Luxembourg

Health system summary 2024

European Observatory on Health Systems and Policies
a partnership hosted by WHO

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This Health System Summary is based on the *Luxembourg Health System Review* (HiT) published in 2024 in the Health Systems in Transition (HiT) Series. 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?

The health system in Luxembourg is based on statutory health insurance and is highly centralized

Organization

Luxembourg has a mandatory statutory health insurance (SHI) system for economically active individuals. Health system financing is shared between employees, employers and the state through income-based contributions and government funding. The SHI system is also guided by the principles of solidarity, universal access and free choice of providers. As Luxembourg is one of the smallest countries in the world, the health system is highly centralized. The recently established Ministry of Health and Social Security (known as M3S), resulting from the merger of the Ministry of Health and the Ministry of Social Security, is responsible for health care planning, legislation and financing. Additionally, the Ministry of Family Affairs oversees long-term care (LTC) facilities. The National Health Fund (Caisse nationale de santé, CNS) manages SHI and LTC insurance. Capacity for evidence-based policy development and implementation was recently enhanced by the establishment of the National Health Observatory (Box 1).

Box 1 Capacity for policy development and implementation

The National Health Observatory was created in 2021 to increase the capacity for policy development and implementation. Operating as an independent institution under the authority of the M3S, its goal is to enhance the evidence-based management of the health system. In 2024, supported by the European Commission (EC) and the Organisation for Economic Co-operation and Development (OECD), the National Health Observatory launched the Health System Performance Assessment (HSPA) project, which seeks to provide a systematic approach for the evaluation of Luxembourg's health system, thereby further contributing to improved policy development.

Planning

Luxembourg's health care planning primarily focuses on the hospital sector and pharmacies. The M3S has no legal mandate to plan for the ambulatory sector, allowing outpatient healthcare practices to be established anywhere in the country without geographic restrictions. The provision of care is shared among hospitals and health professionals contracted by CNS, who must adhere to contractual agreements and tariffs. The Health Directorate administers the delivery of public health services either directly or by collaborating with external partners through contracts, known as conventional agreements.

Providers

The different types of hospitals, their departments, obligations and organizational structure are defined by the 2018 Hospital Law. A conventional agreement between CNS and the Federation of Luxembourg Hospitals sets budgetary rules and staffing standards. The regulation of other health facilities (such as residential

homes for older people and ambulatory mental care centres) fall under the responsibility of the Ministry of Family Affairs. The Health Code regulates healthcare professionals, including physicians, dentists, pharmacists, psychotherapists, nurses, physiotherapists and midwives, through four separate laws. The legislation outlines the requirements for obtaining authorization to practise and specifies the rules and guidelines governing the exercise of these professions. All licensed providers with a CNS framework agreement with their representative association are automatically contracted and must follow CNS tariffs and reimbursement rules, while others not on the specified list cannot bill through the SHI (for example, osteopaths).

How much is spent on health services?

Luxembourg's share of public financing for health care is one of the highest in Europe and household out-of-pocket payments are relatively low

Funding mechanisms

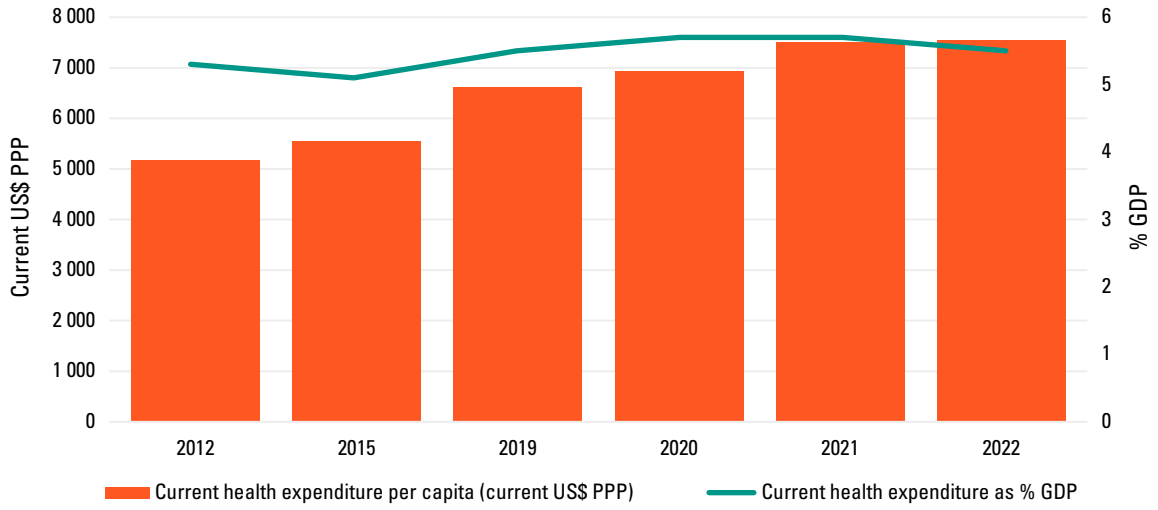
Luxembourg's health system is based on compulsory SHI. Contributions are income-based, with a capped maximum limit. Social security contributions are paid by employers, employees, pensioners and pension funds, and represent around 60% of the health system's public financing, while the other 40% comes from a fixed state transfer derived from general tax revenue. Overall, 86.1% of current health expenditure (CHE) was publicly funded in 2022 (OECD, 2024). Household out-of-pocket (OOP) payments are among the lowest in the EU, accounting for 8.7% of CHE in 2022, but, as data are not collected systematically, household spending may be underestimated (OECD et al., 2023). The share of voluntary health insurance (VHI) schemes is relatively small (4.1% in 2022). CNS determines the overall SHI budget every year based on multiannual expenditure forecasts, but, apart from the overall budget allocation for hospital sector expenditure, there is no overall allocation of funds or budgetary objective.

