State of Health in the EU
Croatia
Country Health Profile 2023
**The Country Health Profile Series**

The State of Health in the EU’s Country Health Profiles provide a concise and policy-relevant overview of health and health systems in the EU/European Economic Area. They emphasise the particular characteristics and challenges in each country against a backdrop of cross-country comparisons. The aim is to support policymakers and influencers with a means for mutual learning and voluntary exchange. For the first time since the series began, the 2023 edition of the Country Health Profiles introduces a special section dedicated to mental health.

The profiles are the joint work of the OECD and the European Observatory on Health Systems and Policies, in co-operation with the European Commission. The team is grateful for the valuable comments and suggestions provided by the Health Systems and Policy Monitor network, the OECD Health Committee and the EU Expert Group on Health Systems Performance Assessment (HSPA).

**Data and information sources**

The data and information in the Country Health Profiles are based mainly on national official statistics provided to Eurostat and the OECD, which were validated to ensure the highest standards of data comparability. The sources and methods underlying these data are available in the Eurostat Database and the OECD health database. Some additional data also come from the Institute for Health Metrics and Evaluation (IHME), the European Centre for Disease Prevention and Control (ECDC), the Health Behaviour in School-Aged Children (HBSC) surveys and the World Health Organization (WHO), as well as other national sources.

The calculated EU averages are weighted averages of the 27 Member States unless otherwise noted. These EU averages do not include Iceland and Norway.

This profile was finalised in September 2023, based on data that were accessible as of the first half of September 2023.

**Demographic and socioeconomic context in Croatia, 2022**

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<td>Unemployment rate (%)</td>
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1. Number of children born per woman aged 15-49. 2. Purchasing power parity (PPP) is defined as the rate of currency conversion that equalises the purchasing power of different currencies by eliminating the differences in price levels between countries. 3. Percentage of persons living with less than 60% of median equivalised disposable income. Source: Eurostat Database.

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1. Highlights

Health Status
Life expectancy fell sharply in Croatia during the COVID-19 pandemic, with a greater drop between 2019 and 2022 than in the EU overall. This decline reversed the gains made in the previous decade, which exceeded the gains made in the EU. People in Croatia could expect to live 77.7 years in 2022, which was 3 years below the EU average.

Risk Factors
Tobacco consumption is a serious public health issue in Croatia: more than one in five adults reported daily smoking in 2019, which is above the EU average. Heavy drinking was reported by 17% of adults, and more than one in five adults (23%) in Croatia are obese – far exceeding the EU average (16%).

Health System
Croatia's health spending per capita in 2021 was less than half the EU average. However, its share of public funding (85.5%) was higher than the rate across the EU (81.1%), and out-of-pocket payments accounted for only 9% of health spending, which was well below the EU average of 15%.

Effectiveness
Avoidable mortality from both preventable and treatable causes in 2020 was higher in Croatia than in the EU overall. The COVID-19 pandemic resulted in an increase in both mortality rates, due to preventable COVID-19 deaths and unmet needs for health services. The mortality rate from lung cancer is the second highest in the EU.

Accessibility
The publicly funded benefits package provides good financial protection in health services, but the COVID-19 pandemic led to unmet healthcare needs. Even before the pandemic, more remote areas – such as the islands off the Adriatic coast and rural areas in central and eastern Croatia – were struggling to attract sufficient health workers.

Resilience
The COVID-19 pandemic was a major shock to Croatia's health system and economy, and the country responded with increasing public spending on health, despite a massive drop in its GDP. Croatia's Recovery and Resilience Plan for 2021-26 earmarks 5.6% of resources for investment in the health system, complementing investment through the EU Cohesion Policy 2021-27.

Mental Health
Poor mental health imposes a substantial burden in Croatia, and is likely to have worsened following the COVID-19 pandemic. Some 11.6% of people reported depression in 2019 – a much higher rate than the EU average of 7.2%. Self-reported poor mental health was over five times higher among men in the lowest income quintile (16%) than the highest (2.8%), and three times higher among women in the lowest income quintile (19.5%) than the highest (5.9%).
2 Health in Croatia

COVID-19 led to a reduction of life expectancy in 2020 and 2021

Life expectancy at birth in Croatia was 77.7 years in 2022, 3 years below the EU average. Life expectancy was increasing fairly steadily in the two decades before the pandemic, but it fell by nearly two years between 2019 and 2021 (higher than the decline of 1.2 years in the EU overall) and had not reached its pre-pandemic level by 2022 (Figure 1).

The gender gap in life expectancy in Croatia is slightly greater than in the EU overall, with women living on average 6.2 years longer than men (80.8 compared to 74.6 years) in 2022, compared to an EU average of 5.4 years. This is associated with greater exposure to some important risk factors among men, such as heavy alcohol consumption and smoking.

Figure 1. Life expectancy in Croatia fell sharply during the COVID-19 pandemic and remains below the EU average

Notes: The EU average is weighted. The 2022 data are provisional estimates from Eurostat that may be different from national data and may be subject to revision. Data for Ireland refer to 2021.
Source: Eurostat Database.

Circulatory diseases and cancers remained the main causes of death in Croatia in 2020

Circulatory diseases remained the leading cause of death in 2020, accounting for 40 % of all deaths, followed by cancer, which is responsible for 23 % of deaths (Figure 2). Ischaemic heart disease was the leading single cause of death, accounting for almost one in seven deaths (13.3 %) in 2020, despite marked reductions in the mortality rate since 2011, followed by stroke (8.7 % of total mortality). Diabetes was the cause of 8.2 % of all deaths, a much higher proportion than the EU average, while COVID-19 accounted for 7.8 % of mortality during the first year of the pandemic. Lung cancer is the most frequent cause of death by cancer, followed by colorectal cancer.

