

Health and the Economy

a series of country snapshots



How does Germany's health sector contribute to the economy?

Health matters. The health sector is an important and innovative industry, as well as a source of stable employment for many people. Health systems support active and productive populations, reduce inequities and poverty, and promote social cohesion. A strong health system makes good economic sense and underpins the overall sustainable development agenda.

Countries around the world are grappling with the health, economic and fiscal implications of the COVID-19 pandemic. As they begin to recover from the crisis, difficult decisions will need to be made about how to allocate scarce resources. These snapshots share valuable evidence for policy-makers on how investing in health sectors and health systems helps to achieve national economic objectives.

This snapshot is part of a series developed by the European Observatory on Health Systems and Policies in collaboration with the WHO Barcelona Office for Health Systems Financing. It draws on cross-country comparable data and country-specific analysis and expertise to explore how well the health sector in Germany contributes to the economy – and how it can do more, especially in the context of COVID-19.

This snapshot was drafted by Miriam Blümel (Technical University Berlin, TUB) and Lynn Al Tayara (WHO Barcelona Office for Health Systems Financing), supported by Elisa Gomez, Julia Zimmermann and Jonathan Cylus from the European Observatory on Health Systems and Policies, and Sarah Thomson, Triin Habicht and Tamás Evetovits from the WHO Barcelona Office for Health Systems Financing.



How does Germany's health sector contribute to the economy?

Germany spends a lot of money on health, but the health sector also contributes to economic growth

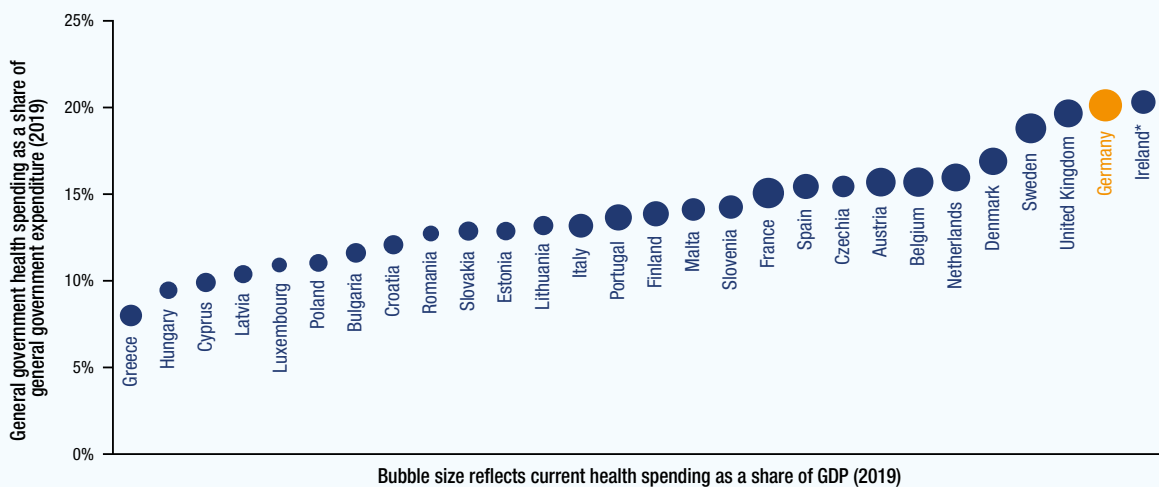
Germany is among the countries that spend the most on health in the European Union (EU) and worldwide. In 2019, before COVID-19, current health spending accounted for 11.7% of the total gross domestic product (GDP). This proportion was above the EU average (8.3%) and similar to France (11.1%) (WHO, 2021). Per capita, spending on health in the same year was €6738 purchasing power parity (WHO, 2021). Throughout the 2010s the percentage of total government budget spent on health increased continuously: from 17.4% in 2010 to 20.1% in 2019. By 2019 it was the second highest percentage of total government spend on health in the EU, only exceeded by Ireland (20.3%) (Fig. 1).

