This Health System Summary is based on the *Croatia: Health System Review* (HiT) published in 2021 and relevant reform updates highlighted by the Health Systems and Policies Monitor (HSPM) ([www.hspm.org](http://www.hspm.org)). For this edition, key data have been updated to those available in March 2022 to keep information as current as possible. Health System Summaries use a concise format to communicate central features of country health systems and analyse available evidence on the organization, financing and delivery of health care. They also provide insights into key reforms and the varied challenges testing the performance of the health system.


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How is the health system organized?

ORGANIZATION

The Ministry of Health is responsible for health policy, planning and evaluation, public health programmes and the regulation of capital investments for publicly owned health care providers. The Ministry of Health also regulates quality standards for public and private health care providers. National authorities (the Ministry of Health and the Government) are responsible for the provision of tertiary care, which includes university hospitals and university hospital centres. Counties are responsible for the organization and management of public health services, primary care (health centres and public pharmacies) and secondary care (general and specialized hospitals).

Croatia has a mandatory social health insurance system which consolidates public financing under a single entity, the Croatian Health Insurance Fund (CHIF). The CHIF is the single purchaser of health services provided under the mandatory health insurance scheme. It also offers complementary voluntary insurance that covers co-payments in the mandatory health insurance system.

PLANNING

All health reform proposals usually originate at the Ministry of Health (see also Box 1). After consultation with the relevant stakeholders or an online public consultation, the proposal is being sent to the Government for further development. For the period 2020–2030, the National Development Strategy has been developed at government level, including all ministries, and was adopted in February 2021. The strategy is the umbrella document determining the context, vision, developmental directions, and priorities for the implementation of public policies in Croatia in the planning period. Aligned with the National Development Strategy until 2030, the National Health Care Development Plan for 2021–2027 was adopted in December 2021. The National Health Care Development Plan was developed by the Ministry of Health, as a medium-term planning tool that contains broad tasks and goals for the health sector, sets out priority areas and identifies the health needs of population groups of special interest.

BOX 1 | INTERSECTORALITY IS SLIDING INTO FOCUS IN THE CROATIAN NATIONAL HEALTH STRATEGY

The importance of intersectoral cooperation in the area of health is at the core of the latest National Health Strategy, which is the Ministry of Health’s longer-term planning tool. Following the European strategy “Health 2020”, set out by the WHO Regional Office for Europe, Croatia advocates “health in all policies” and “whole-of-society” approaches. The Government has not yet developed any specific protocols for intersectoral cooperation, except for major natural and technological disasters and accidents. However, in response to the COVID-19 pandemic, a National Civil Protection Headquarters was established, together with its local branches. The National Health Care Development Plan 2021–2027 addresses intersectorality for health and social care.
PROVIDERS

Most health care providers (especially of secondary and tertiary care) remain under public ownership. However, private providers have grown in number, notably in primary care, dental services and specialized clinics. Most primary care practices have been privatized, with the remaining ones in public ownership operating as health centres. University hospital centres, university hospitals, general hospitals, medical institutes and health centres cannot operate for profit. Furthermore, there must be at least one publicly owned primary health care centre per county and at least three in the city of Zagreb in order to make health care accessible for the population. People can choose their primary care provider and dentist.

How much is spent on health services?

FUNDING MECHANISMS

The key sources of the CHIF’s revenue are mandatory health insurance contributions. However, in 2020, due to the COVID-19 pandemic and its impact on the economy, there were significant changes in the structure of the CHIF’s total revenues. The share of revenues from contributions decreased from 81.9% in 2019 to 74.2% in 2020, and the share of state budget revenues increased from 9.6% to 13.3% (CHIF, 2020). Revenue from mandatory health insurance contributions and the state budget is used to finance the provision of health care, compensations and administration of the CHIF. CHIF also offers complementary voluntary insurance that covers co-payments in the mandatory health insurance system. Mandatory health insurance contribution rates stood at 16.5% of gross salary for employees (transferred by the employer), 7.5% of a proportion of the average salary for farmers and religious officials and 3% of the pension income above the average net wage for pensioners. Funds are collected centrally and allocated to state-owned health facilities, with some funds transferred to the local level.