Excess mortality in Croatia was highest in 2021

The broader indicator of excess mortality – defined as deaths from all causes above what would normally be expected based on previous years – indicates that the number of deaths during the first year of the pandemic was only 10 % above the average recorded in the five years prior to the pandemic, but this increased to 19 % in 2021. In 2022, the death rate remained 8 % above the pre-pandemic level (Figure 3).
Fewer people report being in good health in Croatia than in most other EU countries

In 2022, 63 % of the population reported being in good or very good health, a proportion lower than the EU average (68 %). Disparities in self-rated health by income are the second largest across the EU: 81 % of people in the highest income quintile considered themselves to be in good or very good health compared to 37 % of those in the lowest.

Older Croatians spend more than two thirds of their life after 65 with activity limitations

As in other EU countries, the share of the Croatian population aged 65 years and over increased over the past decades, from one in six (16 %) in 2002 to almost one in four (23 %) in 2022. This share is projected to increase to almost one in three (30 %) by 2050. In 2020, 65-year-old women in Croatia could expect to live a further 18.8 years, while men could expect to live a further 15.1 years – less than the respective EU averages. Furthermore, Croatians spend a greater proportion of their remaining years of life after 65 years old with health problems and activity limitations, which means that the gap in the expected number of healthy life years between people in Croatia and people in the rest of the EU is even wider (Figure 4).

Some 58 % of Croatian women aged 65 years and over have multiple chronic conditions, compared to 36 % of men. The proportion of Croatian women aged 65 and over reporting limitations in daily activities is also significantly higher than for men, as is the case in many other EU countries.
Figure 4. People aged 65 years and over in Croatia are more likely to have multiple chronic conditions than the EU average and have fewer healthy life years

![Life expectancy and healthy life years at 65](chart)

Proportion of people aged 65 and over with multiple chronic conditions

![Proportion of people aged 65 and over with multiple chronic conditions](chart)

Limitations in daily activities among people aged 65 and over

![Limitations in daily activities among people aged 65 and over](chart)

Sources: Eurostat Database (for life expectancy and healthy life years) and SHARE survey wave 8 (for multiple chronic conditions and limitations in daily activities). All the data refer to 2020.

Overall mortality from cancer is among the highest in the EU

According to estimates from the Joint Research Centre based on incidence from previous years, more than 27 000 new cases of cancer were expected to be diagnosed in Croatia in 2022. Cancer incidence rates were expected to be higher than the EU averages for both men and women. The main cancer sites among men are prostate, colorectal and lung, while, among women, breast cancer is the leading cancer, followed by colorectal, lung and uterus cancer (Figure 5). Croatia’s National Plan Against Cancer for 2020-30 was adopted in December 2020.

Figure 5. More than 27 000 cancer cases in Croatia were expected to be diagnosed in 2022

![Figure 5](chart)

Notes: Non-melanoma skin cancer is excluded; uterus cancer does not include cancer of the cervix.

Source: ECIS – European Cancer Information System.
3 Risk factors

Behavioural and environmental risk factors account for more than two in five deaths

Some 44 % of all deaths in Croatia in 2019 can be attributed to behavioural risk factors, a higher proportion than the EU average (39 %). More than one fifth (22 %) of all deaths were estimated to be due to dietary risks (including low fruit and vegetable consumption, and high sugar and salt intake), a share well above the EU average of 17 % (Figure 6). Tobacco consumption (including direct and second-hand smoking) was estimated to be the second major behavioural risk factor contributing to mortality, and is responsible for 20 % of deaths. About 6 % of all deaths were estimated to be due to alcohol consumption, while about 2 % of deaths are related to low physical activity. Air pollution, in the form of fine particulate matter (PM_{2.5}) and ozone, exposure alone accounted for about 6 % of all deaths in 2019, which is a higher share than the EU average.

Figure 6. Dietary risks and tobacco use are major contributors to mortality in Croatia

Smoking rates in Croatia are among the highest in the EU

Tobacco consumption represents a serious public health issue in Croatia among both adults and adolescents. Little progress has been made in reducing smoking rates due to lenient anti-tobacco policies (see Section 5.1). More than one in five (22 %) Croatian adults reported that they smoked daily in 2019, a rate above the EU average of 19 %. Although the prevalence of daily smoking is higher among men (26 %), women have the fourth highest smoking rate in the EU, with 20 % reporting smoking daily in 2019. Regular tobacco consumption among teenagers is also a concern. In 2022, over one quarter of 15-year-old boys and girls (26 %) reported that they had smoked in the previous month – the fourth highest rate in the EU (Figure 7).

Overall alcohol consumption has declined, but consumption among adolescents is a concern

The proportion of 15-year-olds who reported that they had been drunk more than once in their life has generally decreased over the past 15 years, but still amounted to 27 % in 2022, which is above the EU average (18 %). Among adults, in 2019, 17 % reported at least one episode of heavy drinking1 per month, which is up from 11 % in 2014 but is still slightly lower than the EU average of 19 % (in 2019). As with many other risk factors, the difference between men and women in heavy drinking is very marked, with 25 % of men drinking heavily compared to 10 % of women.

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1 Heavy drinking is defined as consuming six or more alcoholic drinks on a single occasion for adults.
More than one fifth of adults are obese, and childhood overweight and obesity rates are rapidly increasing

In 2019, 23 % of adults in Croatia were obese, which is higher than the EU average of 16 %. Obesity is also a growing issue among children and adolescents. Overweight and obesity rates among 15-year-olds rose from 18 % in 2018 to 24 % in 2022, a rate above the EU average (21 %).

Nutrition in Croatia could be improved in multiple ways, including by reducing salt and fat (in particular trans-fat) intake, and increasing fruit and vegetable consumption. More than 90 % of adults did not consume the recommended five portions of fruit and vegetables per day in 2019. Among adolescents, 68 % did not eat at least one fruit per day and 69 % did not eat at least one vegetable per day in 2022.

Levels of physical activity are low among Croatian adults: only 20 % of adults reported at least 150 minutes of physical activity per week in 2019, a lower share than the EU average of 33 %. Although Croatian adolescents are physically more active than the average across the EU, less than one fifth engage in moderate to vigorous physical activity each day in 2022.

