spending using the five special COVID-19 reporting items, total and by financing scheme, and 10 countries reported COVID-19 health spending within full disease-distributed health accounts.<sup>4</sup>

- 18 low and lower-middle income countries that reported a complete disaggregation of health spending by disease and condition before the pandemic (2018 or 2019) and during the pandemic (with data for at least 2020) are used in the second section to analyse the evolution of health spending by disease and condition relative to prepandemic levels. Of these 18 countries, 10 have already reported spending by disease for 2021 and are therefore included in both sections of the chapter (COVID-19 health spending and spending on other diseases).

**Data limitations**

Due to gaps in country data collection, reported COVID-19 health spending does not reflect the total resources used in health activities related to COVID-19 and is not completely comparable across countries. First, there are limitations for the health financing dimension (the financing schemes and sources that finance COVID-19 health spending): the scope of reported COVID-19 health spending for most countries, particularly upper-middle and high income countries, is limited to spending financed through government and compulsory insurance financing schemes. In general, voluntary insurance and household out-of-pocket spending on COVID-19 were not identified. In addition, several low and lower-middle income countries reported COVID-19 health spending financed by nonprofit institutions.

There are also limitations for the functional dimension (which types of services were included in reported COVID-19 health spending): the scope of COVID-19 health spending is limited for several countries due to difficulties in collecting information with enough granularity to identify the five COVID-19 special reporting items within overall health spending. More than half of the 48 countries considered in this chapter have

one or more relevant category of COVID-19 by type of service not reported. And even when categories of COVID-19 services were identified, underestimation is a possibility.

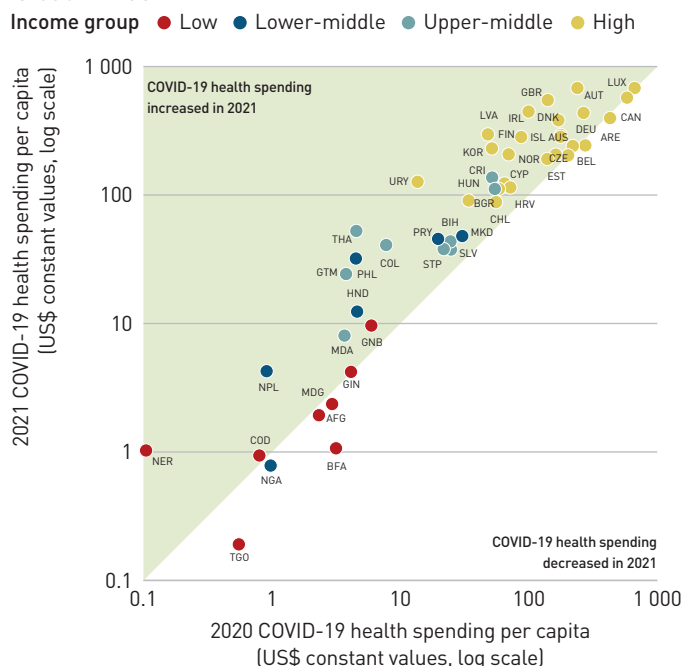
In addition to methodological and data quality challenges, COVID-19 epidemiological indicators and the measures that countries took to control the pandemic in 2020 and 2021 also varied widely, so comparison across countries should be made with caution.

**Notes**

1. Current health spending according to SHA 2011 boundaries does not include all the resources and transactions involved in responding to a disease. Spending on essential activities within the health sector (such as capital investment and research and development) and outside the health sector (such as action on social determinants of health; water, sanitation and hygiene; social assistance; animal health and the like) are not included.
2. Treatment includes costs for treatment of patients with a confirmed COVID-19 diagnosis in inpatient and outpatient settings. Testing and contact tracing include laboratory costs for COVID-19 tests and costs incurred to identify possible contacts of infected people. Vaccination includes the costs of COVID-19 vaccines and delivery but excludes research and development. Medical goods include spending on personal protective equipment for final use of the population and pharmaceuticals for COVID-19 not dispensed as part of inpatient or outpatient treatment but exclude intermediate consumption by health system personnel (implicitly accounted for in other functions). Other COVID-19 spending includes all other COVID-19-related costs—within the SHA 2011 boundary of current health expenditure—not classified in the other four categories, such as coordination of the response to the pandemic, epidemiological surveillance, communication and information. It can also include health spending on COVID-19 not defined by function due to data limitations.
3. Data correspond to calendar years 2020 and 2021, except for Australia and Nepal, for which 2020 in this chapter refers to the fiscal year from July 2019 to July 2020, and 2021 refers to the fiscal year from July 2020 to July 2021.
4. The countries that produced health accounts distributed by disease and condition generally did not directly report spending by COVID-19 special reporting items, given that they had already reported disease spending disaggregated by function. For those countries, WHO calculated the five COVID-19 special reporting items for the Global Health Expenditure Database by mapping the categories from the health accounts cross table by disease and health care function reported by the countries (5).

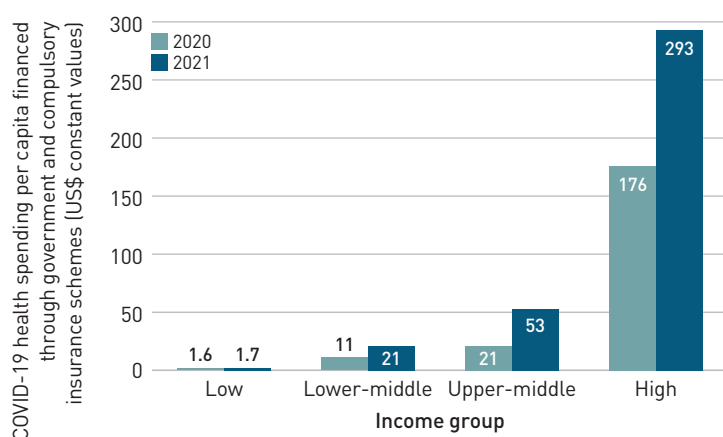


**FIGURE 3.1 COVID-19 health spending rose in 2021 in 39 of 48 countries**



Note: Values are underestimated due to data gaps in several countries. Declines observed in some countries are due partly to data gaps.  
Data source: WHO Global Health Expenditure Database, 2023.

**FIGURE 3.2 COVID-19 health spending financed through government and compulsory insurance rose in countries in all income groups in 2021**



Note: Average values are underestimated due to data gaps in several countries.  
Source: WHO Global Health Expenditure Database, 2023.

COVID-19 health spending per capita in 2021 averaged US\$ 2.60 in low income countries, US\$ 22 in lower-middle income countries, US\$ 54 in upper-middle income countries and US\$ 298 in high income countries.

However, due to data gaps, COVID-19 health spending reported by several countries does not include the total resources spent on COVID-19 activities (see Box 3.1), and declines observed in some countries are most likely the result of these underestimations. Furthermore, the rise in COVID-19 health spending in 2021 generally reflects only the higher spending financed through government and compulsory insurance financing schemes,<sup>2</sup> as the contribution of household out-of-pocket spending and other voluntary health financing schemes remains largely unknown.<sup>3</sup> In 2021, government and compulsory insurance COVID-19 health spending per capita ranged from less than US\$ 1 to more than US\$ 500 in several high income countries, such as Austria, Canada, Denmark and Luxembourg. It rose from US\$ 11 in 2020 to US\$ 21 in 2021, on average, in lower-middle income countries, from US\$ 21 to US\$ 53 in upper-middle income countries and from US\$ 176 to US\$ 293 in high income countries (Figure 3.2). In the 8 low income countries, average COVID-19 health spending per capita financed through government and compulsory insurance remained stable, on average, at less than US\$ 2.

**COVID-19 health spending as a share of government and compulsory insurance health spending rose to 11% in 2021, from 7% in 2020, on average, across all 48 countries.**

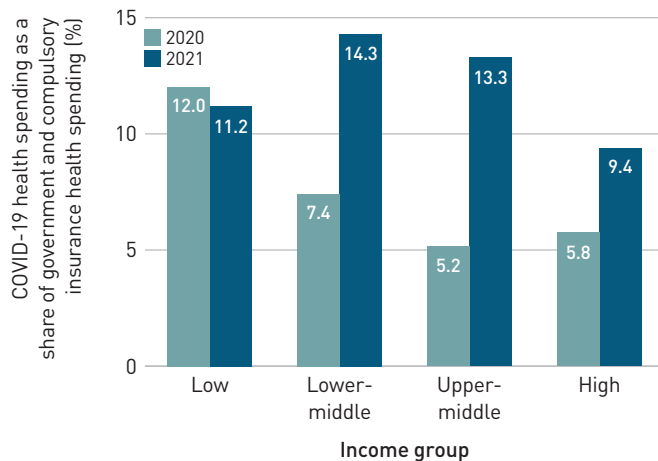
This reflects the greater prioritization of COVID-19 in public financing for health during the second year of the pandemic. COVID-19 health spending accounted for a larger share of government and compulsory insurance health spending than in 2020 in 80% of the countries and across all income groups, except in low income countries (Figure 3.3a). The average share jumped to 14% in lower-middle income countries (from 7.4% in 2020), 13% in upper-middle income countries (from

2. In this chapter, “health spending financed through government and compulsory insurance financing schemes” is used synonymously with “government and compulsory insurance health spending” and refers to an aggregated financing scheme category under the System of Health Accounts 2011 framework. It includes government financing schemes (central/federal and regional/local government health spending financed with domestic and external revenues), and compulsory health insurance schemes (social health insurance and compulsory private insurance health spending financed with social contributions, private insurance premiums and government transfers). Government and compulsory insurance COVID-19 health spending refers to the COVID-19 health spending reported by countries for this aggregated category of financing schemes.

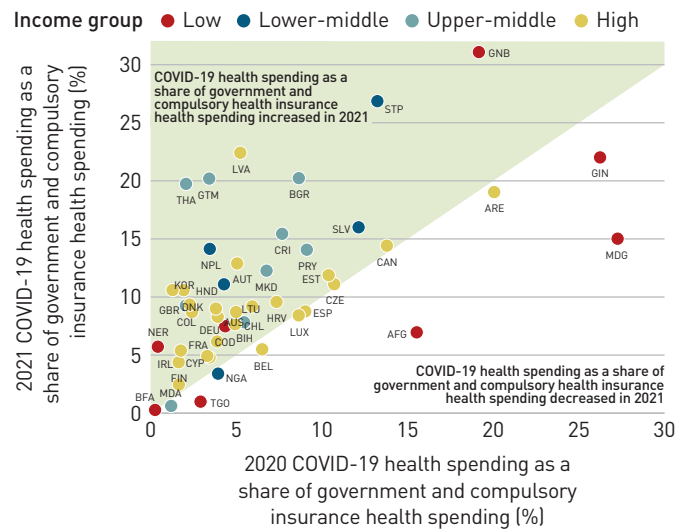
3. Averages of total COVID-19 health spending per capita are almost equivalent to the average of government and compulsory insurance COVID-19 spending due to the lack of reporting of voluntary schemes and out-of-pocket spending on COVID-19. However, several low and lower-middle income countries included COVID-19 health spending financed through nonprofit institution schemes in their total COVID-19 health spending.

**FIGURE 3.3** The share of COVID-19 health spending in government and compulsory insurance health spending rose by 4 percentage points on average in 2021

a. Average COVID-19 health spending as a share of government and compulsory insurance health spending, by income group, 2020 and 2021



b. COVID-19 health spending as a share of government and compulsory insurance health spending, 2020 and 2021



Note: Average values are underestimated due to data gaps in several countries.  
Data source: WHO Global Health Expenditure Database, 2023.

5.2% in 2020) and 9.4% in high income countries (from 5.8% in 2020). In the 8 low income countries, the average share of government and compulsory insurance health spending designated to COVID-19 fell from 12% in 2020 to 11% in 2021, driven mainly by declines in Afghanistan and Madagascar (Figure 3.3b). However, the situation in low income countries is heterogeneous, and the averages include countries with a very high proportion of government and compulsory insurance health spending on COVID-19 (Guinea, Guinea-Bissau, Madagascar) and countries with a proportion of less than 1% (Burkina Faso, Togo). Yet, for several countries in all income groups, a low share could be a result of data gaps (for both 2020 and 2021), as key activities in the COVID-19 response were not identified by several countries, thus underestimating the share of government and compulsory insurance spending for COVID-19.