Health expenditure

CHE per capita in Luxembourg is among the highest in Europe, reaching US$ 7515 (adjusted for differences in purchasing power, PPP) in 2021 and US$ 7540 in 2022 (Figs. 1 & 2). This represented 5.5% of GDP in 2022. It should be noted that CHE as a share of GDP is not a perfectly representative measure of Luxembourg's health spending, as its GDP includes cross-border workers' economic activities but health spending data exclude these foreigners' health care consumption, which mainly occurs in their home countries.

Luxembourg's public expenditure on health as a share of CHE is high (86.1%), ranking third in the WHO European Region (WHO, 2024). Private expenditure as a share of CHE (12.8% in 2022) is composed of two thirds household OOP payments and one third VHI payments. In 2022, over two thirds of the population had private VHI to cover cost-sharing fees (complementary insurance) and/or services not covered by the SHI (supplementary insurance).

Fig. 1 Trends in health expenditure in Luxembourg, 2012–2022 (selected years)



Notes: GDP: gross domestic product; PPP: purchasing power parity.
Source: WHO, 2024.

Out-of-pocket payments

Over the past decade, Luxembourg has maintained a relatively low and stable share of household OOP payments as a proportion of CHE, remaining at approximately 9.0% in 2022 (Fig. 3). This is significantly below the EU average of 14.5% and lower than in many neighbouring countries, due in part to the comprehensive nature of Luxembourg's compulsory SHI scheme (Eurostat, 2024).

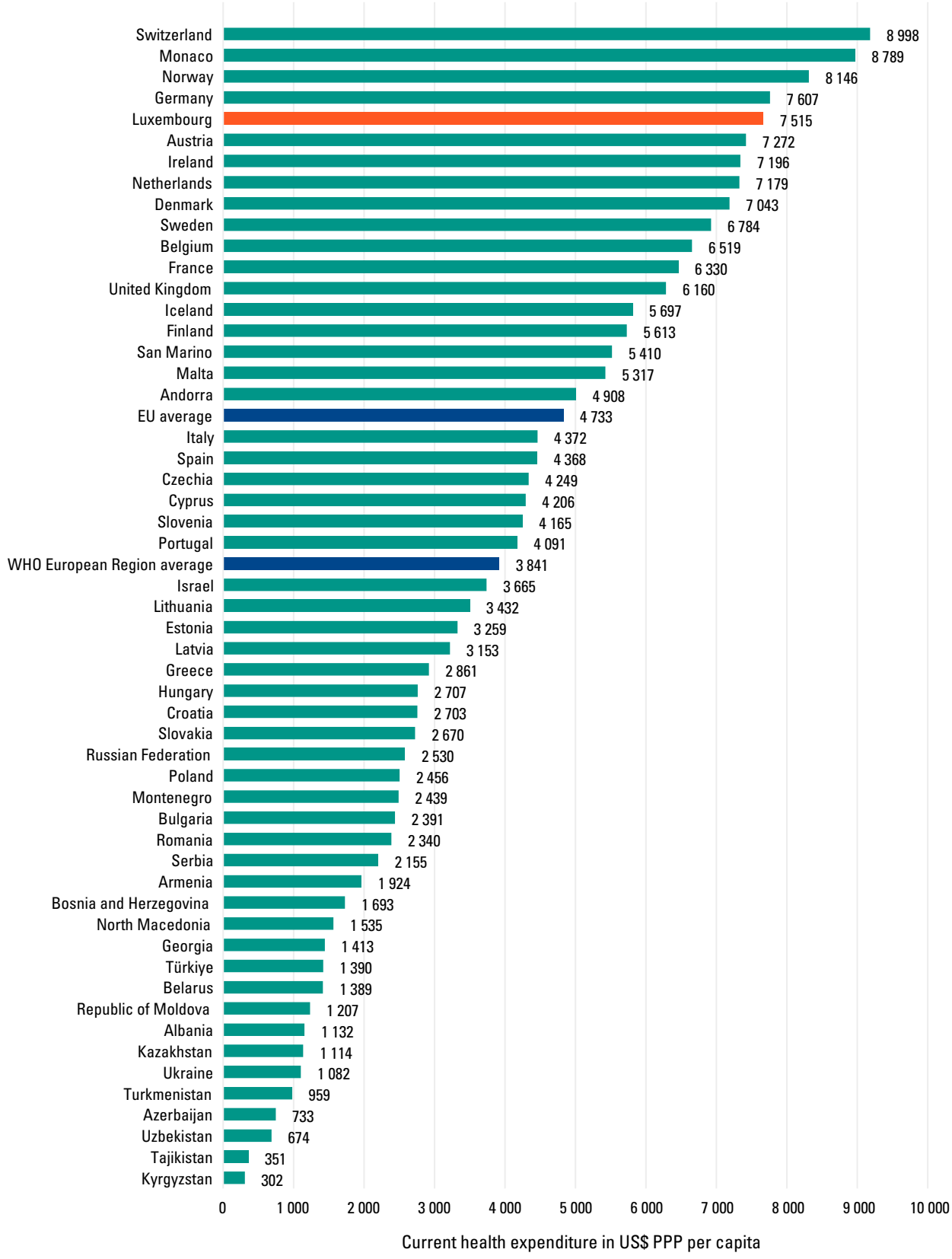
In 2022, household OOP spending was primarily allocated to pharmaceuticals (29%), outpatient care (21%), LTC (20%) and dental care (18%). Inpatient care accounted for 6% of household OOP spending (OECD, 2024).