HEALTH EXPENDITURE

Croatia spends a smaller amount on health per capita than most other EU Member States (Fig. 1). In 2019, the expenditure in Croatia was US$ 2168 (adjusted for differences in purchasing power), placing it among the five lowest spenders in the EU (Fig. 2). However, when considering the proportion of GDP spent on health (6.9% in 2019), this share was higher than in eight other EU Member States. Furthermore, the share of public spending as a proportion of current health expenditure is comparatively high, amounting to 81.9% in 2019. This was higher than the EU average of 76.3%, reflecting a tradition of solidarity in health care financing and the continued importance of health care on the Croatian policy agenda. In 2019, 12.1% of the total state budget was allocated to the health sector.
FIG. 1
TRENDS IN HEALTH EXPENDITURE, 2000–2019 (SELECTED YEARS)

Note: PPP: purchasing power parity.

FIG. 2
CURRENT HEALTH EXPENDITURE (US$ PPP) PER CAPITA IN WHO EUROPEAN REGION COUNTRIES, 2019

Notes: CHE: current health expenditure; PPP: purchasing power parity.
Data for Albania are from 2018.
Source: Global Health Expenditure Database, December 2021.
OUT-OF-POCKET PAYMENTS

Croatia spends a higher share from public sources than the EU average for all areas of care, and co-payments do not seem to have affected affordability of health services. Out-of-pocket (OOP) spending on health as a share of final household consumption was 1.1% in 2019, which was the lowest share of all EU countries and well below the EU average of 3.1%. OOP payments stood at 11.5% of current health expenditure in 2019 (Fig. 3), which was below the EU average of 15.4%. The voluntary health insurance market in Croatia started developing in the early 2000s, accounting for 6.6% of all health expenditure in 2019. Complementary voluntary health insurance plans cover all patient co-payments in the mandatory health insurance scheme. The largest share of OOP spending is on pharmaceuticals, followed by dental care (Fig. 3).

FIG. 3 COMPOSITION OF OUT-OF-POCKET PAYMENTS, 2019

<table>
<thead>
<tr>
<th>OOP distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient 0.8%</td>
</tr>
<tr>
<td>Outpatient medical care 2%</td>
</tr>
<tr>
<td>Pharmaceuticals 4.1%</td>
</tr>
<tr>
<td>Dental care 3.1%</td>
</tr>
<tr>
<td>Others 1.5%</td>
</tr>
</tbody>
</table>

**Note:** OOP: out-of-pocket; VHI: voluntary health insurance.

**Source:** OECD Health Statistics; Eurostat Database, 2021 (data refer to 2019).

**COVERAGE**

Health insurance is mandatory in Croatia and covers all residents, including foreign nationals residing in the country longer than three months (Box 2). No opting out of mandatory health insurance is possible. Dependent family members are covered through the contribution made by working family members, whereas the self-employed pay their own contributions in full. Vulnerable groups are exempt from payments. The Act on Mandatory Health Insurance gives the insured the right to health services and to financial compensation. The Act also mentions broad categories of covered health services and medical goods. As the main purchaser of health services, the CHIF, in cooperation with medical associations, determines the price list of all health services that are covered under the mandatory health insurance scheme. Decisions are made with the approval of the Ministry of Health. Some services, such as services for children, pregnant women, people above 65 years of age and people with disabilities, immunisations, palliative care etc., are exempt from co-payments and covered by the CHIF in full.

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* Complementary voluntary insurance, covering user charges in the mandatory health insurance scheme is called “supplementary insurance” in Croatia. The other type of VHI, which covers higher standards of care is called “additional insurance”.

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PAYING PROVIDERS

Providers contracted by the CHIF are paid on the basis of different payment mechanisms (Fig. 4). Primary care providers are paid using a combination of capitation, fee-for-service and pay-for-performance. In April 2013 a new payment model for general practitioners (GPs) was put in place. The goals were to incentivize health care providers to further increase the provision of certain types of care (e.g. preventive care) and to improve quality of care and patient satisfaction. In addition, GPs may receive bonus payments, depending on their performance and quality indicators.