Additionally, government spending on health increased even further throughout the COVID-19 pandemic and it is expected to continue to grow in

the future. As a result of the pandemic, Germany loosened the strict debt regulations that it had self-imposed after the 2008 financial crisis. The government provided a total of €67.9 billion in 2020, a 31.5% increase of government health expenditure from 2019 (European Observatory on Health Systems and Policies, 2020). These additional funds guaranteed free rapid COVID-19 tests, bought equipment, supported hospitals that lost elective patient income and reimbursed general practitioners. It not only supported key public health measures, but also enabled the wider health system to continue to be economically productive (Hofmann, Gerlach & Haaf, 2021).

Health-related industries play an important role in Germany's wider economy. The health care industry is one of the least digitized sectors and is high on the political agenda. The 2020 Hospital

Fig 1 The share of general budget spent on health and current health expenditure as a share of GDP for Germany are among the highest in the European Union



Source: WHO (2021), World Bank (2020).

Note: Gross national income is used in place of GDP for Ireland.



Future Act provided €3 billion of federal funding and an additional €1.3 billion of state funding to modernize and digitalize the German hospital system (International Trade Administration, 2020). Since the beginning of the pandemic, the use of teleconsultations has risen from 8% to 25%. Teleconsultations are forecast to level off at 15–18% of doctor consultations (E-HEALTH-COM, 2021), providing opportunities for growth and fuelling further digital innovation. Digitalized health services also enable integrated care, which benefits patients with chronic disease and would help rural populations access health care.

Germany has the largest medical equipment market in Europe, and the third largest in the world after the USA and Japan (International Trade Administration, 2020). The rising demand for medical equipment due to the pandemic has boosted the sector's growth and provided incentives for innovation; the German medical device market grew by 4% in 2019 and by 3% in 2020. In April 2021, the Federal Ministry has announced an additional increase in medical

technology funding of €20 million and the size of the market is expected to continue to increase in 2022 (International Trade Administration, 2020).

The pharmaceutical industry in Germany is also well developed and contributes significantly to the export market. Pharmaceutical production in Germany ranked second in Europe in 2018, after Switzerland and before Italy (European Federation of Pharmaceutical Industries and Associations, 2021). The industry recorded a total turnover of €54.7 billion in 2021, of which €22.5 billion was earned in the domestic market and €32.1 billion was in exports (Statistisches Bundesamt, 2022).

Health-related research and development (R&D) underpins economic growth in the wider sector. Public investment in health research in Germany has grown by 11% between 2011 and 2018. In 2019 around 5% of the German government's total R&D budget was allocated to health, slightly below France (6.5%) and well below Norway (15.6%) or the United Kingdom (21.5%) (OECD, 2020a).

There are many health workers in Germany and the health sector is a stable source of jobs

Health sector employment in Germany has grown steadily over the past decade, despite labour market fluctuations (Fig. 2). After the introduction of the 2003 Hartz labour market reforms and the financial crisis, unemployment peaked at 7.8% in 2009 (IMF, 2020). Employment in the health sector remained stable throughout this time. Like other European countries, Germany has an ageing population, which means that demand for health professionals is likely to remain high (IMF, 2020). Health-related industries also provide opportunities for employment, for example the German pharmaceutical industry employed 121 million people in 2021 (Statistisches Bundesamt, 2022).

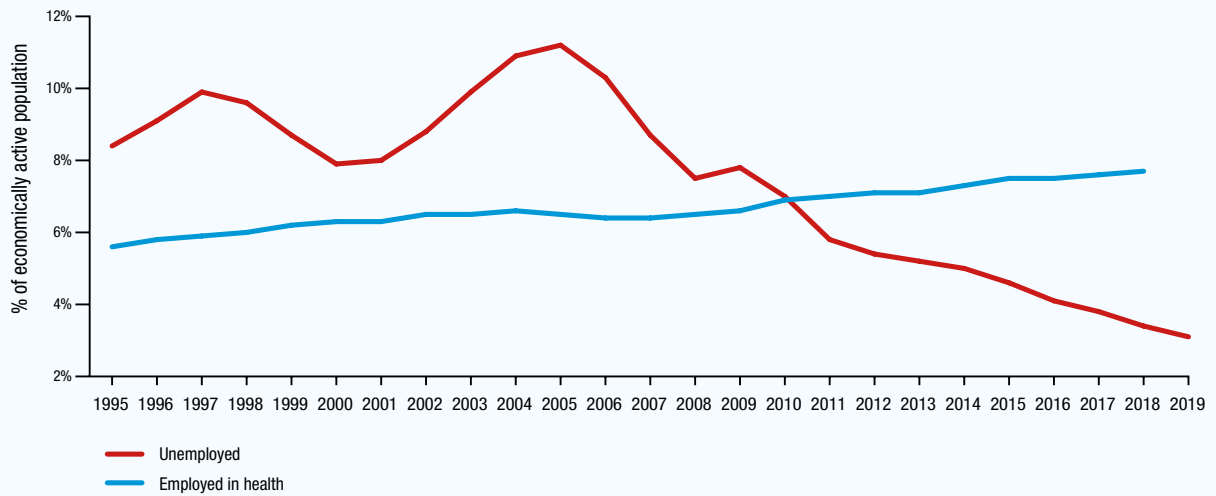
The health sector accounted for 7.7% of the economically active population in 2018, up from 6.3% in 2000. It is the highest share among EU countries, followed by Finland (7.2%) and the EU average of 5.3% (Eurostat, 2020a). In particular, the number of nurses has increased by 30.5% between 2000 and 2018 (OECD and European