### COVID-19 vaccination changed the structure of COVID-19 health spending by type of

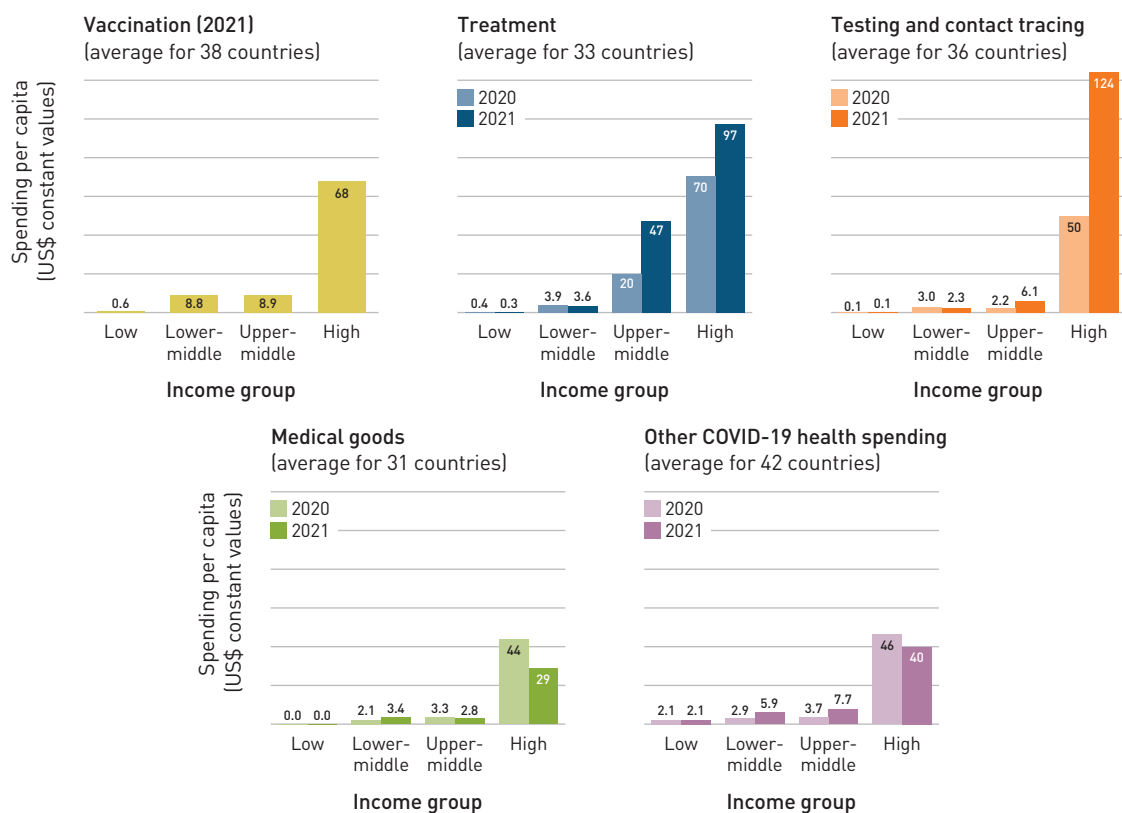
service but was not the only driver of higher COVID-19 health spending in 2021. The detail of COVID-19 health spending according to the five COVID-19 special reporting item categories (see Box 3.1) helps in understanding which types of health services drove the rise of COVID-19 health spending in 2021. The introduction of COVID-19 vaccination in 2021 accounted for more than 40% of the increase in COVID-19 health spending in 2021, on average, across the 38 countries that reported spending on COVID-19 vaccination. Spending per capita on COVID-19 vaccination in 2021 averaged less than US\$ 1 in the 4 low income countries that reported spending on that category (ranging from US\$ 0.20 to US\$ 1.30), US\$ 9 in 4 lower-middle income countries (ranging from US\$ 0.20 to US\$ 20) and 6 upper-middle income countries (ranging from US\$ 3 to US\$ 21) and US\$ 68 per capita in 24 high income countries (ranging from US\$ 24 to US\$ 131) (Figure 3.4).<sup>4</sup>

The increase in COVID-19 health spending in 2021 was also driven by higher spending on

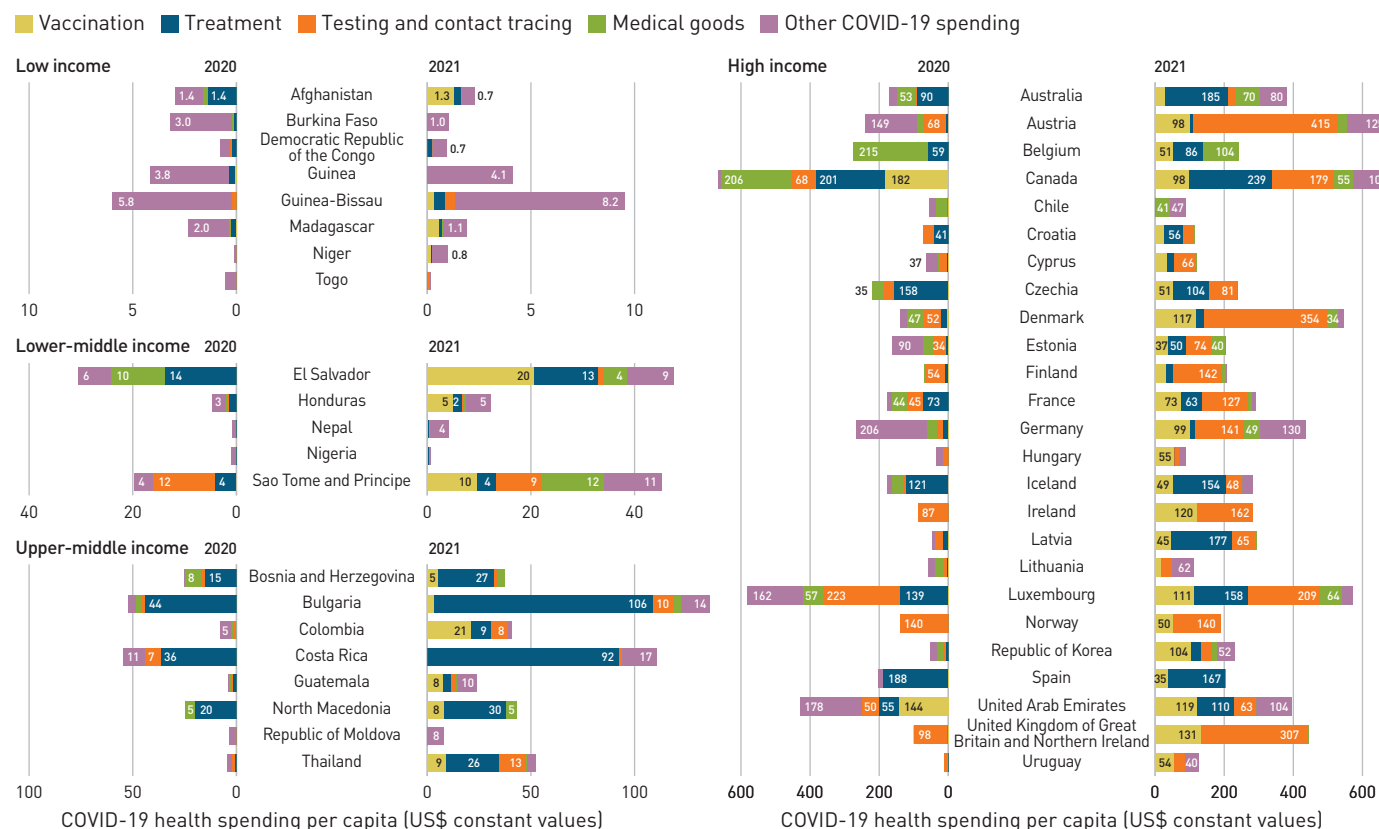
4. Averages of spending by COVID-19 reporting item include, for each category, only countries that reported spending for both 2020 and 2021 (or for 2021 only in the case of COVID-19 vaccination). COVID-19 spending for all five reporting items is not available for the Philippines and Paraguay (only total COVID-19 spending was reported). In addition, the following countries are not included for COVID-19 vaccination: Burkina Faso, Chile, Costa Rica, the Democratic Republic of the Congo, Guinea, Nepal, the Republic of Moldova and Togo. For COVID-19 treatment: Austria, Burkina Faso, Chile, Colombia, Guinea, Hungary, Lithuania, Norway, the Republic of Moldova, Togo, the United Kingdom of Great Britain and Northern Ireland, and Uruguay. For COVID-19 testing and contact tracing: Belgium, Chile, El Salvador, Guinea, Madagascar, Niger, North Macedonia, the Republic of Moldova, Spain and Togo. For COVID-19 medical goods: Afghanistan, Burkina Faso, Colombia, Costa Rica, the Democratic Republic of the Congo, Guinea, Guinea-Bissau, Hungary, Iceland, Ireland, Niger, Norway, the Republic of Moldova, the United Arab Emirates and the United Kingdom of Great Britain and Northern Ireland. For other COVID-19 health spending: Ireland, North Macedonia, Norway and the United Kingdom of Great Britain and Northern Ireland.

**FIGURE 3.4 COVID-19 health spending on testing and treatment also rose substantially in many countries**

a. Average COVID-19 health spending per capita on vaccination, 2021, and on other types of service, 2020 and 2021, by income group



b. COVID-19 health spending per capita, by country, 2020 and 2021



**Note:** Average health spending per capita in panel a are calculated for a different set of countries for each COVID-19 reporting item (countries that reported spending on each category for both 2020 and 2021 or for 2021 only in the case of COVID-19 vaccination), and the spending amounts are therefore not comparable across COVID-19 reporting item categories. The elevated spending on vaccination reported by Canada and the United Arab Emirates for 2020 corresponds mainly to vaccines consumed in 2021; therefore, vaccination spending is possibly overestimated for 2020 and underestimated for 2021 for those countries.

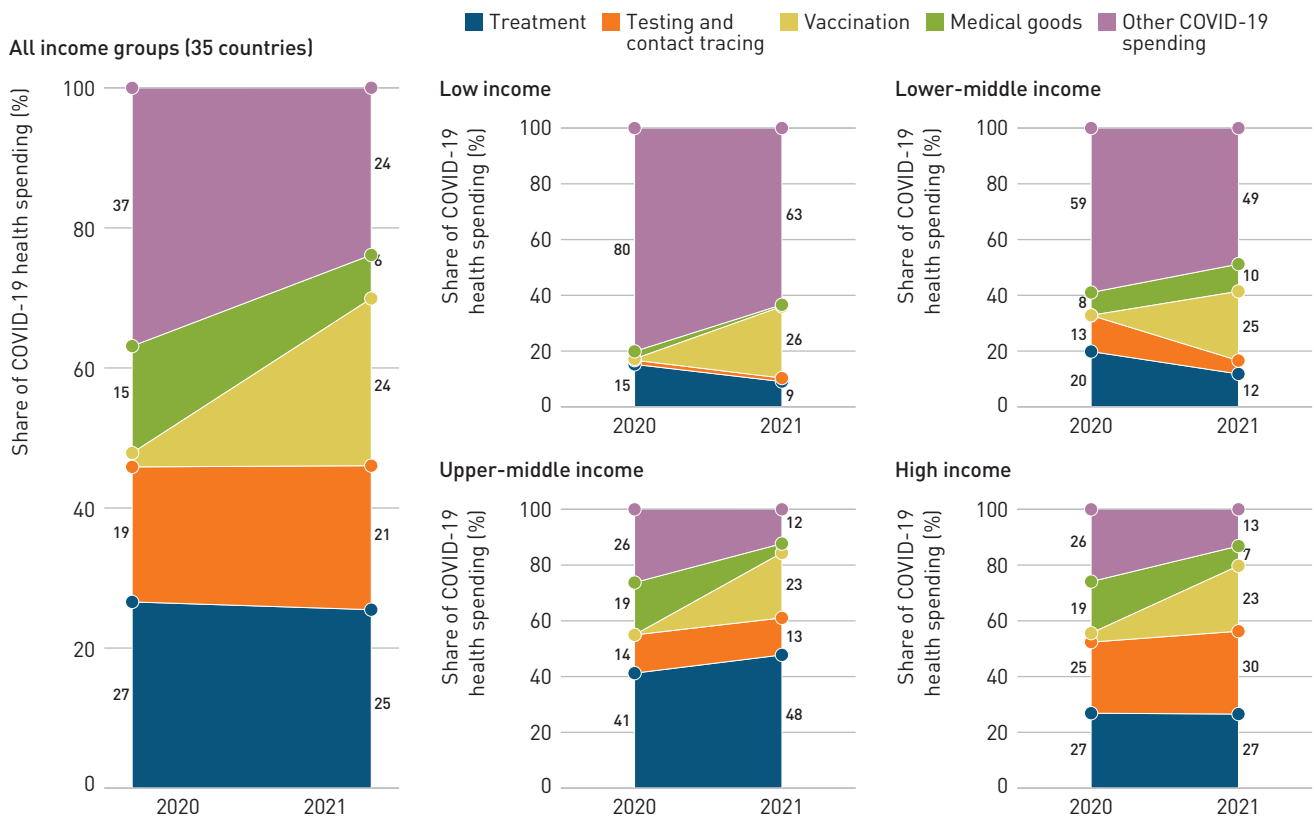
**Data source:** WHO Global Health Expenditure Database, 2023.

treatment and on testing and contact tracing, in particular in upper-middle and high income countries. COVID-19 health spending per capita on treatment rose in 2021 in 26 of the 33 countries reporting spending on this category for both 2020 and 2021. It increased on average in upper-middle and high income countries, to US\$ 41 and US\$ 97, respectively, but remained stable in low and lower-middle income countries (see Figure 3.4). Higher spending per capita on testing and contact tracing was driven mainly by high income countries, whose average rose from US\$ 50 to US\$ 124. However, COVID-19 testing and contact tracing is the reporting item category that has the most important differences in spending per capita between high income countries and other income groups. It remained consistently under US\$ 5 in middle income countries and around US\$ 0.10 in low income countries. COVID-19 health spending per capita on medical goods, such as face-masks, and other COVID spending were less important in 2021: they increased in only half the countries that reported spending on

these categories and declined in high income countries.