Figure 7. Smoking, obesity and unhealthy diets are more common than across the EU

Socioeconomic inequalities in health risks are substantial

As in many other EU countries, in Croatia there are large socioeconomic disparities in obesity rates, and people with the lowest levels of education or income are most affected. People who have not completed secondary education are more than two times more likely to be obese than those with a university education (31 % compared to 14 % in 2019). Similarly, those without secondary education are more likely to have low levels of physical activity (89 %) compared to those who have a university degree (69 %). Several national health policy documents have acknowledged health inequalities, but few targeted measures have been taken.

4 The health system

Croatia’s mandatory health insurance system confers universal coverage

In Croatia’s mandatory health insurance system, the Croatian Health Insurance Fund (CHIF) is the sole insurer and main purchaser of health services. It also offers complementary health insurance, mainly to cover copayments for services in the benefits package. Over 60 % of the population has this type of voluntary health insurance (VHI), purchased from either the CHIF (the main provider)
or private insurers. The Ministry of Health is the main government body responsible for stewardship in the health system, health policy development, planning and evaluation, public health, regulatory standards and training of health professionals.

Almost the entire population is covered by mandatory health insurance. Contributions for dependents are made by working family members, while those who are not economically active (such as pensioners and unemployed people), as well as vulnerable groups (such as people with disabilities and those on low incomes) are exempt from contributions and are covered through state budget transfers (see Section 5.2). The benefits package covers a broad scope of preventive and curative health services. Most healthcare providers (especially in secondary and tertiary care) remain under public ownership, but the number of private providers, especially in primary care, is growing. Primary care doctors – such as general practitioners, paediatricians and gynaecologists – are usually patients’ first point of contact with the health system, and act as gatekeepers to specialist and hospital care.

**Health spending grew in 2020 but is still low compared to other EU countries**

Health expenditure as a percentage of GDP was 8.1% in 2021 compared to an EU average of 11.0%. Overall, current expenditure on health increased by 18% in 2020-21, as part of Croatia’s response to the COVID-19 pandemic. Nevertheless, in per capita terms, Croatia spends less on health than most other EU countries (Figure 8), reaching EUR 1,787 per capita (adjusted for differences in purchasing power) in 2021.

Croatia spends a higher share of public funding on health than most countries with comparative levels of expenditure (Figure 8), amounting to 85.5% in 2021. Out-of-pocket (OOP) payments accounted for only 9% of health spending, which was well below the EU average of 15%, while the VHI component of health expenditure (5.1% in 2021) accounted for a slightly larger share than the EU average (4.4%).

**Figure 8. Croatia has a higher public share of health expenditure than other countries with comparative levels of spending**

![Graph showing the share of GDP spent on health care in Croatia and the EU.](image)

Note: The EU average is weighted.
Source: OECD Health Statistics 2023 (data refer to 2021, except Malta (2020)).

**Outpatient care accounts for the largest share of health spending**

Some 37% of current health expenditure in Croatia goes to outpatient (or ambulatory) services, consisting of primary care and specialist outpatient care (mostly provided by hospital outpatient departments). Croatia spends a larger share of its health expenditure (20.1% in 2021) on pharmaceuticals and medical devices in the outpatient market than many other EU countries (with an EU average of 17.4%), although in absolute terms (EUR 360 per person) it is far below the EU average (Figure 9). In contrast, due to the country’s underdeveloped formal long-term care system, long-term care only made up 2.6% of health spending in Croatia (compared to an EU average of 17.3%). On a per capita basis, spending on prevention is less than one third of the EU average, and at 4.4% of expenditure it is lower than the EU average of 6.2%.

**Hospital capacity has only declined marginally in the last 20 years**

The number of hospital beds in Croatia has only declined modestly in recent years, from 6.0 per 1,000 population in 2000 to 5.8 per 1,000 population.
in 2021. In contrast, the number of hospital beds per population in the EU overall declined from 5.8 in 2005 to 4.8 in 2020. The higher ratio in Croatia might indicate scope for shifting services out of hospitals. In comparison with other EU Member States, Croatia has high numbers of beds in rehabilitative and long-term care hospitals, but there has been little investment in long-term care, particularly community-based services.

Although lower than the EU averages, the numbers of doctors and nurses have been increasing

Historically, Croatia has had fewer doctors and nurses than many other EU countries, with only 7.5 nurses per 1 000 population in 2021, compared to an EU average of 8.5, and 3.7 doctors, compared to an EU average of 4.1 (Figure 10). However, the ratios of both doctors and nurses to population have increased steadily in recent years.

Notes: 1. Includes home care and ancillary services (e.g. patient transportation); 2. Includes curative-rehabilitative care in hospital and other settings; 3. Includes only the outpatient market; 4. Includes only spending for organised prevention programmes; 5. Includes health system governance and administration and other spending; 6. Includes only the health component. The EU average is weighted.

Source: OECD Health Statistics 2023 (data refer to 2021, except Malta (2020)).

Figure 9. Per capita spending in Croatia is less than half the EU average

Figure 10. Croatia has fewer doctors and nurses than many other EU countries

Notes: The EU average is unweighted. The data on nurses include all categories of nurses (not only those meeting the EU Directive on the Recognition of Professional Qualifications). In Portugal and Greece, data refer to all doctors licensed to practise, resulting in a large overestimation of the number of practising doctors (e.g. of around 30% in Portugal). In Greece, the number of nurses is underestimated as it only includes those working in hospitals.