Detailed data regarding OOP payments in the ambulatory sector are not available. However, household outlays on this type of care pose potential barriers to adequate financial protection. Medical products also contribute to financial strain, accounting for around 60% of OOP payments in households experiencing catastrophic health spending in 2017 (WHO Regional Office for Europe, 2023).

Coverage

In Luxembourg, SHI is compulsory: economically active individuals, children under 18 years old and those receiving state benefits or substitutive income must be affiliated with the Social Security Centre (IGSS, 2023). SHI covers the insured person, as well as their non-earning spouse and children (co-insured). In 2021, SHI covered 91.8% of the resident population and, among the people affiliated to SHI, around 70% were residents and 30% were non-residents (ObSanté, 2024). The gap in universal coverage can be partly explained by existing exemptions for the 11 900 people working in international organizations located in the country (and their dependents). Even so, some individuals still face access barriers to health insurance (see Box 2). SHI covers a wide range of services. User charges are required for most health care goods and services but overall cost-sharing in Luxembourg is low.

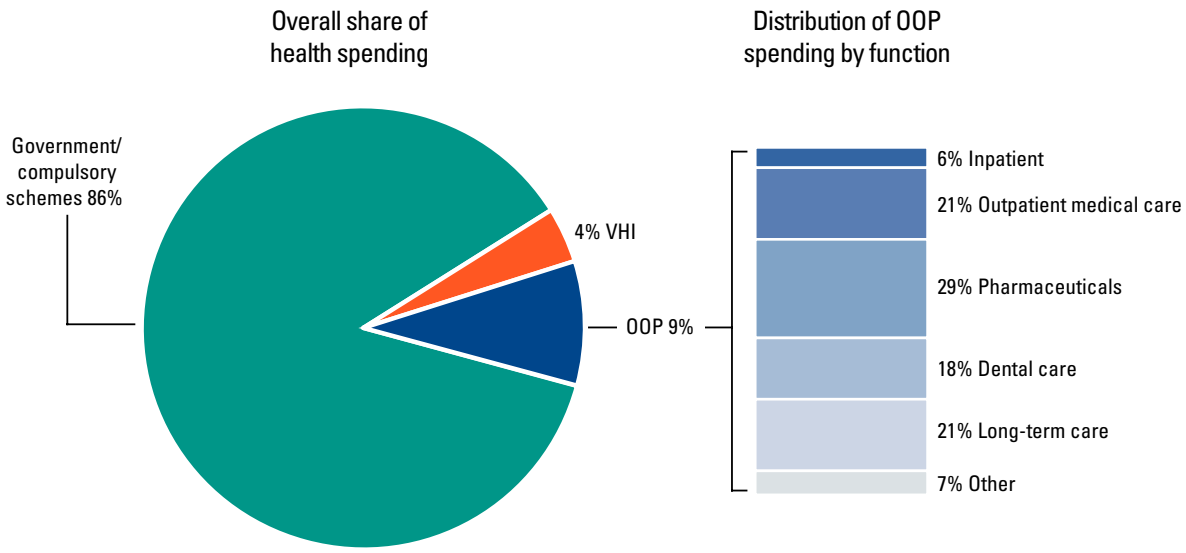
Fig. 2 Current health expenditure (US$ PPP) per capita in WHO European Region countries, 2021



Notes: EU: European Union; PPP: purchasing power parity.

Source: WHO, 2024.

Fig. 3 Composition of out-of-pocket payments, 2022



Notes: OOP: out-of-pocket; VHI: voluntary health insurance.
Source: OECD, 2024.

Box 2 What are the key gaps in coverage?

Despite good overall coverage, some individuals still face access barriers, in particular, if they lack a permanent official address.