In 35 countries that reported more comprehensive data on the five COVID-19 special reporting item categories, COVID-19 vaccination accounted in 2021 for around a quarter of COVID-19 health spending in 2021, across all income groups (Figure 3.5). This sharply shifted the structure of COVID-19 health spending by type of service. The share of COVID-19 health spending dedicated to treatment remained stable between 2020 and 2021, at around 25% across all 35 countries (with decreases in low and lower-middle income countries). Similarly, the share of spending on testing and contact tracing remained stable between 2020 and 2021—even rising in high income countries, which widened the gap with other income groups. By contrast, across all income groups, the introduction of COVID-19 vaccination in 2021 reduced the relative importance of medical goods for final use by the population, to 6% of COVID-19 health spending in 2021, and of other COVID-19 spending, to 24%.

**FIGURE 3.5** COVID-19 vaccination accounted for a quarter of reported COVID-19 health spending in 2021



**Note:** Averages shares are based on 35 countries that reported spending on COVID-19 vaccination for 2021 and at least two other COVID-19 health spending special reporting item categories in both 2020 and 2021 (4 low income, 5 lower-middle income, 5 upper-middle income and 21 high income), to limit the calculation of shares to countries that reported more comprehensive data on the five categories of COVID-19 health spending. Data for unreported categories among these 35 countries could still affect the actual average share of each category.

**Data source:** WHO Global Health Expenditure Database, 2023.

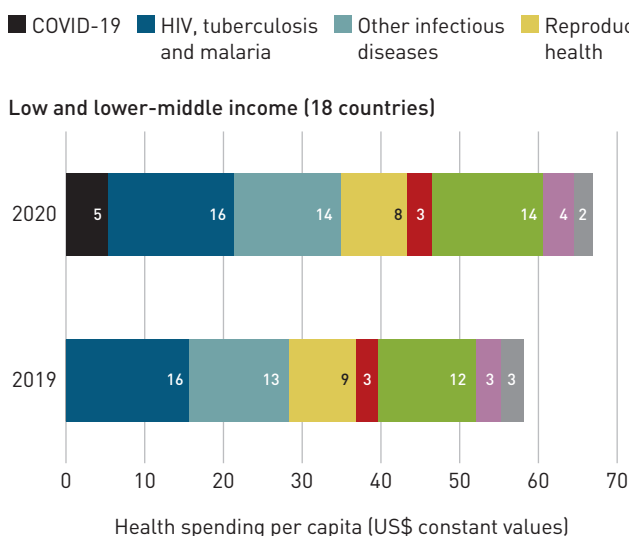
### Health spending by disease and condition during the COVID-19 pandemic in low and lower-middle income countries

In 18 low and lower-middle income countries,<sup>5</sup> COVID-19 health spending in 2020 did not reduce spending on other diseases.<sup>6</sup> Total health spending increased, but the growth was due largely to COVID-19 health spending, as spending on all other major disease categories remained unchanged. In real terms, average health spending per capita across all 18 countries rose substantially, to US\$ 67, from US\$ 58 in 2019. COVID-19 health spending per capita averaged US\$ 5 in all 18 countries, US\$ 2 in low income countries and US\$ 10 in lower-middle income countries (Figure 3.6).

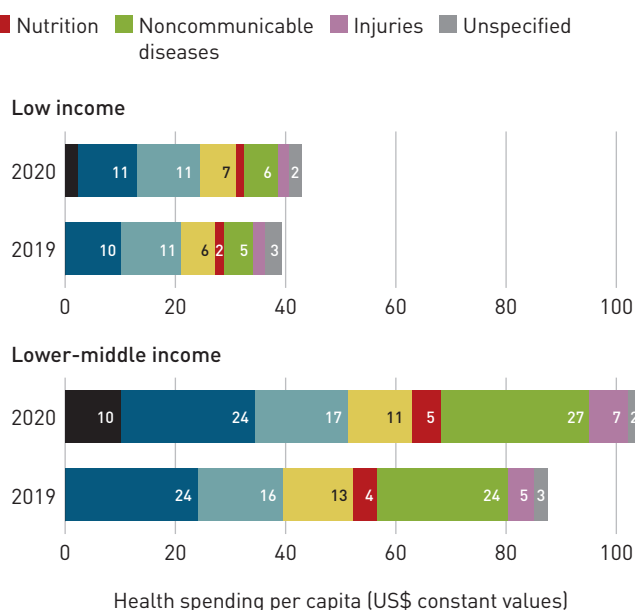
For all 18 countries, spending per capita on other diseases and conditions remained stable between 2019 and 2020 (see Figure 3.6a). In 2019, spending per capita was US\$ 16 for HIV, tuberculosis and malaria, US\$ 9 for reproductive health, US\$ 3 for nutritional deficiencies, US\$ 12 for noncommunicable diseases and US\$ 3 for injuries. Spending increased from 2019 to 2020 only for noncommunicable diseases (by US\$ 2) and injuries (by US\$ 1). Average spending per capita on all infectious diseases as a group rose from US\$ 29 in 2019 to US\$ 35 in 2020, due to the additional US\$ 5 spent on COVID-19 and the additional US\$ 1 spent on other infectious diseases.<sup>7</sup> The pattern by income group is similar (see Figure 3.6b). More details on country-specific spending patterns are available in the Appendix to Chapter 3.

**FIGURE 3.6 COVID-19 health spending did not trigger a decrease in spending on other disease categories between 2019 and 2020 in 18 low and lower-middle income countries**

a. Average health spending per capita, by disease and condition, 2019 and 2020



b. Average health spending per capita, by disease and condition and income group, 2019 and 2020



**Note:** Includes data for 11 low income countries (Afghanistan, Burkina Faso, Burundi, Democratic Republic of the Congo, Ethiopia, Guinea, Guinea-Bissau, Madagascar, Mali, Niger and Togo) and 7 lower-middle income countries (Congo, Côte d'Ivoire, Nigeria, Philippines, Sao Tome and Principe, Senegal and Zimbabwe). Data for Burundi refer to 2018 and 2020.

**Data source:** WHO Global Health Expenditure Database, 2023.

5. The 18 countries with full disease breakdown data for 2019 and 2020 include 11 low income countries (Afghanistan, Burkina Faso, Burundi, Democratic Republic of the Congo, Ethiopia, Guinea, Guinea-Bissau, Madagascar, Mali, Niger and Togo) and 7 lower-middle income countries (Congo, Côte d'Ivoire, Nigeria, Philippines, Sao Tome and Principe, Senegal and Zimbabwe). Data for Burundi refer to 2018 and 2020.

6. The disease and condition classification encompasses five main categories: infectious and parasitic diseases, reproductive health, nutritional deficiencies, noncommunicable diseases and injuries. In this chapter, within infectious diseases, COVID-19 is presented separately alongside HIV, tuberculosis and malaria, which are shown together.

7. In this chapter, the category other infectious diseases includes respiratory infections, diarrhoeal diseases, neglected tropical diseases, hepatitis, other vaccine-preventable diseases (other second-digit level categories of infectious diseases [DIS.1]) and "unknown" infections, which could include COVID-19.

COVID-19 health spending in 2020 was additional and did not displace spending on other diseases and conditions in the 18 countries. A firm conclusion requires data from a larger group of countries and over time. As of October 2023, only 10 low and lower-middle income countries had reported such data for 2019, 2020 and 2021 (Box 3.2). Health service disruptions may also have influenced the result. Service disruptions were reported in several of the 18 countries in 2020, though not to the extent in the countries that bore the majority of reported COVID-19 cases (6,7). The relation between these disruptions and the evolution of health spending on specific diseases and conditions should be further explored. Also, depending on the epidemiological context, country differences could be significant, adding to underlying data challenges. It would be worth exploring in more detail the

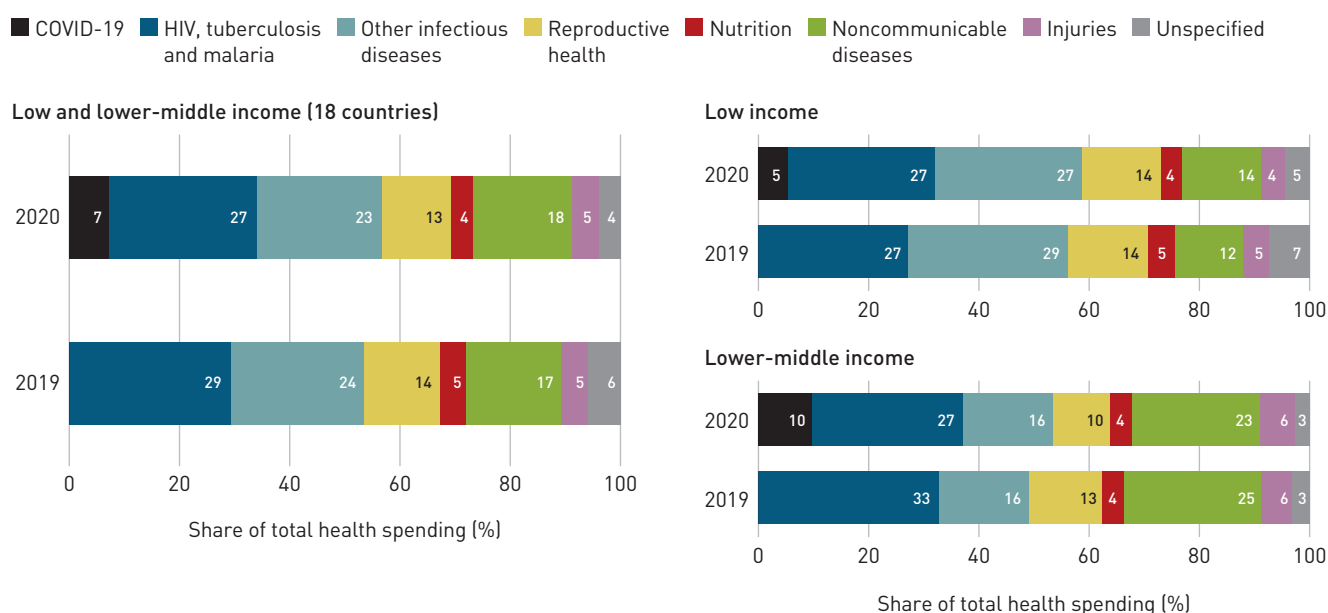
disease categories' spending by type of beneficiary, such as per person living with HIV and per woman of reproductive age.

**COVID-19 health spending accounted for an average of 7% of total health spending in 2020 for all 18 countries, 10% for the 7 lower-middle income countries and 5% for the 11 low income countries.** The pattern of spending by disease and condition differed little between 2019 and 2020. Declines appeared in shares of spending on infectious diseases (from 53% to 50%),<sup>8</sup> on the unspecified category (from 6% to 4%)<sup>9</sup> and on reproductive health (from 14% to 13%) (Figure 3.7a). By income group, COVID-19 health spending as a share of total health spending was larger in the 7 lower-middle income countries (10%) than in the 11 low income countries (5%) (Figure 3.7b).

**FIGURE 3.7 COVID-19 health spending in 2020 accounted for 10% of total health spending in 7 lower-middle income countries and 5% in 11 low income countries**

a. Average spending by disease and condition as a share of health spending, 2019 and 2020

b. Average spending by disease and condition as a share of health spending, by income group, 2019 and 2020



**Note:** Data are for 11 low income countries (Afghanistan, Burkina Faso, Burundi, Democratic Republic of the Congo, Ethiopia, Guinea, Guinea-Bissau, Madagascar, Mali, Niger and Togo) and 7 lower-middle income countries (Congo, Côte d'Ivoire, Nigeria, Philippines, Sao Tome and Principe, Senegal and Zimbabwe). Data for Burundi refer to 2018 and 2020.

**Data source:** WHO Global Health Expenditure Database, 2023.

8. This is the sum of the proportion spent on HIV, tuberculosis, malaria and on other infectious diseases.

9. The unspecified disease and condition category is a sixth main category that encompasses spending on unknown diseases and on symptoms common to several diseases, such as fever and cough.