Source: OECD Health Statistics 2023 (data refer to 2021 or the nearest available year).
5 Performance of the health system

5.1 Effectiveness

Preventable mortality increased in 2020 due to the COVID-19 pandemic

Avoidable mortality from both preventable and treatable causes in 2020 was higher in Croatia than in many other EU countries (Figure 11). Preventable mortality had been on the decline in Croatia until 2020, when it increased as a result of the COVID-19 pandemic, and remains above the EU average. Lung cancer is a particular concern: in 2020, mortality from this cause of death exceeded mortality from COVID-19 (Figure 11). The preventable mortality rate from lung cancer is the second highest in the EU, at 63 per 100 000 population in 2020, exceeding the EU average of 48 per 100 000 population. Historically weak anti-smoking policies in Croatia contribute to this mortality pattern, with still insufficient levels of taxation on cigarettes, a lack of smoke-free places and underdeveloped media campaigns against tobacco use. To improve early detection, Croatia is one of the few EU Member States to have instigated a national lung cancer screening programme using low-dose CT scans for people at high risk.

Other key drivers of preventable mortality include heart disease, alcohol use and accidents

Ischaemic heart disease is a major cause of both preventable and treatable mortality. High levels of smoking, poor nutrition, insufficient physical activity and a high and growing prevalence of obesity contribute to preventable deaths from ischaemic heart disease. National health promotion programmes have been adopted, but there is much scope for stepping up preventive action to address obesity, poor nutrition and insufficient physical activity more specifically. A step in this direction is the Action Plan for the Prevention of Obesity for 2023-26 that is currently being developed, as well as the implementation of activities for the promotion of healthy lifestyles and treatment of obesity. Deaths from alcohol-related causes and transport accidents are other drivers of preventable deaths. Alcohol control policies have been adopted, but could be strengthened, including with regard to underage consumption.

Mortality from treatable causes remains above the EU average

Deaths in Croatia that should not have occurred in the presence of timely and effective healthcare are higher than in most other EU countries. Mortality from treatable causes stood at 131 per 100 000 population in 2020, compared to 92 per 100 000 population across the EU (Figure 11). This is a slight increase from the levels seen in 2019, a trend reversal seen in some EU countries, most likely due to the impact of the COVID-19 pandemic on access to services. Cardiovascular diseases are key drivers of treatable mortality, accounting for 31 % of deaths that could be avoided through timely and effective treatment. Colorectal and breast cancer also contribute substantially, making up 19 % for colorectal cancer and 8 % for breast cancer of deaths from treatable causes.

Influenza vaccination rates for older people decreased again in 2021

Although vaccination coverage rates for influenza among people aged 65 years and over increased from a low of 19 % in 2014 to 39 % in 2021, this remained below the EU average of 44 % and far below the WHO-recommended target of 75 %. In 2022, influenza vaccination coverage declined to 31 %. Data on how the COVID-19 pandemic affected routine childhood vaccinations are not yet available.

Croatia has a high coverage rate for cervical cancer screening, but a low rate for colorectal cancer screening

Croatia has developed national cancer screening programmes and released a National Plan Against Cancer for 2020-30, with a view to reducing both the incidence and mortality of cancer among the population. However, the COVID-19 pandemic led to some temporary setbacks, at least with regard to breast cancer screening. In 2021, 56 % of women aged 50-69 years had been screened for breast cancer in the last 24 months (down from 60 % in 2019), compared to an average of 57 % in the EU, which also decreased by 3 percentage points between 2019 and 2021. For cervical cancer, 77 % of women aged 20-69 years reported in 2019 having had a cervical smear test in the last 24 months, compared to 54 % in the EU. Croatia has a longstanding tradition of opportunistic cervical cancer screening, which explains the high percentage of women being tested. Colorectal cancer screening rates are much lower. In 2020, 26 % of people aged 50-74 (up from 23 % in 2019) had been screened for colorectal cancer in the last two years, compared to an EU average of 46 %.
Figure 11. Mortality from preventable and treatable causes in Croatia is higher than in many other EU countries

Preventable causes of mortality

Treatable causes of mortality

Notes: Preventable mortality is defined as death that can be mainly avoided through public health and primary prevention interventions. Treatable (or amenable) mortality is defined as death that can be mainly avoided through healthcare interventions, including screening and treatment. Both indicators refer to premature mortality (under age 75). The lists attribute half of all deaths from some diseases (e.g. ischaemic heart disease, stroke, diabetes and hypertension) to the preventable mortality list and the other half to treatable causes, so there is no double-counting of the same death.

Source: Eurostat Database (data refer to 2020).

Figure 12. Cancer screening rates tend to be higher among those with the highest incomes

Notes: Low income is defined as the population in the lowest income quintile, whereas high income is defined as the population in the highest income quintile. The proportions refer to people who report having undergone a test in the two years preceding the survey.

Source: Eurostat Database (based on EHIS 2019).

Inequalities in cancer screening rates are related to both income and education

Cancer screening rates in Croatia vary with income and level of education, as they do in most other EU countries (Figure 12). In general, higher levels of income and education are associated with higher screening rates. The largest variation in Croatia can be seen in cervical cancer screening, where 74.1% of women aged 50-69 years in the highest income quintile reported being screened compared to only 48.2% in the lowest income quintile, a greater variation than in the EU overall (67.5% compared to 49.8%). Interestingly, both the highest and the lowest income quintile fall below the Croatian average in terms of colorectal cancer screening of people aged 50-74 years.
Key data on quality of care are lacking

Croatia has included the development of a quality monitoring and analysis system in various health strategy documents for more than 15 years, but currently there is still no comprehensive quality improvement strategy. One of the strategic goals of the most recent National Health Development Plan 2021-27 continues the ambition, with one of its priority measures being to establish a comprehensive national health quality and safety system, including through the use of clinical guidelines, accreditation, payment related to quality and outcomes, and using health technology assessment. Croatia has also adopted a framework for health system performance assessment, supported by the EU’s Structural Reform Support Programme.

In the meantime, evidence on the quality of health services in Croatia remains limited. Key indicators on the quality of primary care – such as avoidable hospital admissions for chronic conditions including chronic obstructive pulmonary disease, congestive heart failure, diabetes and asthma – that are available for many other EU countries are lacking for Croatia. Nevertheless, referral rates for these conditions are available and indicate a decline from 26.2 % in 2008 to 7.7 % in 2021. The rate differed across counties, from 4.5 % to 9.2 %. However, declines in referral rates (and hospital admissions) observed in 2020 and 2021 should be interpreted in the context of the disruption caused by COVID-19, which severely impacted the capacity of hospitals to provide acute care and modified patients’ healthcare-seeking behaviour (see Section 5.3).