Outpatient services are paid according to fee-for-service, while hospitals that belong to the National Health Care Network are largely paid according to global budgets, with 90% of revenues fixed and 10% depending on provided services (invoices by cases based on a diagnosis-related groups (DRG) system). Since 2020, 100% of hospital income has been paid in advance (up from 90% in 2019) and the hospitals provide invoices based on episodes of care. Furthermore, the CHIF introduced in 2015 a new price list for hospital outpatient services, offering higher reimbursement for same-day surgery procedures.

BOX 2 | WHAT ARE THE KEY GAPS IN COVERAGE?

Population coverage under the mandatory health insurance system is nearly universal, as all citizens and residents have the right to health care through the mandatory health insurance scheme. The scope of coverage is also broad, with most health services and medical goods publicly covered. The main gaps in coverage relate to the depth of the benefits package, as patients must contribute to the costs of many goods and services through co-payments. There are, however, exemptions from co-payments for vulnerable population groups. Certain population groups (e.g. people with disabilities) have the right to free complementary health insurance membership in the CHIF and their respective contributions are financed from the state budget.
What resources are available for the health system?

HEALTH PROFESSIONALS

Human resources in Croatia’s health system are on a similar level to the EU overall. The number of practising physicians per 100 000 inhabitants (352 in 2019) in Croatia was below the EU average (395), but had increased steadily from 237 in 2000, despite fears of out-migration following EU accession in 2013. (Fig. 5a)

The number of nurses per 100 000 population in Croatia has increased over the years and reached 685 in 2019 (Fig. 5b). Nurses are the most numerous professional group within health care, and account for 43.5% (31 555) of the total number of health professionals employed in the health sector (Croatian Institute of Public Health, 2020).

However, the geographical distribution of health care infrastructure and human resources varies considerably. Central Croatia (mainly Zagreb county and the city of Zagreb) has the largest number of facilities and health workers, while there are fewer facilities and health personnel (in particular primary care practitioners) in more remote areas, such as the islands off the Adriatic coast and rural areas in central and eastern Croatia. More people in Croatia (0.7% in 2019, compared to an EU average of 0.1%) report unmet medical needs due to distance than in any other EU Member State, indicating challenges in the geographical distribution of health facilities.
HEALTH INFRASTRUCTURE

Despite its low levels of health expenditure per capita, physical resources in Croatia’s health system are on a par with many other European countries. The number of curative care beds in hospitals declined from 389 per 100,000 population in 2012 to 354 in 2019, which was below the EU average of 387 in 2019 (Fig. 6). However, a large share of hospital beds in Croatia are long-term care beds and the number of curative hospital beds per population is lower than in comparator countries. Most hospitals are located in central Croatia, including in the city of Zagreb. The network of hospitals has not been substantially modified in recent decades to match migration patterns, the changing demographic structure of the population or advancements in medicine that enable care provision on an outpatient or day care basis rather than in inpatient facilities. The geographical distribution of health care infrastructure and human resources for health varies considerably. The number of magnetic resonance imaging (MRI) units in hospitals and providers of ambulatory health care in Croatia in 2019 was 1.3 per 100,000 inhabitants, and the number of computed tomography (CT) scanners was 2.0 (Fig. 7).
FIG. 6  BEDS IN ACUTE HOSPITALS PER 100 000 POPULATION IN CROATIA AND SELECTED COUNTRIES, 2000–2019

![Diagram showing the number of beds per 100,000 population in Croatia and selected countries from 2000 to 2019.]


FIG. 7  NUMBER OF PUBLIC HOSPITALS, MRI UNITS AND CT SCANNERS IN CROATIA, 2019

<table>
<thead>
<tr>
<th>Public Acute Hospitals</th>
<th>MRI scanners per 100,000 population</th>
<th>CT scanners per 100,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>1.3</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Notes: CT: computed tomography; MRI: magnetic resonance imaging.
Source: CHIF, 2022; Eurostat, 2021.