**BOX 3.2**

**Evidence from 10 countries on spending by disease and condition in 2021**

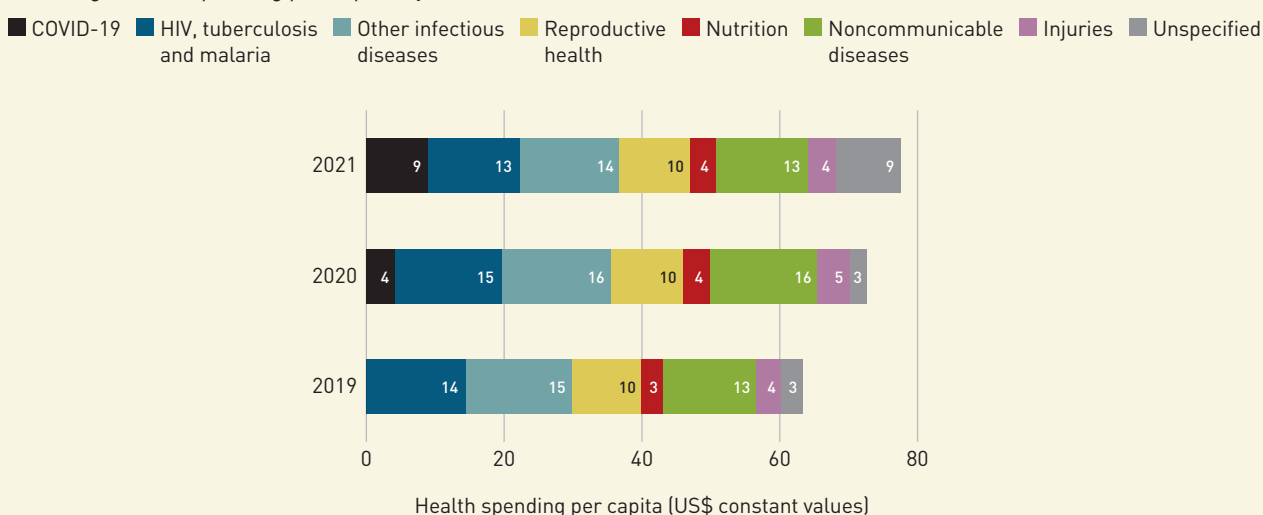
For 10 of the 18 low and lower-middle income countries analysed in this section, information of spending by disease and condition is already available for 2021.<sup>1</sup> COVID-19 health spending continued to grow in 2021 in 8 of these countries (see Figure 3.4b). As in 2020, there was no decline in health spending for other diseases and conditions in 2021, on average, for the 10 countries (Box Figure 1). Spending on noncommunicable diseases fell slightly, due mostly to gaps in data collection in Burkina Faso and the Philippines, where lower spending in this category is associated with a higher share of health spending not specified by disease and condition.

On average, the increase in health spending in real terms was almost exclusively absorbed by COVID-19, and health spending per capita on other diseases and conditions remained the same as before the pandemic.

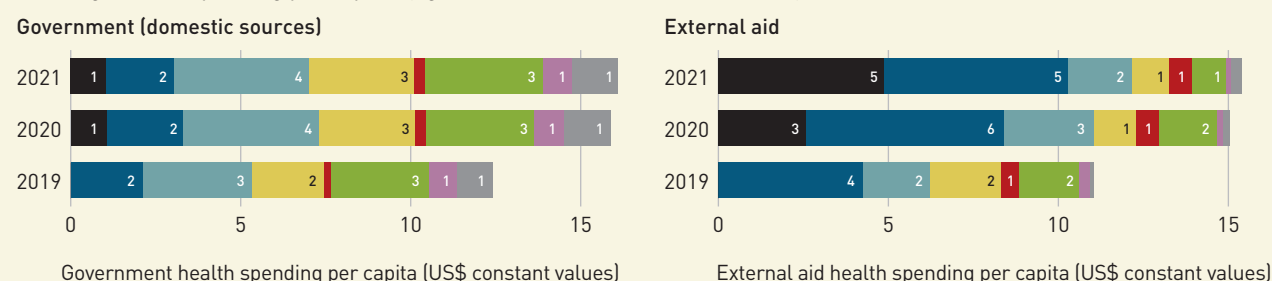
By source of funding, external aid per capita in these 10 countries generally remained higher in 2021 than in the prepandemic period for all categories except reproductive health and noncommunicable diseases, which saw a slight decrease. Government domestic funding rose slightly in most of the other disease categories in 2020, but spending per capita and distribution by disease remained relatively unchanged during 2020 and 2021.

**BOX FIGURE 1** Health spending by disease and condition (other than COVID-19) remained stable from 2019 to 2021 in 10 low and lower-middle income countries

a. Average health spending per capita, by disease and condition, 2019–2021



b. Average health spending per capita by government and external sources, by disease and condition, 2019–2021

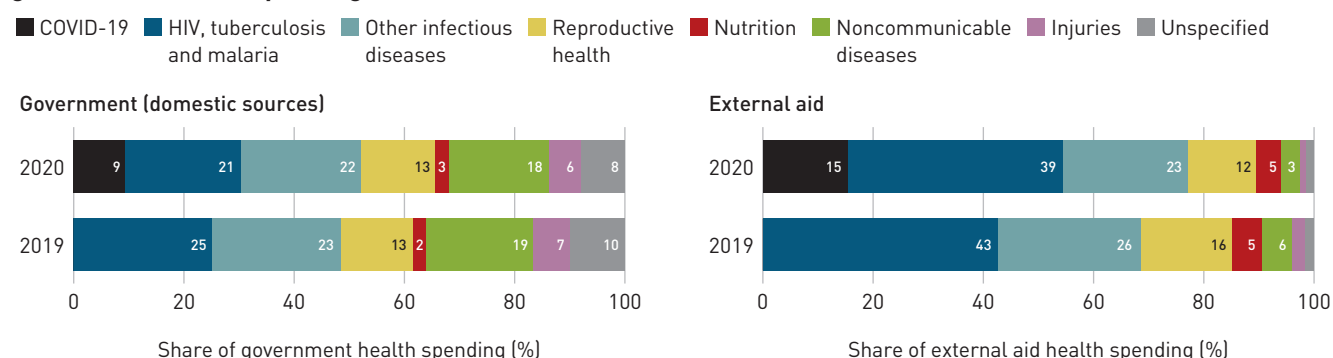


**Note:** Includes data for seven low income countries (Afghanistan, Burkina Faso, Democratic Republic of the Congo, Guinea, Madagascar, Niger and Togo) and three lower-middle income countries (Nigeria, Philippines and Sao Tome and Principe). Data on health spending on disease and conditions are not available by source of funding for the Philippines.  
**Data source:** WHO Global Health Expenditure Database, 2023.

**Note**

1. The seven low income countries are Afghanistan, Burkina Faso, Democratic Republic of the Congo, Guinea, Madagascar, Niger and Togo, and the three lower-middle income countries are Nigeria, Philippines and Sao Tome and Principe.

**FIGURE 3.8** In 17 low and lower-middle income countries, around 15% of external aid for health and 9% of government health spending went to COVID-19 in 2020



**Note:** Data are for 11 low income countries (Afghanistan, Burkina Faso, Burundi, Democratic Republic of the Congo, Ethiopia, Guinea, Guinea-Bissau, Madagascar, Mali, Niger and Togo) and 6 lower-middle income countries (Congo, Côte d'Ivoire, Nigeria, Sao Tome and Principe, Senegal and Zimbabwe). Data for Burundi refer to 2018 and 2020. Government domestic spending includes funding sources from government resources (general taxation) and contributions to mandatory health insurance schemes. External aid refers to development partner funds handled by nonprofit entities or channelled through governments.

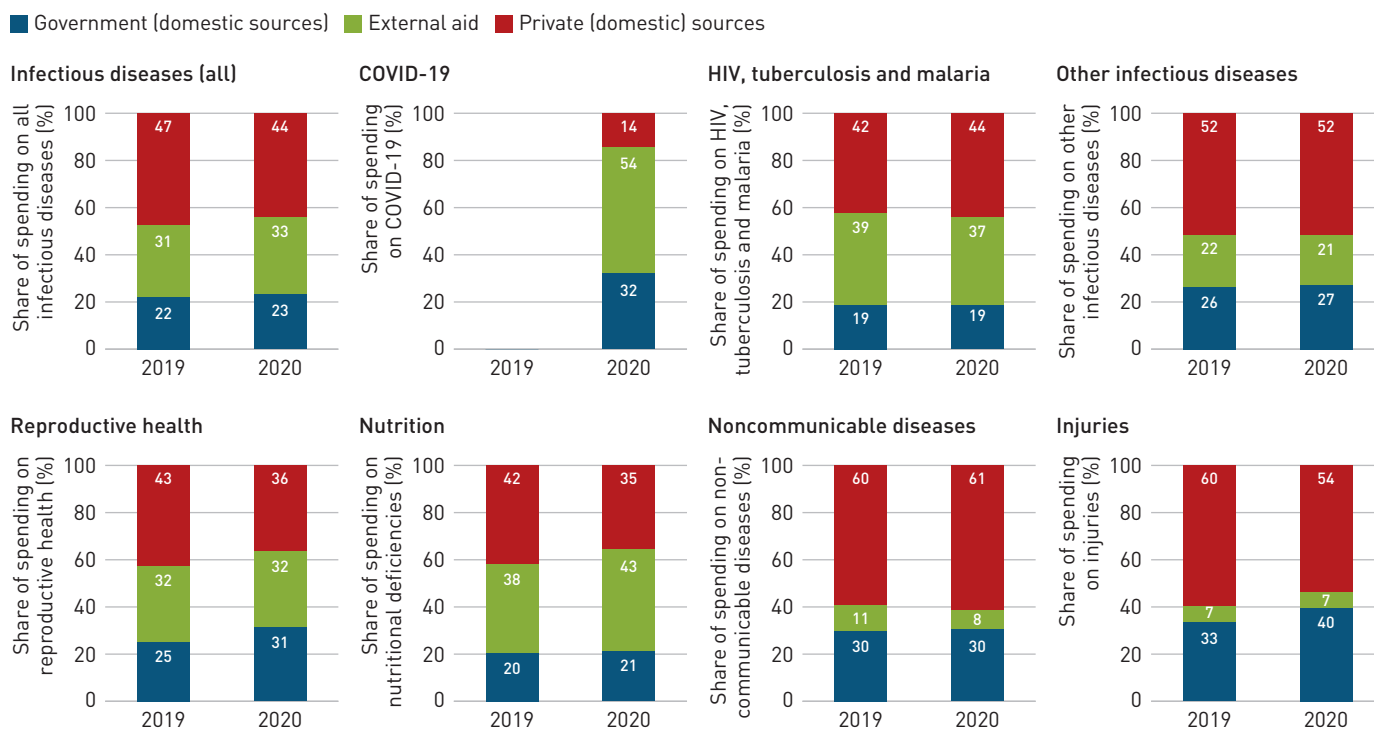
**Data source:** WHO Global Health Expenditure Database, 2023.

In 17 of the 18 countries with disaggregated data by source of funding, external aid emphasized infectious diseases, whereas government spending focused on both infectious diseases and noncommunicable diseases. This did not change in 2020. In addition, COVID-19 health spending accounted for an average 15% of external aid for health and 9% of government health spending in 2020 (Figure 3.8).<sup>10</sup> The share of external aid allocated to HIV, tuberculosis and malaria declined from 43% in 2019 to 39% in 2020, and the share of government spending allocated to those diseases declined from 25% to 21%. For noncommunicable diseases, the share of government domestic spending remained stable, dropping only slightly from 19% in 2019 to 18% in 2020, while the share of external aid fell from 6% to 3%.

In low and lower-middle income countries, COVID-19, more than any other disease and condition, was funded primarily from external aid. For the 17 low and lower-middle income countries, external aid funded 54% of COVID-19 health spending in 2020 (Figure 3.9). The other diseases and conditions that relied heavily on external aid were HIV, tuberculosis and malaria as a group (39% in 2019 and 37% in 2020) and nutritional deficiencies (38% and 43%). Government spending accounted for an average of 32% of COVID-19 health spending in 2020 and around 19% of spending on HIV, tuberculosis and malaria as a group in 2019 and 2020. The pattern of spending on noncommunicable diseases and injuries diverges from that for other diseases and conditions. It is characterized by high private domestic participation (50%–60%), mild government participation (30%–40%) and seemingly no external aid—a stable distribution since before the pandemic.

10. Disaggregated information by funding source is available for all 18 low and lower-middle countries except the Philippines, so this analysis is for 11 low income countries and 6 lower-middle income countries.

**FIGURE 3.9** External aid funded 54% of COVID-19 health spending, substantially more than the 37% of spending on HIV, tuberculosis and malaria



**Note:** Data are for 11 low income countries (Afghanistan, Burkina Faso, Burundi, Democratic Republic of the Congo, Ethiopia, Guinea, Guinea-Bissau, Madagascar, Mali, Niger and Togo) and 6 lower-middle income countries (Congo, Côte d'Ivoire, Nigeria, Sao Tome and Principe, Senegal and Zimbabwe). Data for Burundi are for 2018 and 2020.

**Data source:** WHO Global Health Expenditure Database, 2023.

### Implications

In 2021, COVID-19 health spending rose substantially in most of the 48 countries with data, increasing pressure on government and compulsory insurance financing schemes. About 40% of the increase was attributable to the rollout of COVID-19 vaccines in 2021, but substantial growth in spending for COVID-19 treatment and testing and contact tracing was also a factor (mainly in upper-middle and high income countries). Because of data gaps, information on COVID-19 health spending was limited mostly to government and compulsory insurance financing. The impact of COVID-19 spending on household out-of-pocket spending in 2020 and 2021 remains largely unknown.