5.2 Accessibility

Unmet needs for medical care remained comparatively low

According to the annual EU-SILC survey, the rate of self-reported unmet needs for medical care due to cost, distance to travel or waiting times in Croatia has remained below the EU average, reaching 1.3 % in 2022, compared to 2.2 % in the EU overall. However, the level of unmet needs reported in low-income groups (3.7 %) was 19 times higher than in high-income groups (0.2 %) (Figure 13).

Using a different methodology, the Eurofound e-survey indicates higher levels of unmet needs for medical care in Croatia in spring 2022 (22 %) than in the EU overall (18 %). While this share has remained fairly stable in the EU overall, it has declined in Croatia from levels seen in spring 2021 (24 %).

The scope and depth of the benefits package is wide

A wide range of health services are covered by the publicly funded benefits package and the public share of spending is relatively high in all areas of care (Figure 14). Services that are excluded (such as some types of cosmetic surgery) are set out in a negative list, while a positive list specifies which pharmaceuticals are fully covered by the mandatory health insurance system and which require patient copayments. Patients have to pay the full price for outpatient pharmaceuticals that are not included in the positive list. Copayments are required for days of hospitalisation and visits to primary care physicians. However,

2 The data from the Eurofound survey are not comparable to those from the EU-SILC survey because of differences in methodologies.
cost-sharing is capped at EUR 530 per episode of illness in secondary or tertiary care, and pharmaceuticals provided in hospitals are free of charge. There are also user charge exemptions for vulnerable population groups (such as children, students, people with disabilities and those on low incomes) and people receiving treatment for certain conditions (such as antenatal care, cancer, infectious diseases and chronic psychiatric illness), covering about one fifth of the population.

**Figure 14. The public share of health spending in Croatia is high in all areas of care**

Public spending as a proportion of total health spending by type of service

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Notes: Outpatient medical services mainly refer to services provided by generalists and specialists in the outpatient sector. Pharmaceuticals include prescribed and over-the-counter medicines and medical non-durables. Therapeutic appliances refer to vision products, hearing aids, wheelchairs and other medical devices.


Robust financial protection measures keep out-of-pocket spending low and shield people from catastrophic health spending

OOP expenditure in Croatia accounts for a much smaller share of health spending than in EU countries with similar income levels, accounting for only 9 % in 2021, which was well below the EU average of 15 % (Figure 15). Pharmaceuticals make up a third (33 %) of OOP spending in Croatia, compared to 24 % in the EU overall, and dental care accounts for 28 %, much higher than the EU average of 10 %.

The high level of public spending, exemptions from copayments for vulnerable groups, and wide uptake of VHI to cover copayments among other groups of the population help to protect households from catastrophic health spending, 3 which amounted to only 4.0 % in 2014 (the latest year for which data are available).

**Figure 15. Out-of-pocket spending in Croatia is much lower than in the EU overall**

Notes: VHI also includes other voluntary prepayment schemes. The EU average is weighted.

Sources: OECD Health Statistics 2023; Eurostat Database (data refer to 2021).

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3 Catastrophic expenditure is defined as household OOP spending exceeding 40% of total household spending net of subsistence needs (i.e. food, housing and utilities).
Central Croatia has a higher density of health facilities and workers
Partly due to Croatia’s geography, the geographical distribution of healthcare infrastructure and human resources for health varies considerably. The ratio of health facilities and health workers is much higher in Central Croatia (mainly the city of Zagreb) than in more remote areas, such as the islands off the Adriatic coast and rural areas in central and eastern Croatia. Consequently, there is a shortage of physicians and nurses in some parts of the country, with shortages of primary care practitioners in rural areas and on the islands a particular concern. Health workers leave rural areas due to a lack of free time, insufficient professional support and poor employment and education opportunities for their spouses or children. The government has initiated a number of measures to improve staff recruitment and retention, not least during the COVID-19 pandemic, but a more systematic approach to the planning of human resources for health is still lacking (see Section 5.3).

There are unmet medical needs due to the distance to travel to health facilities
The uneven geographical distribution of health facilities and workers results in access challenges, with more people in Croatia (0.5 %) reporting unmet medical needs due to distance in 2022 than in any other EU Member State, with an EU average of 0.1 %. At the same time, there is a duplication of services, with some hospitals in close proximity offering the same types of services. Policy initiatives to address this issue have so far not been implemented. Current reform plans set out changes to the number and scope of hospitals, with the aims of increasing efficiency and excellence and achieving financial stabilisation. Amendments to the Health Care Act adopted in March 2023 will transfer ownership of general hospitals from the local self-government units (the counties) to the state (the Ministry of Health) in January 2024. This move is meant to facilitate a restructuring of the hospital system and improve the integration of health services.

The share of teleconsultations has increased
A potential avenue to overcome some of these challenges is an increased use of telemedicine. As in most other EU countries, the share of teleconsultations saw a marked increase in Croatia during the COVID-19 pandemic, thanks to government guidance promoting the use of telephone, email and video conferencing as means of communication between doctors working in primary care and their patients. The share of remote consultations almost tripled in Croatia, increasing from 10 % in 2019 to 27 % in 2021, exceeding the EU average (21 % in 2021). The number of consultations per year and person only decreased slightly in 2020 and increased in 2021, partly due to an increasing share of teleconsultations, potentially indicating that access to health services was maintained during the pandemic (Figure 16).

Figure 16. A higher share of teleconsultations made up for a decrease in in-person consultations

5.3 Resilience
The COVID-19 pandemic has proved to be the most significant disruption to health systems in recent decades. It has shed light on the vulnerabilities and challenges within countries’ emergency preparedness strategies and their ability to provide healthcare services to their populations. In response to the enduring effects of the pandemic – as well as other recent crises, such as cost-of-living pressures and the impact of conflicts like the war against Ukraine – countries are implementing policies to mitigate the ongoing impacts on service delivery, invest in health system recovery and resilience, improve critical areas of the health sector, and fortify their preparedness for future shocks.