While the law permits residents in Luxembourg to have basic payment accounts even without a fixed address, opening a bank account may still be challenging for individuals without an official address and declared employment, therefore impacting their affiliation with SHI. Even though overall cost-sharing is low in Luxembourg, financial concerns remain an important access barrier. In 2021, approximately 85.5% of beneficiaries of Médecins du Monde Luxembourg, a nongovernmental organization offering medico-psychosocial services to individuals facing challenges in accessing healthcare, reported financial issues as a significant barrier to obtaining necessary medical care (Médecins du Monde Luxembourg, 2021). In response, in 2022, the government introduced the universal health coverage pilot project (Couverture universelle des soins de santé, CUSS) to provide SHI access to all vulnerable persons who do not have the means to voluntarily affiliate with SHI (CHD, 2022).

Paying providers

CNS and providers establish contractual agreements, which expect adherence to the nationally established fee schedules. Hospitals negotiate a fixed fee-for-service-based budget with CNS. Most health professionals working in hospitals (except medical doctors who are paid through a fee-for service) are salaried and financed by the hospital's general budget, while health professionals in the ambulatory sector are paid on a fee-for-service basis (Fig. 4).

Fig. 4 Provider payment mechanisms in Luxembourg






GPs	Specialists	Acute hospitals	Hospital outpatient services	Dentists	Pharmacies
Mainly FFS	FFS	Health professionals (except medical doctors/ specialists): salaried. Clinical biology and medical imaging: mixed-financing FFS and GB. PD for specified activities GB for specific activities (e.g. research)	Mainly FFS Daily case payment for certain activities. Health professionals (except medical doctors): salaried.	FFS	Pharmacists: Salaried (if not self-employed) Pharmaceutical products: FFS

Notes: FFS: fee-for-service; GB: global budget; PD: per diem.

What resources are available for the health system?

Luxembourg has limited human resources with a strong reliance on its foreign-trained workforce

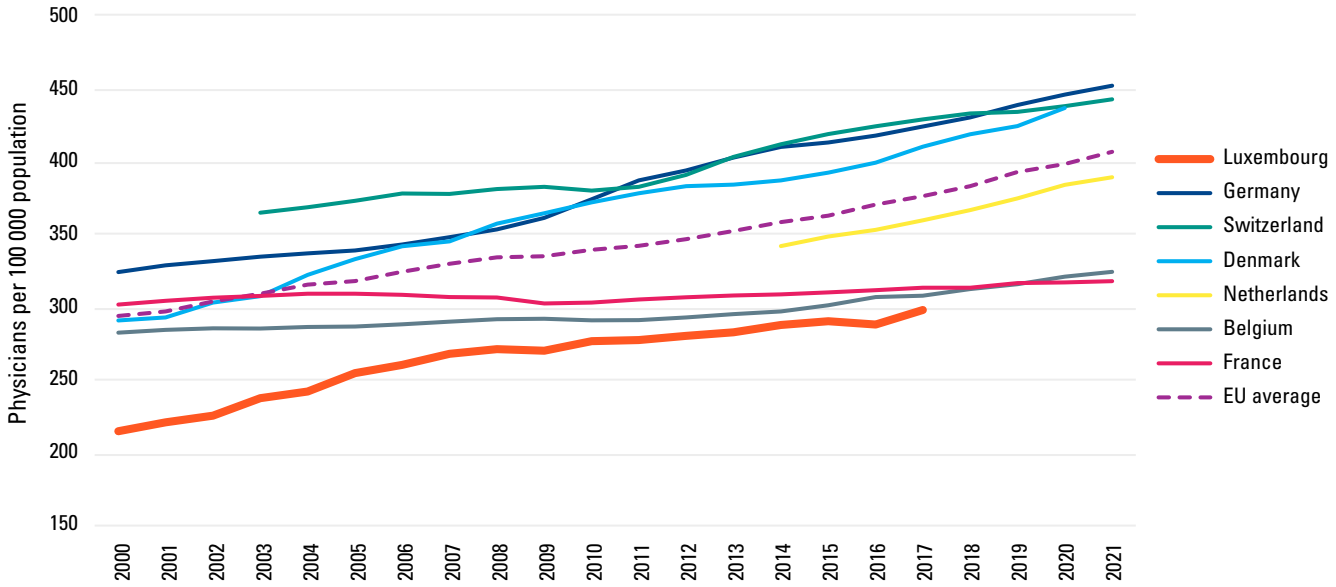
Health professionals

Due to the restructuring of its digital registry, Luxembourg has not reported health workforce data internationally since 2017. In that year, Luxembourg reported below-EU average density of physicians (298 practising physicians per 100 000 population compared to 377 on average in the EU) (Fig. 5a). This lower density is largely attributed to the absence of comprehensive domestic medical training, which leads to a high reliance on foreign-trained doctors. In response, in 2021 the Government introduced a bachelor's programme to train first-cycle medical students and expanded post-graduate training to neurology and

oncology specialities, in addition to general practice.