DISTRIBUTION OF HEALTH RESOURCES

The uneven geographic distribution of health workers and the difficulties in recruiting and retaining them in certain regions is an important policy issue in Croatia. The density of health workers is consistently greater in urban regions, reflecting the concentration of specialized services. The main concern is shortages of primary care practitioners in rural areas and on the islands. Furthermore, hospitals are struggling to provide a functioning service, resulting in many overtime shifts and the employment of retired staff. The main reasons why health workers leave rural areas are family commitments (associated with the poor employment and education opportunities there and a lack of free time) and lack of professional support. Furthermore, the distribution of pharmacies is also uneven, with pharmacies mainly located in urban settings and a poorly developed pharmacy network in rural areas.
How are health services delivered?

PRIMARY AND AMBULATORY CARE

Primary care services are provided by a network of first-contact doctors and nurses contracted by the CHIF. Every insured citizen is required to register with a family physician (in the case of adults) or a paediatrician (in the case of pre-school children), whom they can choose freely. Primary care physicians can be changed at any time, free of charge. They serve as gatekeepers to secondary and tertiary levels of care. Upon referral, patients are free to go to a hospital of their choice. A wide range of services is available at the primary care level, including general practice/family medicine, health services for pre-school children, maternal health services, home care and nursing care (Box 3).

Specialized outpatient care, such as consultations provided by secondary care specialists, is mostly delivered in hospital outpatient departments. Other settings include specialized ambulatory care units in public polyclinics and county health centres (usually linked to general and clinical hospitals) or private facilities. Provision of publicly paid services is subject to a contract with the CHIF. Patients need a referral from a primary care physician to access specialized ambulatory care.

There are difficulties in organizing continuous and comprehensive care for people with complex needs, especially in remote areas (rural areas and the country’s islands). The strategic policy documents for the forthcoming period emphasize the importance of horizontal and vertical integration within the health system and between the health and social care systems (Box 4).

BOX 3 | WHAT ARE THE KEY STRENGTHS AND WEAKNESSES OF PRIMARY CARE?

One of the key strengths of primary care in Croatia is organization according to underlying principles (with the entire population being covered by mandatory health insurance, receiving continuous care throughout their lifespan, the availability of primary care in all parts of the country, and primary care following a holistic approach), ensured through the implementation of integrated measures for health promotion and disease prevention, treatment, rehabilitation and palliative care.

Among the weaknesses is low availability of primary care, especially in rural areas. Privatization is believed to weaken the role of health centres as key stakeholders in organizing aligned health services at the local level. Patients tend to have lower trust in primary care physicians and rely more on specialist care, leading to a larger number of referrals to secondary care than would be clinically indicated.

BOX 4 | ARE EFFORTS TO IMPROVE INTEGRATION OF CARE WORKING?

Functional integration is one of the core principles of health care in Croatia, according to the 2019 Health Care Act. However, so far, no official report on its implementation has been published. Palliative care is a service developed as an integrated care model, coordinating all levels of health care as well as social care through palliative care coordinators, and there are visible results in this regard in the last 10 years (Vočanec et al., 2022).
HOSPITAL CARE

Inpatient secondary care facilities include general hospitals and specialized hospitals. All general and the majority of specialized hospitals are owned by the counties. While general hospitals primarily serve the population of their respective counties, specialist hospitals serve the entire population. All general hospitals must have the following departments: obstetrics and gynaecology, internal medicine, surgery and inpatient paediatric care. Other departments are optional and depend on the needs of the county population and the availability of hospitals or polyclinics in neighbouring counties. Specialist hospitals are organized around specific acute diseases, chronic illnesses or population groups. Tertiary care is provided in state-owned university hospitals and university hospital centres. In order to access secondary or tertiary hospital care contracted by the CHIF, patients need a referral from their primary care doctor, except for medical emergencies. Waiting times for certain diagnostic and treatment procedures are long in some hospitals (e.g. more than 12 months for hip and knee replacements), with major differences between hospitals.