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4 In this context, health system resilience has been defined as the ability to prepare for, manage (absorb, adapt and transform) and learn from shocks (EU Expert Group on Health Systems Performance Assessments, 2020).
Hospital discharges remain below pre-pandemic levels
Prior to the COVID-19 pandemic, hospital capacity in Croatia was higher than the EU average, but the number of intensive care unit (ICU) beds was smaller. During the first wave of the pandemic, capacity was set aside to deal with COVID-19 patients. However, the overall number of hospital beds remained fairly stable in 2020 and 2021, in contrast to a continued and incremental downward trend in the EU overall. The number of ICU beds increased in 2020, but the ICU occupancy rate declined to 61.7 %, in line with a decrease in the EU overall to 60.4 %. Efforts were made to continue the provision of hospital care to emergency and priority patients, as well as vulnerable groups, but many elective procedures were postponed. This led to a drop in hospital discharges in 2020, mirroring the EU average. Hospital discharges increased again in Croatia in 2021, but remained below pre-pandemic levels. The COVID-19 pandemic also affected hospital occupancy rates, which declined to 58.4 % in 2020, below the EU average of 63.7 % (Figure 17).

Figure 17. Hospital discharges and occupancy rates fell significantly in 2020 and have not yet reached pre-pandemic levels

It is unclear how waiting times were affected by the pandemic
Even before the COVID-19 pandemic, there were long waiting lists for specialised and inpatient care and, during the pandemic, concerns were raised that waiting lists would be negatively affected. In 2017, the Ministry of Health had introduced a priority waiting list that allowed patients with suspected serious illnesses (such as cancer) to receive accelerated access to specialist care and during the pandemic a call centre for patients waiting for cancer treatment was set up to reschedule diagnostic procedures and treatment. Croatia does not have internationally comparable data on waiting times and waiting lists and how they were affected by the COVID-19 pandemic.

COVID-19 vaccination coverage falls far below the EU average
Croatia lagged behind many other EU countries in terms of COVID-19 vaccination rates, and this was even more so the case with booster vaccinations. Take-up of the second booster vaccination against COVID-19 in the last three quarters of 2022 was much lower than in almost all other EU countries, reaching only 3 % of people aged 60 years and over in the fourth quarter, compared to an EU average of 36 %.

Croatia’s public spending on health increased during the first year of the pandemic despite a massive drop in GDP
The global economic crisis led to large fluctuations in Croatia’s public spending on health in the early 2010s, where slight declines in GDP were accompanied by large decreases in health spending. Since 2013, the country has seen consistent year-on-year increases in public spending on health, mirroring increases in GDP, and has one
of the highest shares of public funding for health among EU Member States (see Section 4). The increase in public spending on health accelerated in 2020 and 2021, despite a massive 8.5 % drop of GDP in 2019/20 (Figure 18).

Figure 18. Croatia responded to the COVID-19 pandemic shock with an increase in public spending on health

![Graph showing public spending on health and GDP]


Croatia’s Recovery and Resilience Plan and EU Cohesion Policy will boost health sector investment

Croatia has developed a National Recovery and Resilience Plan for 2021-26 within the framework of the EU Recovery and Resilience Mechanism, aiming to mitigate the economic and social consequences of the COVID-19 pandemic. Of the total resources set out in the National Recovery and Resilience Plan, 5.6 % are earmarked for investments in the health system (totalling EUR 354 million). This includes investment in cancer care, hospital infrastructure, hospital care quality improvements and the digital transformation of the health system (Figure 19).

These investments will be complemented by the rollout of the EU Cohesion Policy 2021-27 programming, through which Croatia is set to invest a total of EUR 226 million in its health system. More than four fifths (85 %) of this amount will be co-financed by the EU. Some EUR 140 million from the European Regional Development Fund (ERDF) will be used for the development and renovation of health infrastructure, as well as for equipment, health mobile assets and digitalisation in healthcare. Furthermore, EUR 62 million from the European Social Fund Plus (ESF+) has been designated to finance various measures to improve the accessibility, effectiveness and resilience of the health system.

Figure 19. Croatia will benefit from substantial funds under the EU Recovery and Resilience Mechanism

![Bar chart showing public funding for health]

Notes: These figures refer to the original Recovery and Resilience Plan. The ongoing revision of the Plan might affect its size and composition. Some elements have been grouped together to improve the chart’s readability.

5 These EU Cohesion Policy figures reflect the status as of September 2023.
Policies aim to strengthen care coordination and integration of care

Croatia has recognised the need to strengthen the coordination and integration of care. At present, primary, secondary and tertiary care still function largely independently from one another, lacking integration and communication. Patients tend to have low trust in primary care physicians and, despite gatekeeping mechanisms, skip primary care to access specialists directly, mainly via emergency departments. The National Health Development Plan for 2021-27 and Amendments to the Health Care Act in March 2023 introduced the concepts of integrated care, the “complex patient” (with multimorbidities), a “24/7/365 care model” (referring to the provision of comprehensive, continuous and coordinated care in different settings and from different care providers) and a “hospital without walls” concept (referring to care provision, management and monitoring, regardless of the healthcare setting). The amendments also aim to strengthen primary care by extending the role of health centres, including through improved coordination with long-term care and the provision of specialised outpatient care.

The COVID-19 pandemic highlighted the importance of health data and the health information system

The digital transformation of Croatia’s health system is one of the elements of the national Recovery and Resilience Plan for 2021-26, with an allocation of EUR 57.4 million, and is also supported by the ERDF with EUR 8.5 million. It is linked to the health reform area of digital health, which aims to improve management capacities through greater use of data and innovative solutions in healthcare. Prior to the pandemic, Croatia had established a national health information system, with real-time data inputs from almost all healthcare providers. In March 2023, electronic health records have been introduced in all hospitals, which is a significant step forward in making patients’ information available to healthcare providers. An upgrade is being prepared to include documentation that has not yet been integrated; for example, nursing documentation and diagnostic imaging findings.