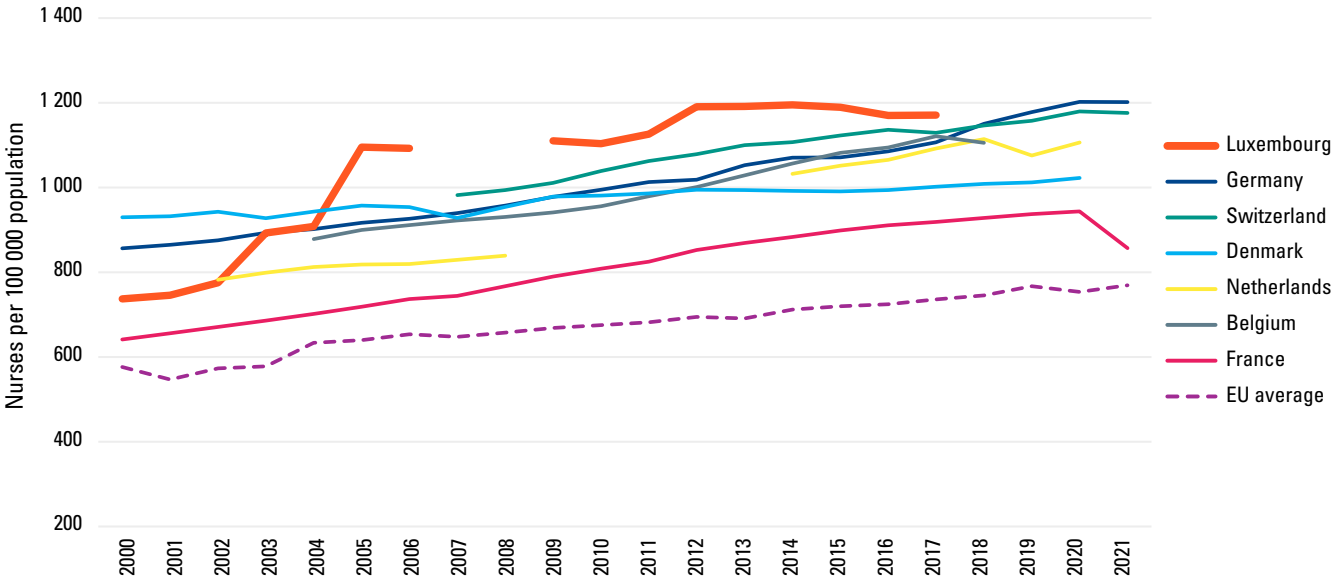
In contrast, Luxembourg reported a high number of nurses (1172 per 100 000 population) in 2017, far above the EU average (737 per 100 000 population) (Fig. 5b). Nonetheless, the nursing workforce faces a similar dependence on foreign-trained professionals. Unlike many other European countries, Luxembourg does not require a bachelor's degree for nursing, but an advanced technician certificate. However, in 2023, the University of Luxembourg introduced four bachelor's degree programmes for nursing graduates aimed at advancing their professional expertise. Training for dentists, veterinarians and pharmacists is not available in the country.

Fig. 5a Number of practising physicians per 100 000 population in Luxembourg and selected countries, 2000 to latest available year



Source: Eurostat, 2024.

Fig. 5b Number of practising nurses per 100 000 population in Luxembourg and selected countries, 2000 to latest available year



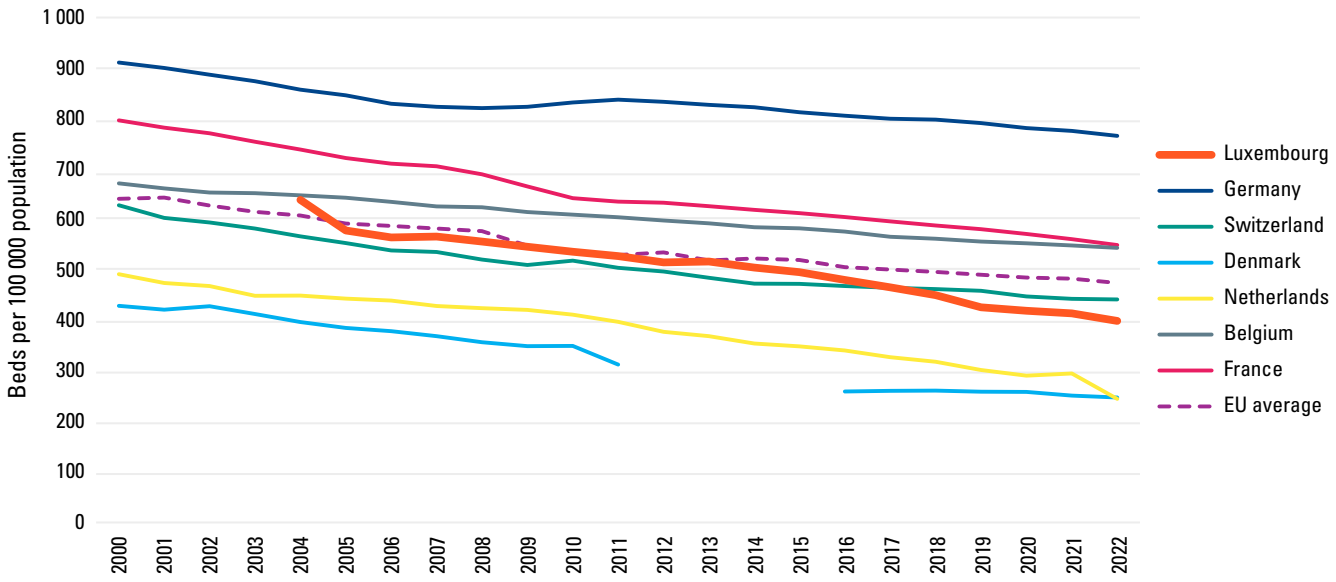
Source: Eurostat, 2024.