PHARMACEUTICAL CARE

Croatia spends a larger share of its health expenditure on pharmaceuticals and medical devices (20.2% of current health expenditure) than the EU average (13.9%). Pharmaceuticals are sold to the public in pharmacies contracted by the CHIF. The sale of prescription drugs is restricted to pharmacies and dispensing can only be done by a pharmacist. Over-the-counter medicines are dispensed mainly through pharmacies (dispensing can also be done by a pharmaceutical technician), but some over-the-counter pharmaceuticals can also be sold in specialized retail shops, subject to special permission from the Agency for Medicinal Products and Medical Devices (HALMED). HALMED oversees and monitors consumption of medicinal products and promotes their rational use. In 2019, the total turnover of medicines in Croatia, according to data from community and hospital pharmacies and specialized drug stores, amounted to HRK 7.7 billion, or 15.5% more than in 2018. This was equivalent to approximately €255 per capita (HALMED, 2021).

LONG-TERM AND PALLIATIVE CARE

Croatia’s long-term care system is underdeveloped, with little or no coordination between the social welfare, health and war veterans’ systems; between national, county and municipal/city levels; or between public and private (not-for-profit and for-profit) providers. Only about 3% of older people received a form of public residential long-term care in 2018. The establishment of palliative care was one of the priorities of the National Health Care Strategy 2012–2020. Two strategic plans for palliative care were adopted subsequently that helped to establish a model of integrated palliative care that was implemented nationally.

DENTAL CARE

The basic package of dental services covered by the CHIF ensures almost all basic dental procedures (restorative, endodontic, basic periodontal, oral surgery, oral diseases, specified orthodontics up to 18 years of age, and some prosthodontics) and emergency dental care. The CHIF manages the content and price of each service provided within the mandatory health insurance scheme and actively checks billing to ensure that bills reflect the amount of work done. The Croatian Dental Chamber sets standards for services and is responsible for monitoring the quality of dental care.

Dental services are delivered through a network of dental offices, with teams consisting of a dentist and a dental assistant. In 2019 the Dental and Oral Health Service included 1940 teams. Geographical accessibility of dental services is good, although with some variation across the country. As for most other health services, access is more limited in rural and underdeveloped areas and on the islands.
What reforms are being pursued?

In recent years Croatia has undertaken reforms in a range of areas, including health financing, primary care, hospital care, public health, pharmaceutical policies and palliative care (Box 5). The reforms aimed to make health financing more sustainable, strengthen primary care, reduce hospital capacity and improve access to palliative care and expensive pharmaceuticals. However, progress in implementation varied, with implementation still at an early stage in the areas of hospital reform, primary care and human resources management and planning.

The National Development Strategy for 2020–2030, which includes areas of focus in the health sector, is anticipated to be a key strategic document to direct future efforts, partly because it is anticipated to be the basis for planning the budget and programming of financial resources from EU funds and other international sources. Other important strategic documents are the National Plan Against Cancer for 2020–2030 and the Action Plan for Prevention and Control of Chronic Non-Communicable Diseases for 2020–2026.

### BOX 5 | KEY HEALTH SYSTEM REFORMS OVER THE LAST 10 YEARS

- **2013:** New financing model for primary health care
- **2014:** Palliative care reform
- **2015:** Croatian Health Insurance Fund separates from the State Treasury
  - New financing model for hospitals (partially implemented)
  - Strategic Plan for Human Resources in the health sector
- **2017:** Hospital restructuring (functional integration model) (partially implemented)
  - Hospital priority waiting lists
- **2019:** Increase of health insurance contribution rate to raise CHIF revenue
  - Abolition of concessions and further privatization of primary care practices (implementation ongoing)
  - Introduction of the Central Management System (implementation ongoing)
  - Rationalization of public health and health quality agencies

How is the health system performing?

**HEALTH SYSTEM PERFORMANCE MONITORING AND INFORMATION SYSTEMS**

Improving health care quality is an explicit policy aim, but so far, a comprehensive quality improvement strategy with an action plan that defines priorities, performance indicators and roles/responsibilities is missing. Several mortality rates are among the highest in the EU, including mortality from cancer, preventable causes (including lung...
cancer, alcohol-related causes and road traffic deaths) and air pollution. However, the Croatian health system has developed networks for collection and processing of health information: examples of registries include the Cancer Registry, the Registry of People with Disabilities, the Registry of Treated Psychoactive Drug Addicts, the Registry of Committed Suicides and the Registry of Psychoses. There are also registries collecting information on health care resources. Based on previously unconnected and non-harmonized registries, the National Public Health Information System was developed as a common platform.