Croatia aims to improve its human resources planning

The COVID-19 pandemic emphasised the crucial role of health workers. One of five health reforms linked to the National Recovery and Resilience Plan for 2021-26 is the introduction of a system for the strategic management of human resources in health, which has so far been lacking. It is hoped that this will lead to a more even geographical distribution of health workers, including in rural and less populated areas, with an emphasis on primary care staff. The number of medical and nursing graduates is similar to, or higher than, the numbers in the EU overall, but their uneven distribution undermines the efficiency of the Croatian health system.

Addressing the public health threat of antimicrobial resistance

Antimicrobial resistance (AMR) is a major public health concern in the EU, with estimates of about 35 000 deaths (ECDC, 2022) in the EU and the European Economic Area due to antibiotic-resistant infections and healthcare-associated costs of around EUR 1.1 billion per year (OECD/ECDC, 2019). Because antibiotic overprescription and overuse in humans are major contributors to the development of antibiotic-resistant bacteria, antibiotic consumption data are a useful tool to evaluate the risk of AMR and the efficacy of programmes to promote their appropriate use.

In Croatia, in 2021, the total consumption of antibiotics in the community, at 16.2 defined daily doses (DDDs) per 1 000 population per day, exceeded the EU average of 14.4 DDDs. Antibiotic consumption declined in 2020, as it did in most EU countries due to the COVID-19 pandemic, but had almost reached pre-pandemic levels in Croatia in 2021, in contrast to continued lower levels in the EU overall, as well as in Slovenia and Hungary (Figure 20), indicating no change in prescribing behaviours in Croatia. Moreover, the share of antimicrobial consumption from the WHO Access category (first- and second-choice antibiotics that should be widely available) only just met the WHO monitoring target of 60 %, indicating scope for stronger antimicrobial stewardship.
Levels of antimicrobial resistance are high in Croatia, as illustrated by the example of methicillin-resistant Staphylococcus aureus (MRSA) infections, which are much higher than in most EU countries. Croatia’s most recent National Programme for the Control of Antibiotic-Resistant Bacteria 2017-21 identifies six areas for action, including improved monitoring of resistance and consumption, promoting responsible use, preventing and controlling the spread of infection, and raising awareness.

6 Spotlight on mental health

Croatia faces a high burden of poor mental health

Poor mental health imposes a substantial burden on Croatia’s health system and society, as it does in other EU countries, and is likely to have worsened as a result of the COVID-19 pandemic. The economic costs (direct and indirect) of the burden of mental ill health in Croatia were estimated to amount to 4 % of GDP or EUR 1.8 billion in 2015, just below the EU28 average of 4.1 % of GDP (OECD/EU, 2018). Although substantial, this share is an underestimate, as people may refrain from reporting mental health problems and not all costs related to mental ill health were included in the estimate. The share of total hospital treatment days devoted to mental health conditions also illustrates the scale of the problem, accounting for 17.2 % in 2020, although this high share is partly related to the continued reliance on inpatient care (Džakula et al., 2021). Community mental healthcare is still underdeveloped, and mental health services are more accessible in Zagreb and large cities.

According to estimates from the Institute for Health Metrics and Evaluation (IHME), 14.8 % of the population in Croatia were suffering from mental health conditions in 2019, compared to 16.7 % in the EU overall. The most common mental health conditions in Croatia were anxiety (estimated to affect 4.3 % of the population), depressive disorders (4.1 %), and alcohol and drug-use disorders (3.3 %) (Figure 21).
A high share of adults reported depression prior to the pandemic

In the European Health Interview Survey, 11.6 % of adult respondents in 2019 reported depression prior to the COVID-19 pandemic, much higher than the EU average of 7.2 %. Self-reported prevalence was more than five times higher among men in the lowest income quintile (16 %) than the highest (2.8 %), and three times higher among women in the lowest income quintile (19.5 %) than the highest (5.9 %). These gaps were much greater than those in the EU overall. Self-reported prevalence of depression in Croatia was higher among women (13.4 %) than men (9.2 %), which is a pattern that can be observed across the EU (with self-reported prevalence of 8.7 % among women and 5.5 % among men) (Figure 22).

Figure 22. Depression is much more common among people with lower incomes

Note: High income refers to people in the top income quintile (20 % of the population with the highest income), whereas low income refers to people in the bottom income quintile (20 % of the population with the lowest income).

Source: Eurostat Database (based on EHIS 2019).

Survey data collected during the pandemic in 2020 and 2021 confirmed a continued higher prevalence of mental ill health among those on lower incomes. Eurofound’s Living, working and COVID-19 e-survey found a much higher share of adults at risk of depression among respondents reporting financial difficulties (60.8 %) than among those who did not report financial difficulties (31.7 %) (Eurofound, 2021). These proportions were close to the EU average.

Croatia has a high rate of male suicides

The mortality rate from suicides in Croatia, at 1.3 per 100 000 population in 2020, exceeded the EU average of 10.2. As in all other EU countries, suicides among men are more common than among women. In Croatia, there were 22.9 suicides per 100 000 population among men in 2020, compared to 5.5 among women. While rates for both sexes show a declining trend, suicides among men remain significantly higher than in the EU overall (16.9 per 100 000 population in 2020) (Figure 23). There are also major differences by age, with suicide rates among men increasing with each 10-year age bracket and peaking in those aged 75 years and older.

Figure 23. The suicide rate among men is decreasing, but remains above the EU average

Source: Eurostat Database.
Access to outpatient mental health services is underdeveloped

Outpatient mental health services in the community are still underdeveloped and most mental health services are provided in institutions, in particular hospitals, with services concentrated in Zagreb and large cities. Initiatives are being undertaken to improve access to outpatient mental health services, such as through providing centres for mental health protection and prevention of addiction at county institutes of public health. Following the success of a pilot project with mobile mental health teams, amendments to the Health Care Act in March 2023 enabled the organisation of mobile mental health teams at all levels of healthcare.