Health infrastructure

The hospital landscape in Luxembourg has changed significantly over the past few decades, with the number of hospitals dropping from 36 in 1986 to 10 in 2023 (ObSanté, 2024). Four are general hospitals offering a wide range of services including emergency and maternity care, while the other six are specialized hospitals, two in acute cardiology and radiotherapy care and four in rehabilitative psychiatric, geriatric, functional and cancer care. In 2023, Luxembourg had a total of 2640 hospital beds, of which 76.6% were for acute care. Like in many other European countries, the number of hospital beds has declined significantly since 2004, from 639 per 100 000 population to 400 beds per 100 000 population in 2022, which is below the EU average (475 per 100 000 population) (Fig. 6).

The recent acquisition of computed tomography (CT) scanners and magnetic resonance imaging (MRI) units has increased their density to 22 CT scanners and 17 MRI units per million inhabitants in 2021, which is below the OECD averages (28 and 18 per million inhabitants, respectively) (Fig. 7). Nevertheless, despite improvements noted in subsequent audits (Bouëtté et al., 2019; Conseil Scientifique, 2023b; DiSa, 2023), Luxembourg had the second-highest frequency of CT and MRI examinations per inhabitant among OECD countries in 2021 (244 and 116 per 100 000 population, respectively).

Fig. 6 Total beds per 100 000 population in Luxembourg and selected countries, 2000–2022



Source: Eurostat, 2024.

Distribution of health resources

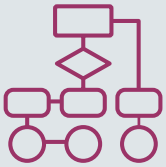
Given Luxembourg's small size, acute care services are well distributed, with one general hospital in the north, two in the centre and one in the south. The 2018 Hospital Law seeks to centralize highly specialized care and encourage cooperation across hospitals and integrated care networks (Mémorial A222, 2018). Although centralization of care is needed, it also affects geographic accessibility to certain services, with functional rehabilitation only available in the central region and psychiatric rehabilitation concentrated in the north.

Fig. 7 Magnetic resonance imaging (MRI) and computed tomography (CT) scanners in Luxembourg, per million population, 2021

	MRI scanners per million population	CT scanners per million population
Luxembourg	17	22
OECD average	18	28

Notes: CT: computed tomography; MRI: magnetic resonance imaging; OECD: Organisation for Economic Co-operation and Development.
Source: OECD, 2023a.

How are health services delivered?



Luxembourg's health system offers a wide range of services, with patient choice and direct access to all health care providers as key principles of delivery

Public health

The M3S and the Health Directorate are responsible for population health. Public health services are delivered through a variety of channels as the Health Directorate either directly administers the services or collaborates with external partners through conventional agreements. Luxembourg provides a wide range of public health services, from vaccination programmes to school-based health promotion activities, including maternal, prenatal, child and cancer-screening programmes. Nevertheless, although the country still records high rates of risk behaviours such as smoking and alcohol consumption, there is no overarching strategic plan dedicated to prevention and public health.

Primary and ambulatory care

There is no gatekeeping system in Luxembourg and patients can freely choose their health care providers (see Box 3), even though initiatives were introduced to encourage patients to use their general practitioner (GP) as the first entry point in the health care system. In 2019, the share of residents who consulted a GP at least once per year (58%) was similar to the EU average (54%), but significantly higher than the EU average for specialist consultations (53% versus 35%, respectively) (Eurostat, 2024).

Box 3 What are the key strengths and weaknesses of primary care?

The principle of free choice of health professionals is considered a key strength of Luxembourg's primary health care system. The absence of access restrictions and no financial disincentives to choosing physicians according to personal preferences means that patients benefit from a broad range of services, including specialist care. Nevertheless, the absence of a gatekeeping system may hamper coordination and planning within primary care. Additionally, the organization and governance of primary care in Luxembourg faces challenges due to the lack of an overarching law or clear guidelines that establish the framework for the delivery of primary and ambulatory care.

Hospital care

Although Luxembourg has made strides in shifting treatment from inpatient to ambulatory care, evidenced in the rise of day care hospitalization from 31% in 2010 to 48% in 2021 (ObSanté, 2024), the health care system remains largely hospital-centric, with a continued emphasis on specialized care services (see also Box 4). The average length of hospital stay in 2021 was 7.3 days, higher than in France (5.6 days) and Belgium (6.3 days) and similar to Germany (7.4 days) (OECD, 2024). To align with the principle of "not everything everywhere", complex or volume-sensitive specialized care is often concentrated in a single hospital, sometimes even centralized at the national level. For highly specialized treatments and complex conditions, patients may also be referred to hospitals abroad.

Box 4 Are efforts to improve integration of care working?