ACCESSIBILITY AND FINANCIAL PROTECTION

Accessibility of services is generally high, given the country’s near universal population coverage (covering over 99% of the population), with a wide range of services covered by mandatory health insurance and low out-of-pocket payments. Eurostat data for 2020 show that 1.5% of respondents expressed an unmet need for medical care due to cost, distance or waiting list (Fig. 8). Unmet medical need due to cost is relatively low and has been on the decline over the past few years, decreasing from 2.2% in 2011 to 0.3% in 2020. However, the poorest are more affected. There are also geographical barriers (in rural, poorly populated and remote areas, and islands), as well as long waiting times, which are likely to have increased as a result of the COVID-19 pandemic.

HEALTH CARE QUALITY

Croatia has been developing a quality monitoring and analysis system for more than 15 years, but there is still no comprehensive quality improvement strategy (World Bank, 2020). One of the strategic goals of the National Health Development Plan for the period 2021–2027 is the improvement of the health system, with one of its priority measures to establish a comprehensive national health quality and safety system, including through clinical guidelines, accreditation, payment related to quality and outcomes, health technology assessment (see also Box 6).

Key indicators on the quality of primary care, such as avoidable hospital admissions for chronic conditions including chronic obstructive pulmonary disease (COPD), congestive heart failure, diabetes and asthma, which are available for other EU countries, are still lacking for Croatia. With regard to the quality of hospital care, the standardized 30-day hospital mortality rate for acute myocardial infarction (AMI) is much higher than in most other EU countries (Fig. 9).

BOX 6 WHAT DO PATIENTS THINK OF THE CARE THEY RECEIVE?

In 2017 the Croatian Health Insurance Fund (CHIF) conducted a nationally representative survey exploring the views of 1000 respondents on the health system and the work of health institutions. On a scale of 1 to 5, the average satisfaction with the quality of services and the work of health institutions was 3.2. Respondents identified as the greatest strengths of the health system the performance of medical staff (42.4%), the work of the emergency medical service (40.8%), the attitudes of health professionals towards patients (39.3%) and the availability of health services (37.5%). The waiting lists for diagnostic tests and specialist examinations were identified as the biggest problem in the health system. Respondents were generally satisfied with the primary care system.
FIG. 8  UNMET NEEDS FOR A MEDICAL EXAMINATION (DUE TO COST, WAITING TIME, OR TRAVEL DISTANCE), BY INCOME QUINTILE, EU/EEA COUNTRIES, 2020


Source: Eurostat (2021), based on EU-SILC.
FIG. 9 IN-HOSPITAL MORTALITY RATES (DEATHS WITHIN 30 DAYS OF ADMISSION) FOR ADMISSIONS FOLLOWING ACUTE MYOCARDIAL INFARCTION, CROATIA AND SELECTED COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>Rate per 100 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavia</td>
<td>14.0</td>
</tr>
<tr>
<td>Croatia</td>
<td>12.4</td>
</tr>
<tr>
<td>Estonia</td>
<td>12.0</td>
</tr>
<tr>
<td>Lithuania</td>
<td>11.5</td>
</tr>
<tr>
<td>Germany</td>
<td>11.8</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>11.6</td>
</tr>
<tr>
<td>Finland</td>
<td>11.4</td>
</tr>
<tr>
<td>Malta</td>
<td>11.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>10.9</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10.5</td>
</tr>
<tr>
<td>EU-23</td>
<td>10.2</td>
</tr>
<tr>
<td>Spain</td>
<td>10.2</td>
</tr>
<tr>
<td>Belgium</td>
<td>10.1</td>
</tr>
<tr>
<td>Austria</td>
<td>10.0</td>
</tr>
<tr>
<td>Czechia</td>
<td>9.9</td>
</tr>
<tr>
<td>Slovakia</td>
<td>9.8</td>
</tr>
<tr>
<td>France</td>
<td>9.7</td>
</tr>
<tr>
<td>Italy</td>
<td>9.6</td>
</tr>
<tr>
<td>Ireland</td>
<td>9.5</td>
</tr>
<tr>
<td>Slovenia</td>
<td>9.4</td>
</tr>
<tr>
<td>Poland</td>
<td>9.3</td>
</tr>
<tr>
<td>Sweden</td>
<td>9.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>9.1</td>
</tr>
<tr>
<td>Norway</td>
<td>9.0</td>
</tr>
<tr>
<td>Denmark</td>
<td>8.9</td>
</tr>
<tr>
<td>Iceland</td>
<td>8.8</td>
</tr>
</tbody>
</table>

Notes: Figure is based on admission data and has been age–sex standardized to the 2010 OECD population aged 45+ admitted to hospital for AMI.