Information from 18 low and lower-middle income countries with data by disease and conditions suggests that COVID-19 did not reduce health spending per capita on other diseases in 2020, which remained stable from 2019. Because data are available for a limited number

of countries, the effect on health spending on other diseases remains unclear for countries that were hit more severely by COVID-19 and thus required more resources for their response. Moreover, it is still unclear how health spending on other diseases evolved from the second year of the pandemic, when even more resources were assigned to the COVID-19 response. Additional research could provide more insights on the changes in health spending over the course of the pandemic.

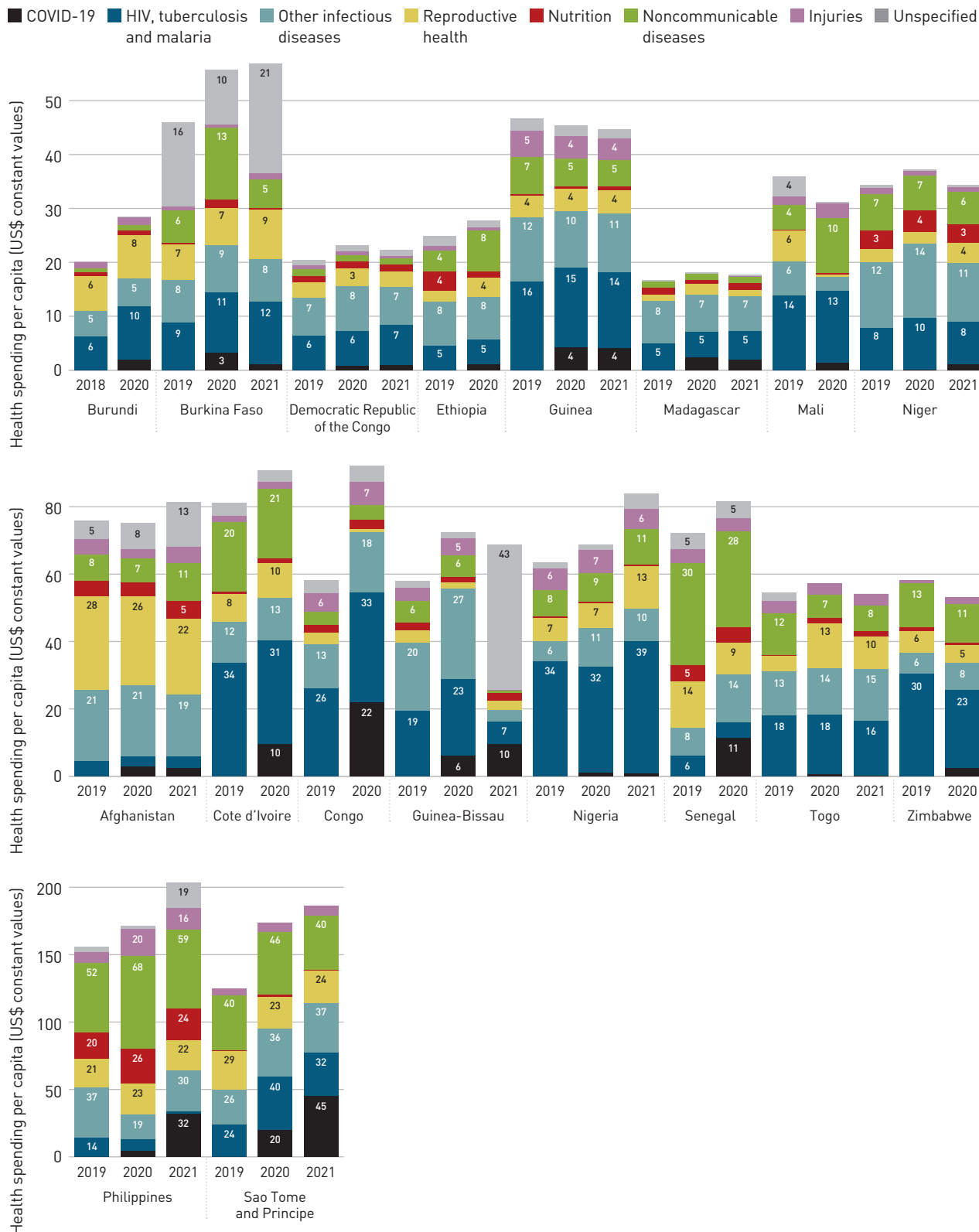
Collecting and monitoring health spending data by disease can improve understanding of how health financing systems respond during a pandemic, for both the pandemic disease itself and for other diseases. Health spending data alone cannot provide the whole picture and must be analysed jointly with other information, such as service utilization and barriers to access health services. Closely monitoring health spending by disease provides valuable insights for investment in health systems to meet changing health needs and improve preparedness for future pandemics.

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### Appendix to Chapter 3

**FIGURE A3.1 Health spending per capita in 18 countries, by disease and condition, 2019–2021 (US\$ constant values)**



**Note:** Data for the most recent available prepandemic year (2019, or 2018 for Burundi) and for 2020 are reported for 18 countries. Data for 2021 are also reported for 10 countries. Values are in constant (2021) US dollars and were calculated from current values using country-specific GDP deflators and 2021 exchange rates.

**Data source:** WHO Global Health Expenditure Database, 2023.









# 4

## Building for the future: health capital investment

### Key messages

- Health capital investment played an important role in the COVID-19 response. In 64 countries with data, capital investment increased in all income groups during the pandemic, to the equivalent of 5.2% of current health spending, or 0.4% of GDP. The fastest growth in health capital investment during the pandemic was in low and lower-middle income countries.
- Across all income groups, hospitals were the health provider with the highest investment during the pandemic, accounting for 66% of investment in high income countries and slightly more than 50% in low and middle income countries. Ambulatory care providers received 6%–19% of investment across income groups.
- In low income countries, there was a surge in the acquisition of machinery and equipment. In high and middle income countries, the distribution of investment—for buildings and structures, machinery and equipment, and software and databases—changed little.
- Government played the main role in funding health capital investment in high and middle income countries, accounting for more than 75% of investment during the pandemic. In low income countries, government and external aid each accounted for around 50%.



Capital investment is integral to how health systems operate. Each essential function of a health system—service delivery, population health programme, or governance and administration—relies on fixed assets. Buildings, such as hospitals and other health facilities, house critical health-related activities, while machinery and equipment are vital in diagnosing, monitoring and treating medical conditions; in the transportation of patients and health resources from one location to another (for example, via the ambulance fleet); and in the flow of knowledge through information systems for service delivery, governance and surveillance. As a result, the current operational capabilities of health systems and their overall resilience are direct outcomes of past capital investment. Notably, the COVID-19 pandemic underscored how sudden spikes in health service demand can strain health systems, particularly in critical areas of these systems.

In contrast to current health spending, which concerns the day-to-day consumption of existing resources, health investment refers to the net acquisition of new assets that health providers then use repeatedly and continuously in the service delivery system. While current spending and capital formation are linked through the cost of capital (wear and tear and obsolescence), there are important reasons for a separate focus on capital spending.<sup>1</sup> Investment is necessary for producing health services now and sets the stage for future health system capacities. Moreover, capital investment is inherently volatile—more so than recurrent spending—involving large upfront outlays (sometimes funded by debt). Depending on the nature of an investment project—such as a new hospital—the values can be large, even if the project is implemented over several years. As a result, investment decisions are likely to be influenced by a unique set of drivers, including prevailing economic conditions, the availability of finance, political priorities and the evolving needs of health services (1).

This chapter focuses on capital investment in health service delivery systems for a select

group of countries with data (Box 4.1). The focus is the level and structure of investment during the COVID-19 pandemic<sup>2</sup> (2020 and 2021), though how investment changed from the prepandemic period<sup>3</sup> is also examined.

## Health capital investment

**During the pandemic, average health capital investment for 64 countries was equivalent to 5.2% of current health spending and 0.4% of GDP.<sup>4</sup>** Health capital investment per capita averaged US\$ 173 in high income countries, US\$ 13 in upper-middle income countries, US\$ 10 in lower-middle income countries and US\$ 3 in low income countries. Another way to measure health capital investment is to benchmark it against recurrent health spending. On this measure, lower-middle income countries had a higher capital-to-current spending ratio on average (8%, compared with 2%–6% for other income groups). But there does not appear to be a straightforward correlation between a country's income and its capital-to-current health spending ratio (Figure 4.1a). Among countries with comparable incomes, differences in the capital-to-current spending ratios can exceed 10 percentage points. Similarly, there is no obvious link between a country's income and its health capital investment as a share of GDP (Figure 4.1b).

**During the COVID-19 pandemic, average health capital investment per capita rose across all income groups compared with the prepandemic period.** The growth rate was largest among low income countries (50% in real terms) and lower-middle income countries (43%), compared with 8%–9% in upper-middle and high income countries.

**Additionally, in low and lower-middle income countries, the average capital-to-current spending ratio—a measure of the relative importance of health capital investment—was higher than before the pandemic.** The highest average was in lower-middle income countries: 8.0%, up nearly 2 percentage points, driven by increases in a majority

1. Implicit in the calculation of current health spending, which represents the total value of health services and goods consumed in a year, is the reduction in the utility of a fixed asset for health care provision due to such factors as physical wear and tear or obsolescence. This cost of capital is measured relative to the estimated useful life of each asset and is a noncash expense that must be estimated. However, when goods and services are provided at nonmarket prices (such as in publicly owned facilities) or when the true value of capital assets is uncertain, accurately assessing the cost of capital becomes challenging. That is why this spending might be excluded from calculations of recurrent health spending.

2. In this chapter, "the COVID-19 pandemic" and "the pandemic" refer to the most recent year available during 2020–2021.

3. In this chapter, "the prepandemic period" and "before the pandemic" refer to the most recent year available during 2016–2019.

4. The analysis in this chapter excludes countries with a population below 600 000.

**BOX 4.1****Health capital investment, as used in this chapter**

Health capital investment in this chapter refers to gross fixed capital formation, coded as HK.1.1 in the System of Health Accounts 2011. This measures the total value of fixed assets that health providers acquire during the accounting period (less the value of asset disposals) (2). The three main types of fixed assets are:

- **infrastructure (HK.1.1.1)**, which includes buildings, such as hospitals and ambulatory facilities, as well as other structures, such as helipads;
- **machinery and equipment (HK.1.1.2)**, which includes medical equipment, transport equipment, furniture and a range of information, communication and telecommunications equipment that are indispensable for managing health records, providing telemedicine platforms and analysing data analytics tools;
- **intellectual property products (HK.1.1.3)**, which includes computer software and databases created independently by health care providers and excludes spending on research and development.

Because capital investment involves the acquisition of assets by health providers, it explicitly measures only capital investment involved in health service delivery. It excludes investment in producing health inputs: for example, vaccines, medicines, personal protective equipment and the like. Also excluded is investment in the production of the health workforce—for example, universities and colleges. Research and development investment falls outside the scope of health spending and is excluded. Furthermore, due to the limited data availability, changes in inventories (coded HK.1.2), such as stockpiles of vaccines, are not included in the analysis.

The spending data in this chapter were reported directly by countries in their respective health accounts; no estimations or alternative data sources were used. In contrast to the widespread reporting of recurrent health spending (see Box 1.1 in Chapter 1), few countries report data on health capital investment, and even fewer do so consistently. As a result, gaps in the time series make it difficult to analyse capital investment over time.

The countries analysed in this chapter thus had to meet two criteria:

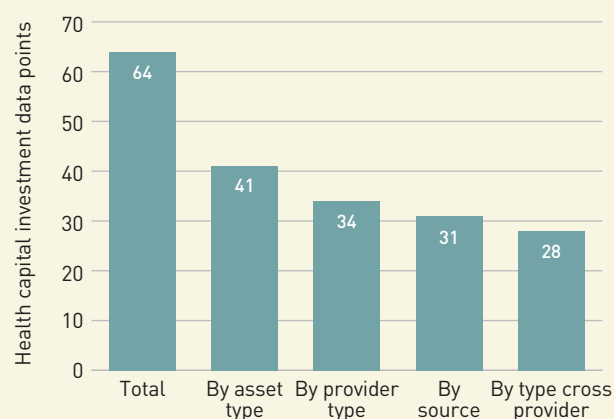
- data available on health capital investment for at least one data point before the COVID-19 pandemic (2016–2019);
- data available on health capital investment for at least one data point during the pandemic (2020–2021).

The analysis is based on the most recent year available for each country in each period. As a result, the chapter includes 64 countries: 26 high income, 12 upper-middle income, 14 lower-middle income and 12 low income (Box Figure 1).

Additional analyses were conducted using smaller samples due to data availability: investment by asset type (41 countries), investment by provider type (34 countries), investment by funding source (31 countries) and investment in hospitals and ambulatory facilities by asset type (28 countries).

**BOX FIGURE 1** The main analysis included 64 countries, and additional analyses included smaller samples

*Number of countries reporting at least one data point before the COVID-19 pandemic (2016–2019) and at least one data point during the pandemic (2020–2021), by System of Health Accounts 2011 classification*



**Note:** Cross provider refers to countries reporting types of asset investment for hospitals and providers of ambulatory care. The data related to the cross-classifications in this chapter are not published in the GHED Data Explorer but are publicly available at <https://apps.who.int/nha/database/DocumentationCentre/en/>.