Observatory on Health Systems and Policies, 2019; Blümel et al., 2020). Germany has high numbers of physicians and nurses; 4.3 and 13 per 1 000 population respectively in 2018. This is above the EU average of 3.6 physicians and 8.5 nurses per 1 000 population (Blümel et al., 2020).

The health sector is generally well staffed and a stable source of employment, but there are some opportunities for more efficient use of staff. The German health system has an exceptionally high bed density, with 7.9 beds per 1 000 people in 2020. This means that there are fewer doctors and nurses per bed relative to other countries (Blümel et al., 2020; OECD, 2021). This leads to a perceived staff shortage. Also, the distribution of health professionals could be improved. For example, only 16.7% of doctors worked as general practitioners in 2016, which was 25% lower than the EU average (OECD and European Observatory on Health Systems and Policies, 2019; Blümel et al., 2020). Although the geographic distribution of



Fig 2 Jobs in the health sector in Germany remained stable during labour market fluctuations and have steadily increased in the last two decades



Source: Eurostat (2020a); IMF (2020).

health workers is good overall, a few rural regions do not have sufficient ambulatory care and hospital physicians to staff services (Blümel et al., 2020).

In recent years, Germany has attempted to incentivize the nursing profession and encourage young doctors to practice in remote areas. During the COVID-19 pandemic, health professionals

received a bonus payment and hospitals received additional funding so that they could support their workforce (European Observatory on Health Systems and Policies, 2020). However, initiatives to expand the role of nurses, task-shift and encourage multidisciplinary teamwork remain limited (OECD and European Observatory on Health Systems and Policies, 2019).

By investing in health, Germany fosters equal opportunities and a workforce that stays in the labour market for longer

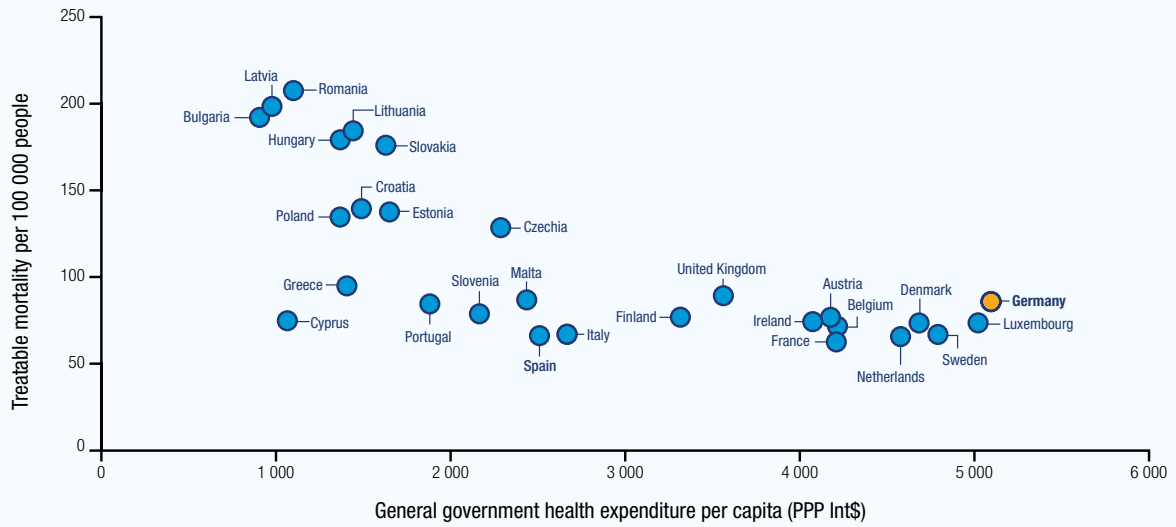
Germany spends a lot of money on health per person and achieves good overall health outcomes. However, health spending in other western European countries provides better value for money (Fig. 3). In 2017, treatable mortality in Germany was lower than the EU average: 86 deaths per 100 000 people could have been avoided through access to high-quality health care, compared with 109 deaths per 100 000 on average in the EU (OECD, 2020b). Fig. 3 also shows that 14 countries, including Italy and Spain, had lower treatable mortality rates and spent less money on health than Germany (OECD, 2020b; WHO, 2021). This suggests some opportunity to improve efficiency.