Source: OECD Health Statistics, 2019 (data refer to 2017 or nearest year).

HEALTH SYSTEM OUTCOMES

Croatia’s mortality rates from amenable* causes are very high and well above the EU average (141 compared to 111 per 100 000 population), but have declined since 2011 (Fig. 10). As with mortality from preventable causes, cardiovascular diseases and ischaemic heart disease in particular play a big role, accounting for almost 40% of deaths that could be avoided through timely and appropriate treatment. Colorectal and breast cancer also contribute substantially, making up a further 26% of deaths from amenable causes. Croatia has also been severely affected by the COVID-19 pandemic.

* Amenable mortality refers to causes of death that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment (i.e. after the onset of diseases, to reduce case fatality).
Mortality from preventable causes (deaths which could have been avoided by public health interventions, including lung cancer, alcohol-related causes and road traffic deaths) in Croatia was the third highest in the EU in 2017 and well above the EU average (79 compared to 55 per 100 000) (Fig. 10). This high rate points to underdeveloped intersectoral policies to address key determinants of ill-health, such as smoking, alcohol consumption and road traffic deaths (Box 7). Anti-smoking policies in Croatia are still weak, with a lack of smoke-free places (indoor smoking is allowed in some bars) and underdeveloped media campaigns against tobacco use. There is anti-tobacco legislation (such as the 2017 Act on Restrictions on the Use of Tobacco and Related Products), but evaluations or outcome data of national strategies or interventions are not available. Deaths from alcohol-related causes and transport accidents also exceed the EU average.

**FIG. 10 AMENABLE AND PREVENTABLE MORTALITY PER 100 000 POPULATION IN CROATIA AND OTHER EU COUNTRIES, 2000 AND 2019**

**Notes:** EEA: European Economic Area.
Age-standardized death rates for all persons calculated by European Observatory for Health Systems and Policies.

**Source:** Mortality and population data from WHO detailed mortality files (released June 2021); amenable causes as per list by Nolte and McKee (2004); preventable causes: lung cancer, chronic liver disease, road traffic.
Health system efficiency is not monitored systematically in the Croatian health system. There are some limited studies, but their results need to be treated with caution due to the limited availability and quality of data. Some examples are the low efficiency in the implementation of programmes for the prevention and treatment of cancer, the high rates of amenable mortality and large regional disparities in the use of emergency medicine, all indicating that there may be more efficient ways of using existing resources (Voncina, Dzakula & Mastilica, 2007; Jafarov & Gunnarsson, 2008; Šiško & Šiško, 2017). At a very macro level, considering levels of amenable mortality in relation to health expenditure per capita (Fig. 11), Croatia is doing reasonably well, with several countries having higher levels of amenable mortality despite similar or higher levels of expenditure.

The breakdown of health expenditure by health care functions indicates scope for improved allocative efficiency. In 2019 Croatia spent 29.5% of its expenditure on inpatient curative and rehabilitative care, which was slightly above the EU27 average of 29.1%. Expenditure on outpatient care (consisting of primary care and specialist outpatient care mostly provided by hospital outpatient departments) accounted for 37.9%, which was above the EU27 average of 29.5%. Policies are also being pursued to improve expenditures on pharmaceuticals (Box 8).

Technical inefficiencies (a poor level of outputs given the quantity of inputs) exist in both hospital and primary care. The hospital payment system has been reformed in recent years, but hospitals remain prone to the accumulation of arrears, as spending limits are not sufficiently aligned with types and amounts of services. The average length of stay in hospitals has been gradually decreasing, from 9.5 days in 2010 to 8.2 days in 2018, but remains above the EU13 and EU15 averages.