**Data source:** WHO Global Health Expenditure Database, 2023.

While gross investment includes investment funded by governments, external aid and the private sector, privately funded health capital investment is not systematically reported across countries, especially low and lower-middle income countries. Accordingly, when analysing health capital investment by funding source, the focus is on investment funded by governments and external aid, the latter of which applies only to low and lower-middle income countries.

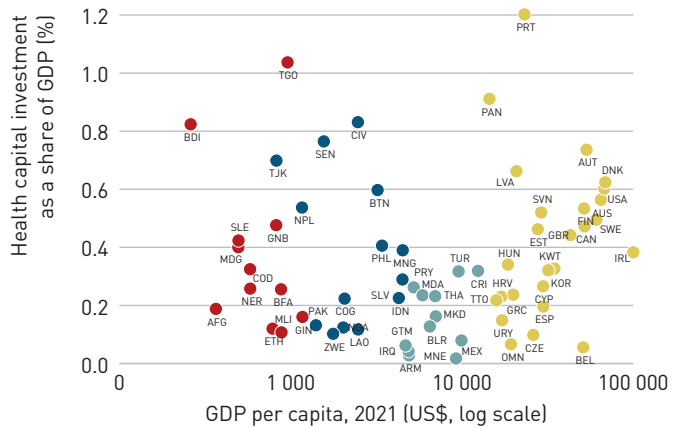
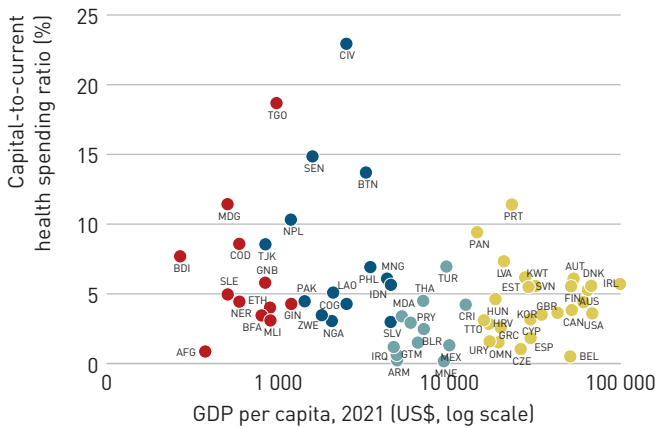
Finally, taking advantage of the full time-series data for 2013–2019 in 42 countries, the volatility of capital investment is further analysed in Box 4.2.

**FIGURE 4.1** Neither the ratio of capital to current health spending nor health capital investment as a share of GDP appears to be linked to a country’s income

a. Ratio of capital to current health spending versus GDP per capita

b. Health capital investment as a share of GDP versus GDP per capita

Income group ● Low ● Lower-middle ● Upper-middle ● High



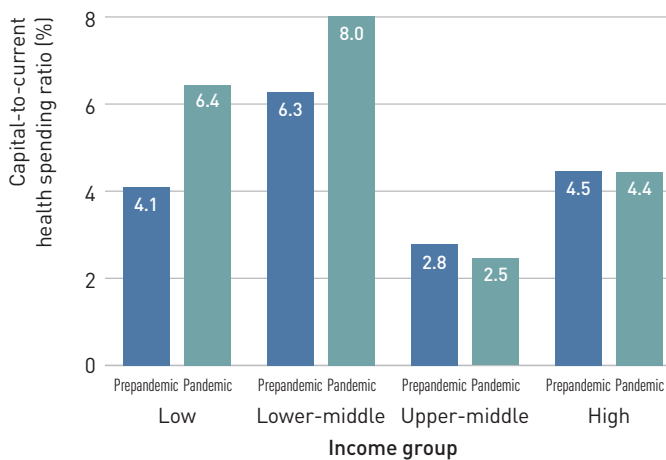
Note: Cross-sectional data were matched using the most recent year available for health capital investment (2020 or 2021).  
Data source: WHO Global Health Expenditure Database, 2023.

of countries in the group (Figure 4.2). In other income groups, the sample was evenly split between countries where the ratio increased and where it declined. Among low income countries, some substantial increases in capital spending during the pandemic more than offset some large declines, resulting in the average capital-to-current spending ratio increasing by 2.3 percentage points, to 6.4%. In high income countries, the average remained unchanged during the pandemic,

and upper-middle income countries registered a slight drop.

**The upshot is that investing in capital goods in the health sector played an important role in the COVID-19 response.** In low and lower-middle income countries, higher average health capital investment during the pandemic coincided with higher capital-to-current spending ratios, suggesting that capital investment grew faster than recurrent spending during the pandemic. In high and upper-middle income countries, capital investment may not have meaningfully deteriorated in relative terms during the pandemic. However, the patchy data for both the prepandemic and pandemic periods and the inherently volatile health capital investment from year to year across all income groups (Box 4.2) make it difficult to establish precisely whether observed changes indicate a strong health capital response during the pandemic. Of 64 countries, 58 reported health capital investment in 2019, so the observed changes for the most part reflect the most recent information available from before the pandemic.

**FIGURE 4.2** The capital-to-current spending ratio rose in 26 low and middle income countries



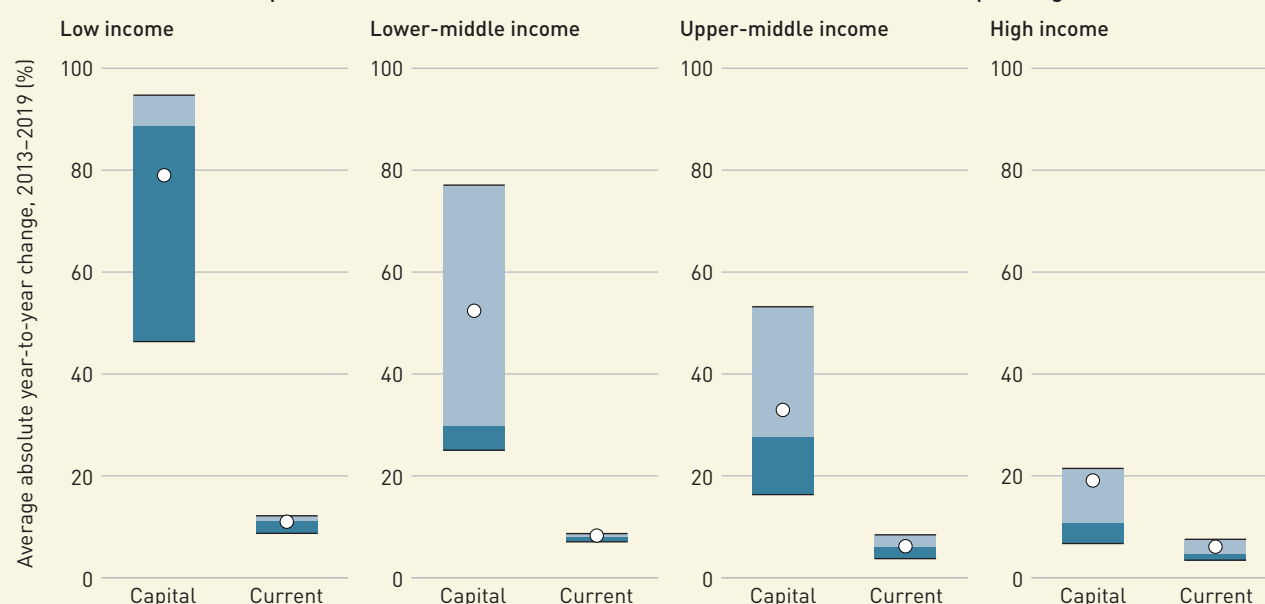
Note: Prepandemic refers to the most recent year available during 2016–2019, and pandemic refers to the most recent year available during 2020–2021. The analysis is based on 64 countries: 12 low income, 14 lower-middle income, 12 upper-middle income and 26 high income.  
Data source: WHO Global Health Expenditure Database, 2023.

**The COVID-19 response changed the structure of health capital investment in low income countries.** In low income countries, the average share of machinery and equipment in total health capital investment jumped from 52% during the prepandemic period

**BOX 4.2****The volatility of health capital investment**

Time-series panel data for 42 countries between 2013 and 2019 (see Box 4.1) reveal the year-to-year fluctuations in health capital investment. Over the period, real investment per capita was highly volatile across all income groups, with large positive and negative swings depending on the year. The magnitude of this volatility can be summarized by the distribution of the absolute value of year-to-year movements (with all changes expressed as a non-negative value) (Box Figure 1). By this metric, volatility was highest among low income

countries (though the sample size is small). One reason may be the small size of economies: the discrete and lumpy nature of investment—a country acquires a machine for magnetic resonance imaging or it does not—has a larger effect on volatility in smaller economies than larger ones. Similar issues may arise in countries with small populations. Across all income groups, volatility was significantly greater for health capital investment than for recurrent health spending.

**BOX FIGURE 1** Health capital investment was much more volatile than recurrent health spending

**Note:** The boxplots show the interquartile range (25th–75th percentile) of values. Where the colour of the bar changes is the median, and the white circle is the mean. The average absolute year-to-year percentage change was computed by averaging absolute real health capital investment per capita year-to-year change by country between 2013 and 2019. Absolute percentage changes are based on per capita values in constant (2021) national currency units. Country-specific GDP deflators were used to convert current values to constant values. The analysis is based on 42 countries with data for 2013–2019: 6 low income, 10 lower-middle income, 8 upper-middle income and 18 high income. Congo is excluded from the graph for better visualization.

**Data source:** WHO Global Health Expenditure Database, 2023.

to 65% during the pandemic (Figure 4.3).<sup>5</sup> In real terms, investment per capita in machinery and equipment surged from an average of US \$1.02 to US \$1.71 in low income countries, possibly influenced by the lack of essential equipment—such as ventilators and hospital beds—at the beginning of the pandemic. It may also reflect a more urgent need for

investment in machinery and equipment than for investment in buildings and structures, which take longer to plan and build.

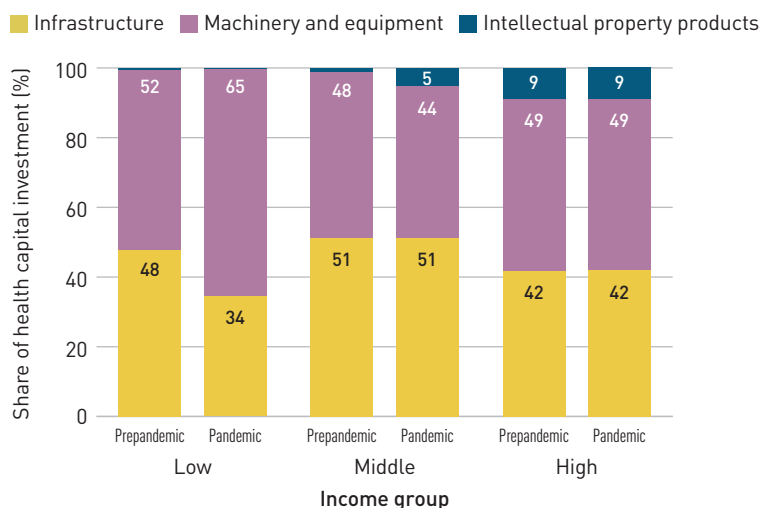
In high and middle income countries, the structure of investment changed little. In middle income countries,<sup>6</sup> investment in machinery and equipment fell as a share of total health capital investment, from 48% before

5. The analysis of investment by component is limited to 41 countries that reported investment disaggregation before the pandemic and during the pandemic. This sample is a subset of the 64 countries described earlier (and in Box 4.1).

6. Due to the lack of data, upper-middle income countries and lower-middle income countries have been consolidated into a single middle income group.



**FIGURE 4.3** Investment in machinery and equipment increased as a share of total health capital investment in low income countries, whereas the structure of health capital investment changed little in middle and high income countries



**Note:** Prepandemic refers to the most recent year available during 2016–2019, and pandemic refers to the most recent year available during 2020–2021. The analysis is based on data for 41 countries: 12 low income, 13 middle income and 16 high income.

**Data source:** WHO Global Health Expenditure Database, 2023.

the COVID-19 pandemic to 44% during the pandemic. However, investment per capita in machinery and equipment increased from US \$3.98 to US \$4.55 in real terms. The share of health capital investment on intellectual property products in middle income countries—mainly software and databases used by health providers—also increased, though this was limited mainly to wealthier middle income countries. The investment pattern of poorer middle income countries more closely resembled that of low income countries: rising shares of investment in machinery and equipment. In high income countries, the composition of health capital investment remained largely unchanged, suggesting that investment in each type of fixed asset rose in line with the overall pace of investment.<sup>7</sup>

### Health capital investment by health provider

**Across all income groups, most investment within the health sector occurs in hospitals.** Among the 34 countries analysed, high income countries allocated the largest share to hospitals, 66% on average during the pandemic (Figure 4.4). In both low and middle income countries, slightly more than half of

capital investment occurred in hospitals. In contrast, ambulatory health care providers—often patients’ first point of contact with the health system—accounted for a smaller share of health capital investment: 19% in low income countries, 12% in high income countries and 6% in middle income countries. In low and middle income countries, a large portion of capital investment was allocated to government and health insurance administration agencies. It could be, at least in part, that this reflects assets procured by central and local governments, which were not further categorized by recipients. To the extent that some of these assets ultimately find their way to service providers, the average shares of health capital investment that occurred in hospitals and ambulatory care providers in these income groups may be higher than reported.