In March 2022, 75.9% of the adult population and 18.4% of children between 5 and 11 years had received two doses of the COVID-19 vaccine (Federal Ministry of Health, 2022). This contributed to the economic recovery post-pandemic as vaccinated people were more likely to remain healthy and could return to less restricted activity.

Health inequalities by socioeconomic status affect labour force participation. Approximately 50% of people with low incomes report good health in contrast with 80% of people with high incomes (OECD and European Observatory on Health Systems and Policies, 2019). These disparities in perceived health are less prominent in Germany



Fig 3 Germany spends a lot of money on health per capita, but other countries achieve better treatable mortality with less



Source: Eurostat (2017); WHO (2021).

Notes: PPP Int\$, purchasing power parity in international dollars.

than they are in other European countries, but they are still present.

Keeping people healthy at all ages enables them to participate in the labour market for longer. Life expectancy in Germany was 80.1 years in 2019 (World Bank, 2020) slightly above the EU average of 81.1 years (OECD and European Observatory on Health Systems and Policies, 2019; Blümel et al., 2020). Labour force participation among older workers is high in Germany: 75% of the population aged 55–64 years was working in 2019, above the EU average (63%), and above France (57%), Italy (57%), Denmark (73%), and the Netherlands (72%) (Eurostat, 2020b). Older workers are likely to remain important given that the statutory retirement age is set to rise to 67 years for people born after 1964 (OECD, 2019). Nevertheless, health status is a deciding factor for individuals who exit the labour force early. In 2012, 30.5% of people in receipt of a pension aged 50–69 years reported that they stopped working because of poor health or a disability. This was well above the EU average of 21% (Eurostat, 2019). In addition, around 1.8 million people received financial support because of their early retirement for poor health in 2015 (OECD and European Observatory on Health Systems and Policies, 2019). This shows that poor health in older age leads to a smaller workforce and puts pressure on public finances. Behavioural risk factors such as smoking, alcohol consumption

and dietary risks contribute to around four in ten deaths in Germany (OECD and European Observatory on Health Systems and Policies, 2019) as well as to a wide range of chronic health conditions that tend to affect this age group. To improve this, preventive services and public health initiatives that target modifiable risk factors could help to sustain a workforce that ages well.

At the other end of the age spectrum, a smooth entry into the labour market is only possible because of public investment in health. According to the World Bank’s Human Capital Index a child born in Germany can expect to be 75% as productive by age 18 years as a child with complete education and full health. Germany compares favourably to the EU average of 73% but is behind France (76%) and the United Kingdom (78%) (World Bank, 2020). Health indicators for young children show that the infant mortality rate in Germany has improved in recent years. It was 3.2 per 1 000 live births in 2018, down from 4.4 per 1 000 live births in 2000 (Blümel et al., 2020). However, child vaccination coverage has scope for improvement. For example, vaccination coverage for both diphtheria-tetanus-pertussis and measles was 93% in 2019. Even though this is above the EU average (WHO, 2020), it is still below the WHO target. To improve vaccination coverage, waiting lists and the fragmented primary care system could be addressed.