The COVID-19 pandemic led to disruptions in access to care, including for mental health needs, and Croatia was no exception. According to a survey undertaken in spring 2021 and spring 2022, 23% of overall respondents indicated that they had unmet needs for healthcare, of which one in six (17%) of the unmet needs was related to mental healthcare. The proportion of unmet needs for healthcare was larger than in the EU overall, but the proportion related to mental healthcare was smaller (Figure 24).

Croatia has adopted a new strategy for mental health

Croatia has taken steps to improve the mental health of the population, promote awareness, improve preventive activities, ensure early intervention and treatment and protect the rights of people with mental health issues. A national strategy for mental health until 2030 was adopted in 2022 and aims to reorient care from hospitals to the community. An action plan for community-based mental health is currently under development and implementation has yet to start. Pilot multidisciplinary mobile teams are expected to start working in Zagreb in late 2023. There are also plans to develop action plans on dementia, the mental health of children and young people, the promotion of mental health and the prevention and treatment of mental health disorders. In addition, a National Strategy on Addiction until 2030 was adopted in February 2023 following an integrated approach that addresses all types of addiction (alcohol, tobacco, drugs, gambling and internet).

Figure 24. A substantial proportion of people in Croatia had unmet needs for mental healthcare during the pandemic

Note: Survey respondents were asked whether they had any current unmet healthcare needs and, if so, for what type of care, including mental healthcare.
Sources: Eurofound (2021; 2022).
Key findings

- Croatia achieved steady improvements in life expectancy until 2019, but the COVID-19 pandemic resulted in a drop of nearly 2 years in life expectancy by 2021. Excess mortality increased to 19% in 2021 compared to the average recorded in the five years prior to the pandemic. Croatians aged 65 have a lower life expectancy than their counterparts in the EU overall, and spend a much larger share of their remaining years with multiple chronic conditions and activity limitations, suggesting that more could be done to bolster healthy ageing.

- Tobacco consumption is a major public health issue. Little progress has been made in reducing smoking rates due to lenient anti-tobacco policies. Alcohol consumption also contributes to mortality from cardiovascular diseases and cancer. Another major risk factor is poor nutrition. Obesity rates among adults and children are increasing, and 23% of adults in Croatia are obese – far exceeding the EU average of 16%.

- Croatia has undertaken a number of health reforms in recent years, but its hospital capacity has only declined marginally in the last few decades, which might indicate scope for moving more services to outpatient settings. Amendments to the Health Care Act in March 2023 have brought a new focus to strengthening primary and outpatient care and improving coordination and integration of care. Key indicators on quality of care are still missing, undermining efforts to monitor health system performance, but Croatia aims to establish a comprehensive national health quality and safety system.

- Mortality rates from preventable and treatable causes of death are higher in Croatia than in many other EU countries, and increased in 2020 as a result of the COVID-19 pandemic. Lung cancer is a particular concern: mortality from this cause of death is the second highest in the EU, and exceeded mortality from COVID-19 in 2020. Croatia has a comparatively high coverage rate for cervical cancer screening, but a low rate for colorectal cancer screening.

- The public benefits package is comparatively generous, given Croatia’s GDP per capita, and this helps to protect the population from private out-of-pocket expenditure and catastrophic health spending, which are both less prevalent than in EU countries with similar income levels. Despite the pandemic, the rate of self-reported unmet needs also remained comparatively low, and an increasing share of teleconsultations helped to maintain access to health services.

- The COVID-19 pandemic was a major shock to Croatia’s health system. Despite a drop in its GDP, the government increased public spending on health to deal with the pandemic. Croatia has developed a national Recovery and Resilience Plan for 2021-26 that will boost health sector investment, including in cancer care, hospital infrastructure, hospital care quality improvements and the digital transformation of the health system, complemented by support through the EU Cohesion Policy 2021-27. Croatia is also working on improving integration of care and human resources planning to be better prepared for future shocks to its health system.

- Poor mental health imposes a substantial burden on Croatia’s health system and society, as it does in other EU countries, and is likely to have worsened as a result of the COVID-19 pandemic. Of those who reported unmet needs for healthcare in 2021 and 2022, one in six had mental healthcare needs, resulting in a high share of total hospital treatment days and sizeable direct and indirect economic costs. Croatia has adopted a new national strategy for mental health until 2030, but is still at the beginning of plans to move mental health services out of institutions and into communities.
Key sources

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Country abbreviations

Austria AT
Belgium BE
Bulgaria BG
Croatia HR
Cyprus CY
Czechia CZ
Denmark DK
Estonia EE
Finland FI
France FR
Germany DE
Greece EL
Hungary HU
Iceland IS
Ireland IE
Italy IT
Latvia LV
Lithuania LT
Malta MT
Netherlands NL
Norway NO
Poland PL
Portugal PT
Romania RO
Slovakia SK
Slovenia SI
Spain ES
Sweden SE
The Country Health Profiles are a key element of the European Commission’s State of Health in the EU cycle, a knowledge brokering project developed with financial support from the European Union.

These Profiles are the result of a collaborative partnership between the Organisation for Economic Co-operation and Development (OECD) and the European Observatory on Health Systems and Policies, working in tandem with the European Commission. Based on a consistent methodology using both quantitative and qualitative data, the analysis covers the latest health policy challenges and developments in each EU/EEA country.

The 2023 edition of the Country Health Profiles provides a synthesis of various critical aspects, including:

- the current state of health within the country;
- health determinants, with a specific focus on behavioural risk factors;
- the structure and organisation of the health system;
- the effectiveness, accessibility and resilience of the health system;
- For the first time in the series, an account of the state of mental health and related services within the country.

Complementing the key findings of the Country Health Profiles is the Synthesis Report by the European Commission.

For more information, please refer to: ec.europa.eu/health/state