Integrated care initiatives are relatively new in Luxembourg. The 2018 Hospital Law (Art. 28) constitutes the first move towards an integrated care approach and consists of regulating integrated care networks that encompass primary and specialized care providers from single practices to health care facilities. The Hospital Law outlines the different medical conditions or groups of diseases that may be included in the scope of an integrated care network, as well as the criteria to obtain authorization to establish such a network. As of March 2023, integrated care networks were being established for three conditions: chronic pain, neurodegenerative diseases (ParkinsonNet), and immuno-rheumatologic diseases. As of mid-2024, only ParkinsonNet is operational.

Pharmaceutical care

As the competent authority under the M3S, the Pharmacy and Medicines Division of the Health Directorate oversees pharmacy practice, as well as the regulation of medicines and health products. Luxembourg is the only EU country without a dedicated national regulatory authority for pharmaceutical products, but a law is underway to create such an agency, the Agence luxembourgeoise des médicaments et produits de santé (ALMPS) (CHD, 2020). All medicines marketed in Luxembourg are imported, mostly coming from Belgium and neighbouring countries (Conseil de la concurrence, 2022). Pharmaceuticals are distributed through community pharmacies and hospital pharmacies. Despite the existence of generic substitution schemes, Luxembourg has the lowest volume and value of generic use in outpatient treatments in the EU (OECD/European Observatory on Health Systems and Policies, 2023). Antibiotic consumption and antimicrobial resistance concerns have been on the political agenda for several years and Luxembourg's antibiotic consumption is below the European average both in community and hospital settings (ECDC, 2023).

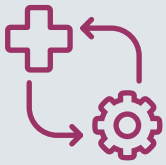
Long term care

Luxembourg has strong service delivery in geriatric rehabilitation and LTC facilities. Introduced in 1998, LTC insurance operates according to the same principles as health insurance. Services that enable individuals to perform essential daily activities (for example, personal hygiene, toileting, eating, dressing and mobility) are covered, including necessary technical assistive technology and home adaptations. In addition, Luxembourg covers informal caregivers' contributions to the pension fund, provides cash benefits for the services delivered and offers training sessions to support caregivers in their roles.

Dental care

Dental care is provided by general dentists, orthodontists, and maxillofacial and oral surgeons (Mémorial A139, 2011). The fees for dental care are fixed in national fee schedules by Grand-Ducal Regulation, following the same procedure as for physicians. OOP expenditure on dental care in Luxembourg amounts to a significant proportion of cost sharing, representing nearly one fifth of all OOP payments in 2022 (see Fig. 3). Most dentists operate within private practices, but, similarly to physicians, some hold individual contracts with hospitals and divide their work between their private practices and hospitals. Despite existing legislation, Luxembourg's dental sector lacks robust enforcement standards and operates without a supervisory body. Hence, breaches in regulations often go undetected or without legal consequences (such as advertising practices).

What reforms are being pursued?



Key reforms in the past 15 years focused on ensuring the health system's sustainability and quality of care

The 2010 Health Reform, adopted in response to the 2008 financial crisis, targeted cost-containment and quality improvement while laying the groundwork for multiple laws to come, such as those establishing the eHealth infrastructure and the introduction of an overall budget allocation for hospital expenditure. In 2017, the LTC reform aimed to enhance quality of care, restructure the benefits basket and invest in preventive services, as well as establishing clear standards. Furthermore, the 2018 Hospital Law marked a pivotal milestone for hospital care, introducing transparency requirements in hospital activities and refining hospital departments based on demographic growth, medical progress, and population health. Finally, the recent merger of two ministries into the M3S is intended to improve alignment and coordination in public health policy. Key health system reforms over the past 15 years are depicted in Box 5.

Upcoming policy efforts focus on health care digitalization with the development of a comprehensive digitalization strategy, pharmaceutical products regulation with the establishment of the regulatory authority ALMPS, and health care workforce with the creation of additional education programmes, a digital health workforce register and enhanced task sharing.

Box 5 Key health system reforms over the past 15 years

- 2010: Law of 17 December 2010, **reforming the health care system**.
- 2014:
  - Law of 1 July 2014, transposing Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011, on the application of **patients' rights in cross-border health care**;
  - Law of 24 July 2014, concerning patients' rights and obligations, establishing a **national information and mediation service** in the field of health.
- 2015: Law of 14 July 2015 creating the **profession of psychotherapist**.
- 2017: Law of 29 August 2017, reforming **LTC insurance**.
- 2018: Law of 8 March 2018, regarding **hospital establishments and hospital planning**.
- 2021: Law of 2 March 2021, creating a **National Health Observatory**.
- 2023: Law of 23 August 2023, concerning the **quality of services for the elderly**.

How is the health system performing?