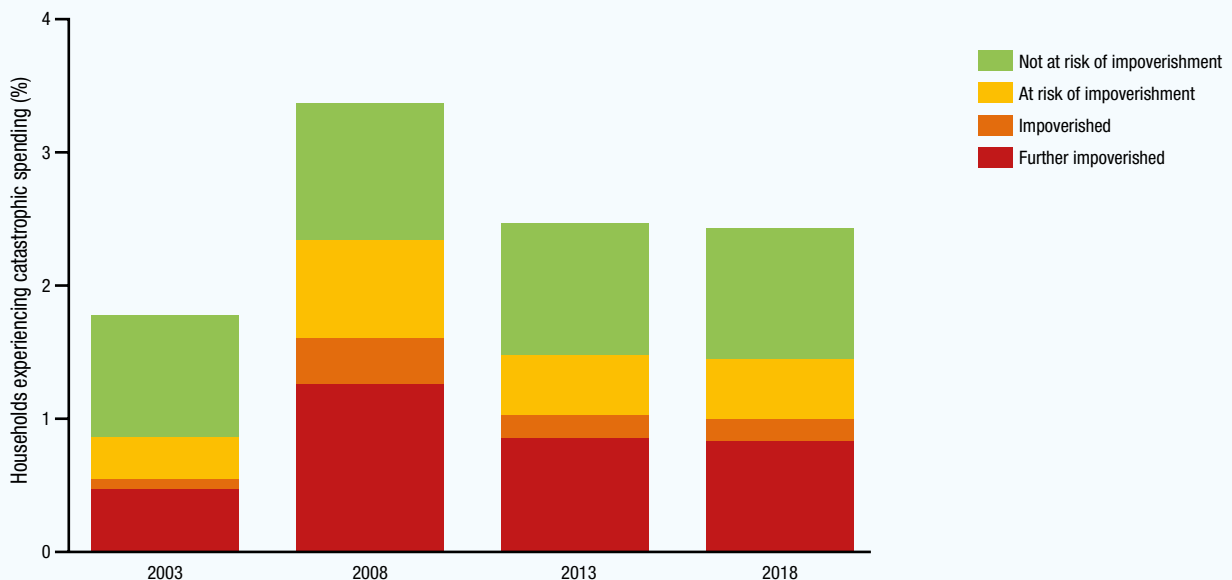
Households in Germany are generally well protected from financial hardship because of the near universal coverage through the social health insurance system

Universal health coverage is central to health and well-being: it alleviates poverty, reduces socioeconomic inequalities, contributes to health security and boosts economic growth (Cylus, Govin & Smith, 2018). The goal of universal health coverage is to ensure that everyone can use the health services they need without experiencing financial hardship (United Nations, 2015).

Financial protection is stronger in Germany than in many EU countries. There are few people that report forgone care due to costs, waiting times or distance (OECD and European Observatory on Health Systems and Policies, 2019; Blümel et al., 2020). However, 2.4% of households experienced catastrophic out-of-pocket payments in 2018. This is higher than in neighbouring countries, including

France, Sweden and the United Kingdom. To understand this further, overall out-of-pocket spending is low in Germany compared with the rest of Europe. In 2019 it accounted for 12.8% of current health expenditure, below Spain (21.8%), the United Kingdom (17.1%) and the EU average (21.6%) (WHO, 2021). Nonetheless, the main drivers of out-of-pocket spending are services for which there is little to no public coverage. These include over-the-counter medicines and non-conservative dental treatments (crowns and dentures). Also, catastrophic spending on health predominately affects people in the poorest income quintile and those who are dependent on benefits or a partner (Siegel & Busse, 2018). This means that narrow coverage gaps exist that risk the impoverishment of vulnerable groups.

Fig 4 Few households are impoverished, further impoverished or at risk of impoverishment as result of paying out-of-pocket payments



Source: Siegel & Busse (2018).



Key lessons

Investing in digitalization and R&D could address population needs and boost the economy

Government investment in health has been key for the economic recovery after the COVID-19 pandemic. Germany may also boost economic growth in health-related industries by investing in R&D and supporting the medical technology and pharmaceutical sectors. In addition, the German health system has been slow to digitalize (OECD and European Observatory on Health Systems and Policies, 2019). Some government support measures have been put in place, but more could be done to support the opportunities for growth (and health) created by the new ways of working.