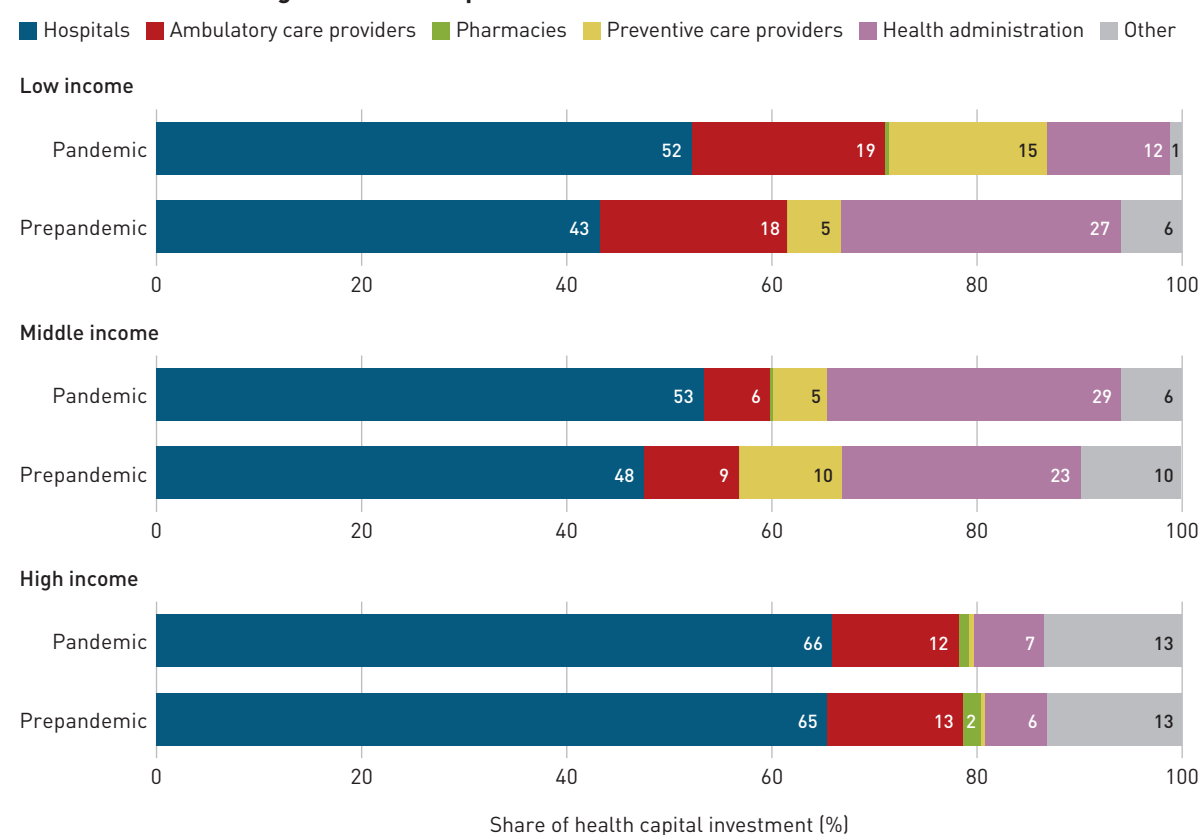
**In low and middle income countries, the share of capital investment at hospitals rose substantially from before the pandemic to during the pandemic.** The share increased by 9 percentage points in low income countries and by 5 percentage points in middle income countries. In contrast, the share changed little in high income countries. The modest decline in the share of investment at ambulatory care providers during the pandemic in high and middle income countries reflects slower average growth in investment, with investment per capita at ambulatory care providers increasing in all income groups.

**The substantial boost in machinery and equipment investment in low income countries appeared to benefit both hospitals and ambulatory care providers.** The proportion of machinery and equipment investment in health capital investment in hospitals rose from 49% before the pandemic to 52% during the pandemic, and the proportion in health capital investment in ambulatory care providers rose from 42% to 48% (Figure 4.5).

**Middle income countries saw a substantial uptick in infrastructure investment at hospitals during the pandemic, rising from 48% of hospital investment before the pandemic to 54%.** Creating surge capacity required extending hospital capacity for COVID-19 inpatient treatment with more acute and intensive care unit (ICU) beds. Many countries set up additional

7. This does not include investments in new product development, such as the development of new COVID-19 vaccines.

**FIGURE 4.4** Hospitals received the largest share of health capital investment across income groups, both before and during the COVID-19 pandemic



**Note:** Prepandemic refers to the most recent year available during 2016–2019, and pandemic refers to the most recent year available during 2020–2021. The analysis is based on data for 34 countries: 11 low income, 10 middle income and 13 high income. Pharmacies include retail sellers and other suppliers of durable medical goods and medical appliances. Other includes residential long-term care facilities, providers of ancillary services, rest of economy and unspecified providers.

**Data source:** WHO Global Health Expenditure Database, 2023.

acute and ICU beds within existing facilities, but some created COVID-19-designated hospitals as temporary facilities for providing care. For example, countries designed conference venues, stadiums, fairgrounds or specially constructed field hospitals (3). In contrast to investment in hospitals, investment in ambulatory care providers saw a greater emphasis on machinery and equipment.

**In high income countries, the share of infrastructure investment for hospitals and ambulatory care providers rose sharply, from 30% to 39%.** Many high income countries also established temporary facilities. During the initial outbreak, Italy and Spain constructed new temporary hospitals, and the United Kingdom of Great Britain and Northern Ireland and the United States of America built several field facilities to treat mild or moderate COVID-19 cases (3).<sup>8</sup>

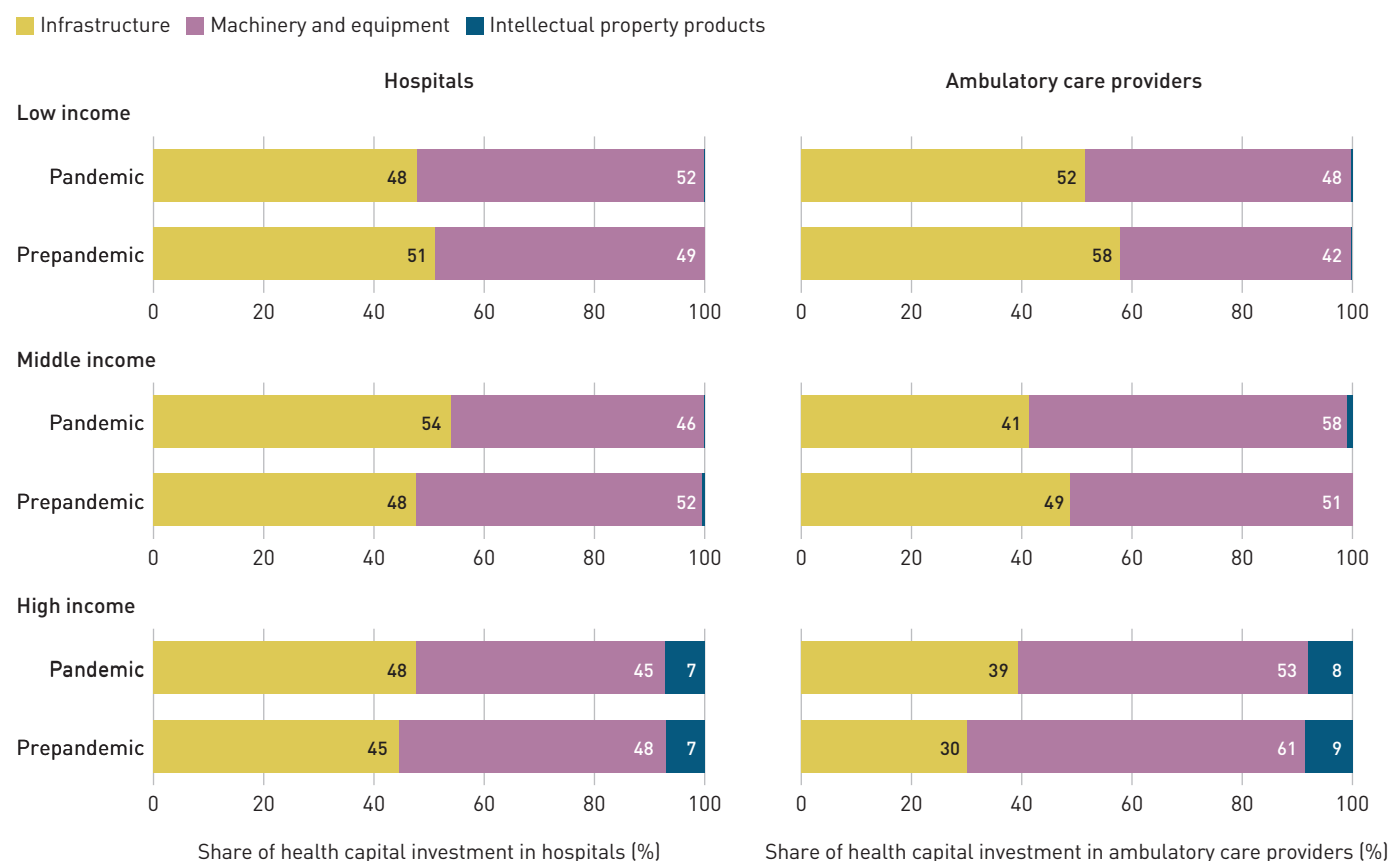
However, care should be exercised to not overinterpret these results, given that only 28 countries reported the type of investments in hospitals and ambulatory care providers before and during the COVID-19 pandemic.

### Health capital investment by funding source

**In high and middle income countries nearly 80% of health capital investment was funded by government, on average, during the pandemic.** The average government share of health capital investment rose by 11 percentage points in high income countries and by 7 percentage points in middle income countries (Figure 4.6a). Private investment is not well captured because of limited data availability. Not all countries report private capital investment, so the analysis focuses on domestic public sources and external aid.

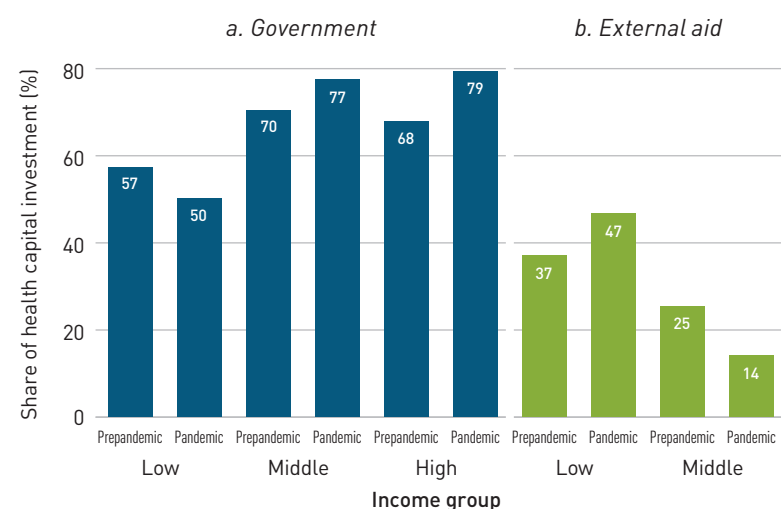
8. Other hospital investment in infrastructure included expanding and reconfiguring spaces and medical and intensive care units (4).

**FIGURE 4.5** The substantial boost in machinery and equipment investment in low income countries appeared to benefit both hospitals and ambulatory care providers



**Note:** Prepandemic refers to the most recent year available during 2016–2019, and pandemic refers to the most recent year available during 2020–2021. The analysis is based on data from 28 countries: 11 low income, 8 middle income and 9 high income.  
**Data source:** WHO Global Health Expenditure Database, 2023.

**FIGURE 4.6** Governments dominate funding of health capital investment in high and middle income countries, while governments and external aid play a significant role in low income countries



**Note:** Prepandemic refers to the most recent year available during 2016–2019, and pandemic refers to the most recent year available during 2020–2021. The analysis is based on data for 31 countries: 12 low income, 13 middle income and 6 high income.  
**Data source:** WHO Global Health Expenditure Database, 2023.

In low income countries, government health capital investment was a bit over half of total capital investment during the pandemic, and nearly all the rest was funded by external aid. Constrained by the small amounts of government resources available for health, the government share was much lower than in high and middle income countries (Figure 4.6b). The government share of health capital investment in low income countries fell by 7 percentage points during the COVID-19 pandemic, to 50%. At the same time, in low income countries, external aid was critical for increasing health investment during the pandemic, rising by 10 percentage points as share of total health capital investment. Across income groups, country reliance on official aid for health investment ranged from near-zero to near-complete reliance. Official aid also makes an important contribution to health capital investment in some middle income countries.