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**BOX 7 | ARE PUBLIC HEALTH INTERVENTIONS MAKING A DIFFERENCE?**

Approximately 44% of all deaths in Croatia can be attributed to behavioural risk factors, including dietary factors, tobacco smoking, alcohol consumption and low physical activity. Intersectoral policies to address key determinants of ill-health, such as smoking and poor nutrition, are underdeveloped. Anti-smoking policies are weak, with a lack of smoke-free places and underdeveloped media campaigns against tobacco use. The prevalence of obesity is high and growing. A Centre for Healthy Eating and Physical Activity was opened in 2014 and a National Plan for the Reduction of Salt Intake for the period 2015–2019 was adopted in 2014, but there is much more scope for stepping up preventive programmes. Deaths from alcohol-related causes and transport accidents exceed the EU average. Alcohol control policies have been adopted, including a minimum age of 18 years for sales on or off the premises, but there is scope for implementing further restrictions.

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**BOX 8 | IS THERE WASTE IN PHARMACEUTICAL SPENDING?**

At present Croatia spends around €100 million on the procurement of medicines for the treatment of cancer. Due to increases in the price of medicines and the number of patients, this amount is increasing on average by €20 million annually. The Ministry of Health aims to achieve savings through joint public procurement with other EU Member States, better control over the consumption of expensive medicines, and an increase in the use of generic drugs. Croatia is taking part in cross-border cooperation to jointly negotiate with the pharmaceutical industry on drug pricing through the Valletta Group (with Cyprus, Greece, Ireland, Italy, Malta, Portugal, Romania, Slovenia and Spain). CHIF’s basic list comprises generic drugs whenever available. The use of expensive medicines is coordinated between the CHIF and the hospital commission.
FIG. 11 AMENABLE MORTALITY PER 100 000 POPULATION VERSUS HEALTH EXPENDITURE PER CAPITA, CROATIA AND SELECTED COUNTRIES, 2019

Amenable mortality per 100 000

Health expenditure US $ PPP per capita

0  2 000  4 000  6 000  8 000  10 000

0  50 100 150 200 250 300

Romania
Bulgaria — Latvia
Hungary — Slovakia
Poland
Croatia

Note: PPP: purchasing power parity.

Summing up

Prior to the onset of the COVID-19 pandemic in 2020, the Croatian health system had made important progress towards improving the health of the population. Almost the entire population has access to a broad range of publicly paid services. Private out-of-pocket payments are relatively low and the country has achieved high levels of financial protection. However, there are geographical barriers, as well as long waiting times, impeding the accessibility of health services, which are likely to have increased as a result of the COVID-19 pandemic.

In addition to COVID-19 infections, the health system is faced with high levels of mortality from preventable and amenable causes. Available information on quality of care suggests that there is much scope for improvement. The standardized 30-day hospital mortality rate for acute myocardial infarction (AMI) is much higher than in most other EU countries.

The National Development Strategy for 2020–2030 that was adopted in February 2021 has the strategic goals of improving the health of citizens throughout their lifecourse, and improving access to and quality of health services and creating an efficient health system. This strategy might provide the required framework for accelerating reforms of hospital and primary care and improving quality of care.
### POPULATION HEALTH CONTEXT

#### KEY MORTALITY AND HEALTH INDICATORS

<table>
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<tr>
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<th>Life expectancy at birth, total</th>
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<tbody>
<tr>
<td></td>
<td>Life expectancy at birth, male</td>
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<td>Life expectancy at birth, female</td>
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<th>All causes*</th>
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<tr>
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<td>Circulatory diseases*</td>
<td>609</td>
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<td>Malignant neoplasms*</td>
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<td>Communicable diseases*</td>
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<td>External causes*</td>
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<td></td>
<td>Infant mortality rate (per 1 000 live births)</td>
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<td></td>
<td>Maternal mortality rate per 100 000 live births (modelled estimate)</td>
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</table>

**Notes:** SDR: standardized death rate.  
*Age-adjusted rates with the European standard population 2010.  
**Source:** Eurostat, 2022; World Bank, 2022 for maternal mortality.

### REFERENCES