Adopting a value-for-money approach could improve health system efficiency and lead to better health outcomes for a more resilient labour market

Although the health sector provides stable jobs, there is room to improve efficiency as other countries achieve better health outcomes for less. The fragmented delivery of care and decentralized structure of the health system is inefficient and disrupts care continuity (Blümel et al., 2020). There is also scope to reduce the reliance on hospital care and shift care to outpatient or ambulatory settings (OECD and European Observatory on Health Systems and Policies, 2019). An emphasis on public health and preventive care would help individuals contribute to the labour market for longer.

Expanding the services covered by the social health insurance system and exempting the poor would strengthen financial protection

Although coverage is near universal and out-of-pocket payments are low, more could be done to reduce financial hardship. Protection mechanisms remain limited for low-income people, and the cap on household spending does not cover payments for over-the-counter medicines and non-conservative dental care. Catastrophic household expenditure due to health is therefore higher than in some neighbouring countries. Germany could introduce exemptions for low-income groups and expand covered services to improve financial protection.

Description of the health system

The statutory German health care system is based on mandatory health insurance, which provides almost universal coverage for all legal residents (Blümel et al. 2020). Two insurance systems coexist: Social Health Insurance (SHI) and Private Health Insurance (PHI).

The SHI system covers 88% of the population and is made up of 103 third-party payers (sickness funds). Certain professional groups and all employees that earn above a certain threshold may opt for PHI. The PHI system is provided by 41 insurance companies and covers 10% of the population. The rest of the population, such as soldiers and police, are covered by dedicated schemes. However, 0.1% of the population do not have access to insurance because of administrative or financial hurdles (Blümel et al., 2020). These tend to be the self-employed with low incomes, the unemployed and young adults (Siegel & Busse, 2018). Undocumented migrants, refugees and asylum seekers also have limited coverage and poor access to care (OECD and European Observatory on Health Systems and

Policies, 2019).

The SHI system is funded by mandatory income-related contributions shared between employees and employers. Funds are pooled in the Central Reallocation Health Fund and reallocated to the sickness funds according to the needs of their participants. The allocation is determined by a morbidity-based risk adjustment scheme (Blümel et al., 2020). PHI is financed through premiums calculated in line with an individual's health risk.

The SHI package of benefits is explicit and goes beyond essential health services. All legal prescription drugs are covered by the SHI except for those needing a benefits assessment. Home care is covered by separate long-term care insurance (Blümel et al., 2020).

Regulation, management and delivery of health services is decentralized and fragmented. There is no gatekeeping in primary care and there is little integration and coordination of services.

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Key indicators	Germany	EU Average
People aged 65 and above (% of total)	21.6	20.5
Life expectancy at birth (years)	80.9	81.1
GDP per person (PPP US\$)	57 609	48 340
Current health spending per person (PPP US\$)	6 739	4 010
Health spending paid out-of-pocket (% of current health spending)	21.8	21.6

Source: World Bank, World Development Indicators (2020); WHO, Global Health Expenditure Database (2021).

Note: Data for 2019. PPP US\$, purchasing power parity in US dollars.



The European Observatory on Health Systems and Policies is a partnership hosted by WHO that includes international agencies, national governments, decentralized authorities and academic research institutes. It supports and promotes evidence-informed policy-making, using comparative analysis of European health systems and trends to give decision-makers insights into how their own and other systems operate; what works better or worse in different contexts; and why. Ultimately the Observatory aims to help countries strengthen their health systems to improve their peoples' health and well-being. It engages directly with policy-makers and works with a range of experts not least its Health Systems and Policies Network, whose members provide key knowledge and insights into health systems in countries.

WHO Barcelona Office for Health Systems Financing

The WHO Barcelona Office is a centre of excellence in health systems financing for universal health coverage. It works with Member States across WHO's European Region to promote evidence-informed policy-making. A key part of the work of the Office is to assess country and regional progress towards universal health coverage by monitoring financial protection – the impact of out-of-pocket payments for health on living standards and poverty. Financial protection is a core dimension of health system performance and an indicator for the Sustainable Development Goals. The Office supports countries as they develop policy, monitor progress and design reforms, and is part of the Division of Country Health Policies and Systems of the WHO Regional Office for Europe.