## Implications

This chapter provides a high-level summary of the level and structure of capital investment in the health service delivery system, and its funding patterns, albeit from a limited dataset. Capital investment is undoubtedly necessary for high-quality and accessible health services and for the resilience of health systems to shocks such as the COVID-19 pandemic. Health capital investment also has important implications for the broader health system. Trained health workers are required to operate technical machinery and equipment, while buildings and structures are mere shells unless staffed with workers and equipped with materials and equipment (5).

However, it is unclear what an appropriate balance of investment (by type or provider) or capital-to-current health spending ratio should be. In all likelihood, it will vary in line with countries' asset endowments and estimated rates of depreciation and obsolescence. The surge in the share of machinery and equipment investment in total investment at hospitals and ambulatory care providers during the COVID-19 pandemic may provide some clues that the operational capacity of the existing provider network was insufficient heading into the pandemic. In contrast, the relatively unchanged investment profile in high income countries may signify more historically balanced investment. However, data limitations mean that any conclusions should be treated with caution.

Critically, this chapter represents only a partial view of total health capital investment. Beyond the scope of health accounts is investment in research and development—particularly important during the COVID-19 pandemic, with large sums of money invested in developing new vaccine technologies and production capabilities. This investment will influence health systems well beyond the emergency phase of the pandemic. However, this investment—and indeed any investment in drug development—is not reflected in the health capital account, though it is likely captured in countries' System of National Accounts. Supranational investment, made at the regional or global level, is also excluded because the focus of health accounts is spending that can be assigned to individual countries.

The analysis also excludes some critical aspects of health capital investment that could not be reliably analysed due to data limitations.

Changes in inventories (such as stockpiling of COVID-19 vaccines) were not included due to inconsistent reporting by countries. Nor was private investment—which, through stand-alone ventures and in public-private partnerships, could fill funding gaps to bolster service delivery capacity. Yet, without effective management and governance, private investment in the health sector can create challenges for universal health coverage by imposing additional costs on users. The challenges of collecting data from the private sector mean that few countries report this metric.

Additional country-level data on health capital investment may be insufficient to address all these policy issues. However, key questions can be further explored and understood with better and more disaggregated information from country capital accounts (6). By shedding new light on this important but still little-understood area of health spending, this chapter can spur new demands for information on health capital investment and improvement in data collection and reporting.

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## Annex

### Country code, WHO region and World Bank income group for countries included in the report

Country name	ISO-3 code	WHO region	World Bank income group (2021)
Afghanistan	AFG	Eastern Mediterranean	Low
Albania	ALB	Europe	Upper-middle
Algeria	DZA	Africa	Lower-middle
Andorra*	AND	Europe	High
Angola	AGO	Africa	Lower-middle
Antigua and Barbuda*	ATG	Americas	High
Argentina	ARG	Americas	Upper-middle
Armenia	ARM	Europe	Upper-middle
Australia	AUS	Western Pacific	High
Austria	AUT	Europe	High
Azerbaijan	AZE	Europe	Upper-middle
Bahamas*	BHS	Americas	High
Bahrain	BHR	Eastern Mediterranean	High
Bangladesh	BGD	South-East Asia	Lower-middle
Barbados*	BRB	Americas	High
Belarus	BLR	Europe	Upper-middle
Belgium	BEL	Europe	High
Belize*	BLZ	Americas	Upper-middle
Benin	BEN	Africa	Lower-middle
Bhutan	BTN	South-East Asia	Lower-middle
Bolivia (Plurinational State of)	BOL	Americas	Lower-middle
Bosnia and Herzegovina	BIH	Europe	Upper-middle
Botswana	BWA	Africa	Upper-middle
Brazil	BRA	Americas	Upper-middle
Brunei Darussalam*	BRN	Western Pacific	High
Bulgaria	BGR	Europe	Upper-middle



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Country name	ISO-3 code	WHO region	World Bank income group (2021)
Burkina Faso	BFA	Africa	Low
Burundi	BDI	Africa	Low
Cabo Verde*	CPV	Africa	Lower-middle
Cambodia	KHM	Western Pacific	Lower-middle
Cameroon	CMR	Africa	Lower-middle
Canada	CAN	Americas	High
Central African Republic	CAF	Africa	Low
Chad	TCD	Africa	Low
Chile	CHL	Americas	High
China	CHN	Western Pacific	Upper-middle
Colombia	COL	Americas	Upper-middle
Comoros	COM	Africa	Lower-middle
Congo	COG	Africa	Lower-middle
Cook Islands*	COK	Western Pacific	<sup>a</sup>
Costa Rica	CRI	Americas	Upper-middle
Côte d'Ivoire	CIV	Africa	Lower-middle
Croatia	HRV	Europe	High
Cuba <sup>b</sup>	CUB	Americas	Upper-middle
Cyprus	CYP	Europe	High
Czechia	CZE	Europe	High
Democratic Republic of the Congo	COD	Africa	Low
Denmark	DNK	Europe	High
Djibouti	DJI	Eastern Mediterranean	Lower-middle
Dominica*	DMA	Americas	Upper-middle
Dominican Republic	DOM	Americas	Upper-middle
Ecuador	ECU	Americas	Upper-middle
Egypt	EGY	Eastern Mediterranean	Lower-middle
El Salvador	SLV	Americas	Lower-middle
Equatorial Guinea	GNQ	Africa	Upper-middle
Eritrea	ERI	Africa	Low
Estonia	EST	Europe	High
Eswatini	SWZ	Africa	Lower-middle
Ethiopia	ETH	Africa	Low
Fiji	FJI	Western Pacific	Upper-middle
Finland	FIN	Europe	High
France	FRA	Europe	High
Gabon	GAB	Africa	Upper-middle
Gambia	GMB	Africa	Low
Georgia	GEO	Europe	Upper-middle
Germany	DEU	Europe	High
Ghana	GHA	Africa	Lower-middle
Greece	GRC	Europe	High
Grenada*	GRD	Americas	Upper-middle
Guatemala	GTM	Americas	Upper-middle
Guinea	GIN	Africa	Low
Guinea-Bissau	GNB	Africa	Low
Guyana	GUY	Americas	Upper-middle
Haiti	HTI	Americas	Lower-middle

Country name	ISO-3 code	WHO region	World Bank income group (2021)
Honduras	HND	Americas	Lower-middle
Hungary	HUN	Europe	High
Iceland*	ISL	Europe	High
India	IND	South-East Asia	Lower-middle
Indonesia	IDN	South-East Asia	Lower-middle
Iran (Islamic Republic of)	IRN	Eastern Mediterranean	Lower-middle
Iraq	IRQ	Eastern Mediterranean	Upper-middle
Ireland	IRL	Europe	High
Israel	ISR	Europe	High
Italy	ITA	Europe	High
Jamaica	JAM	Americas	Upper-middle
Japan	JPN	Western Pacific	High
Jordan	JOR	Eastern Mediterranean	Upper-middle
Kazakhstan	KAZ	Europe	Upper-middle
Kenya	KEN	Africa	Lower-middle
Kiribati*	KIR	Western Pacific	Lower-middle
Kuwait	KWT	Eastern Mediterranean	High
Kyrgyzstan	KGZ	Europe	Lower-middle
Lao People's Democratic Republic	LAO	Western Pacific	Lower-middle
Latvia	LVA	Europe	High
Lebanon	LBN	Eastern Mediterranean	Lower-middle
Lesotho	LSO	Africa	Lower-middle
Liberia	LBR	Africa	Low
Lithuania	LTU	Europe	High
Luxembourg	LUX	Europe	High
Madagascar	MDG	Africa	Low
Malawi	MWI	Africa	Low
Malaysia	MYS	Western Pacific	Upper-middle
Maldives*	MDV	South-East Asia	Upper-middle
Mali	MLI	Africa	Low
Malta*	MLT	Europe	High
Marshall Islands*	MHL	Western Pacific	Upper-middle
Mauritania	MRT	Africa	Lower-middle
Mauritius	MUS	Africa	Upper-middle
Mexico	MEX	Americas	Upper-middle
Micronesia (Federated States of)*	FSM	Western Pacific	Lower-middle
Monaco*	MCO	Europe	High
Mongolia	MNG	Western Pacific	Lower-middle
Montenegro	MNE	Europe	Upper-middle
Morocco	MAR	Eastern Mediterranean	Lower-middle
Mozambique	MOZ	Africa	Low
Myanmar	MMR	South-East Asia	Lower-middle
Namibia	NAM	Africa	Upper-middle
Nauru*	NRU	Western Pacific	High
Nepal	NPL	South-East Asia	Lower-middle
Netherlands (Kingdom of the)	NLD	Europe	High
New Zealand	NZL	Western Pacific	High
Nicaragua	NIC	Americas	Lower-middle

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Country name	ISO-3 code	WHO region	World Bank income group (2021)
Niger	NER	Africa	Low
Nigeria	NGA	Africa	Lower-middle
Niue*	NIU	Western Pacific	<sup>a</sup>
North Macedonia	MKD	Europe	Upper-middle
Norway	NOR	Europe	High
Oman	OMN	Eastern Mediterranean	High
Pakistan	PAK	Eastern Mediterranean	Lower-middle
Palau*	PLW	Western Pacific	Upper-middle
Panama	PAN	Americas	High
Papua New Guinea	PNG	Western Pacific	Lower-middle
Paraguay	PRY	Americas	Upper-middle
Peru	PER	Americas	Upper-middle
Philippines	PHL	Western Pacific	Lower-middle
Poland	POL	Europe	High
Portugal	PRT	Europe	High
Qatar	QAT	Eastern Mediterranean	High
Republic of Korea	KOR	Western Pacific	High
Republic of Moldova	MDA	Europe	Upper-middle
Romania	ROU	Europe	High
Russian Federation	RUS	Europe	Upper-middle
Rwanda	RWA	Africa	Low
Saint Kitts and Nevis*	KNA	Americas	High
Saint Lucia*	LCA	Americas	Upper-middle
Saint Vincent and the Grenadines*	VCT	Americas	Upper-middle
Samoa*	WSM	Western Pacific	Lower-middle
San Marino*	SMR	Europe	High
Sao Tome and Principe*	STP	Africa	Lower-middle
Saudi Arabia	SAU	Eastern Mediterranean	High
Senegal	SEN	Africa	Lower-middle
Serbia	SRB	Europe	Upper-middle
Seychelles*	SYC	Africa	High
Sierra Leone	SLE	Africa	Low
Singapore	SGP	Western Pacific	High
Slovakia	SVK	Europe	High
Slovenia	SVN	Europe	High
Solomon Islands	SLB	Western Pacific	Lower-middle
South Africa	ZAF	Africa	Upper-middle
South Sudan	SSD	Africa	Low
Spain	ESP	Europe	High
Sri Lanka	LKA	South-East Asia	Lower-middle
Sudan	SDN	Eastern Mediterranean	Low
Suriname	SUR	Americas	Upper-middle
Sweden	SWE	Europe	High
Switzerland	CHE	Europe	High
Tajikistan	TJK	Europe	Lower-middle
Thailand	THA	South-East Asia	Upper-middle
Timor-Leste	TLS	South-East Asia	Lower-middle
Togo	TGO	Africa	Low

Country name	ISO-3 code	WHO region	World Bank income group (2021)
Tonga*	TON	Western Pacific	Upper-middle
Trinidad and Tobago	TTO	Americas	High
Tunisia	TUN	Eastern Mediterranean	Lower-middle
Türkiye	TUR	Europe	Upper-middle
Turkmenistan	TKM	Europe	Upper-middle
Tuvalu*	TUV	Western Pacific	Upper-middle
Uganda	UGA	Africa	Low
Ukraine	UKR	Europe	Lower-middle
United Arab Emirates	ARE	Eastern Mediterranean	High
United Kingdom of Great Britain and Northern Ireland	GBR	Europe	High
United Republic of Tanzania	TZA	Africa	Lower-middle
United States of America	USA	Americas	High
Uruguay	URY	Americas	High
Uzbekistan	UZB	Europe	Lower-middle
Vanuatu*	VUT	Western Pacific	Lower-middle
Venezuela (Bolivarian Republic of)	VEN	Americas	<sup>a</sup>
Viet Nam	VNM	Western Pacific	Lower-middle
Zambia	ZMB	Africa	Low
Zimbabwe	ZWE	Africa	Lower-middle

\* Countries with a population of less than 600,000 in 2021. Population data used in the report are from United Nations, *World Population Prospects, 2022 revision*.

a. The World Bank does not report an income group classification for Cook Islands and Niue and has not calculated an income group classification for the Bolivarian Republic of Venezuela since 2020. In this report, the Cook Islands and Niue are included in the high income country group, and the Bolivarian Republic of Venezuela is included in the lower-middle income country group, based on the most recent estimates of gross national income and gross domestic product per capita.

b. Because exchange rates were not reported for Cuba in 2021, it is excluded from the analysis of health spending estimates presented in US dollars.

**Note:** WHO Member States that are not included in the report are Democratic People's Republic of Korea, Libya, Somalia (no data available for 2000–2021), Syrian Arab Republic and Yemen (no data are available for later years and not included in 2020–2021 data).









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