Luxembourg's health system performs well in both overall health outcomes and accessibility, yet equity, information and efficiency challenges remain

Health system performance monitoring and information systems

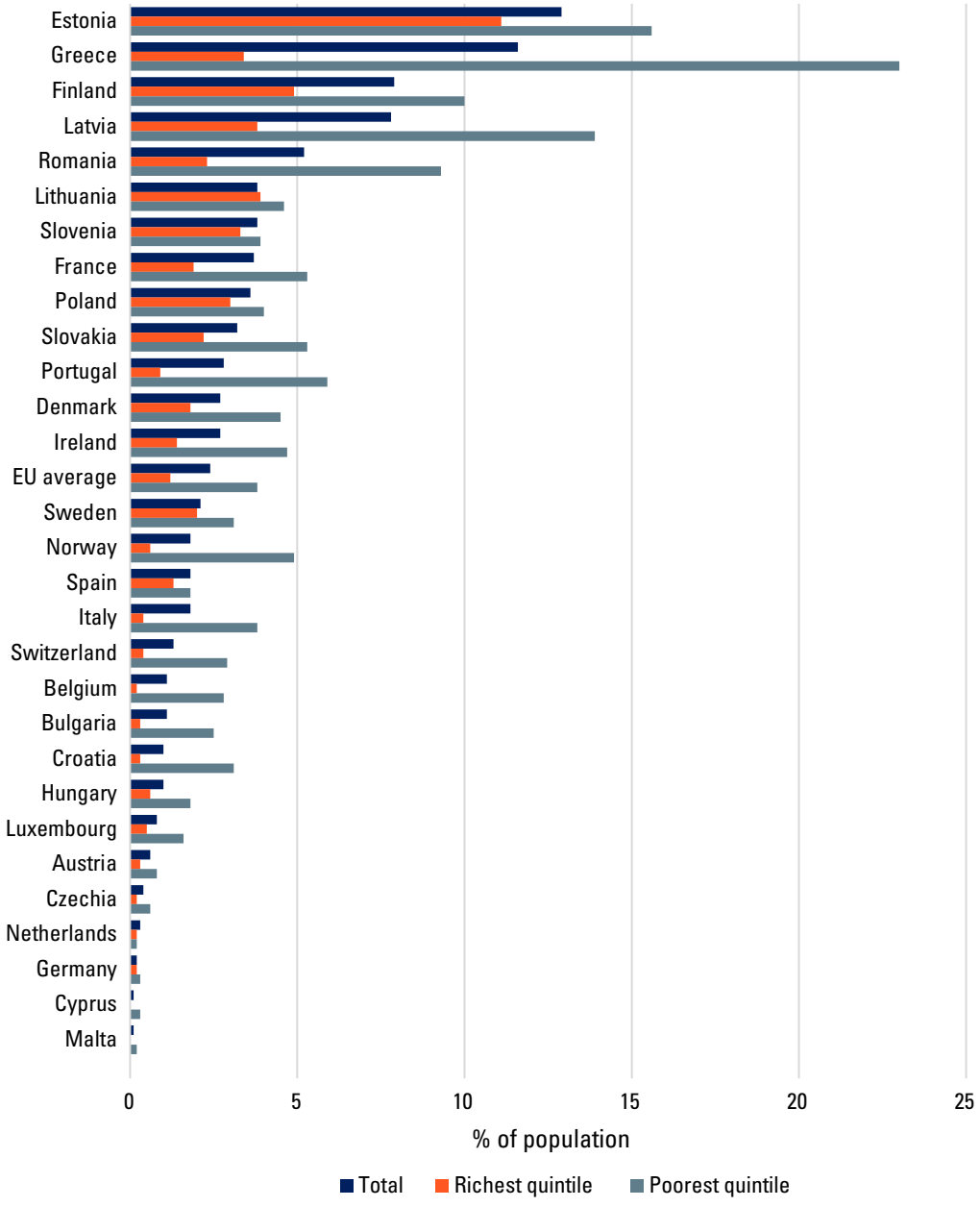
Capacity for evidence-based decision-making is growing. The establishment of the National Health Observatory in 2022 aims to enhance intelligence on performance, enabling policy-makers to identify problems and assess the impact of policy actions. Additionally, in June 2024, Luxembourg started the development of a HSPA framework to increase strategic planning, policy development and monitoring of the health system, as well as current and future reforms. Nonetheless, policy capacity in Luxembourg's health system is still difficult to assess as the implementation of policies is not systematically monitored, evaluations of policies are rarely undertaken, and the country does not have a national health information system geared for the systematic collection, analysis and use of population health data.

Accessibility and financial protection

The overall availability of health care services in Luxembourg is high, with Luxembourg residents' level of satisfaction with the availability of quality health services ranking third across OECD countries in 2022 (OECD, 2023b). Health care coverage is high, and the insured population benefits from universal access and a broad benefits basket. Catastrophic health spending is relatively low, with 2.3% of the population reporting catastrophic spending in 2019 (WHO Regional Office for Europe, 2023). Even though waiting times remain a challenge, unmet needs for medical and dental treatments in Luxembourg are among the lowest in Europe.

Only 0.8% of the population reported unmet needs for medical examination due to cost, waiting time or travel distance in 2023, which stands significantly below the EU average (2.4%) (Fig. 8), and 1.2% of the population reported unmet needs for dental care, almost three times less than the EU average (3.4%) (Eurostat, 2024). Nonetheless, disparities remain and the poorest quintile of the population reports medical and dental unmet needs that are 1.1 and 2.5 percentage points (respectively) higher than the richest quintile.

Fig. 8 Unmet needs for a medical examination (due to cost, waiting time, or travel distance), by income quintile, EU/EEA countries, 2023



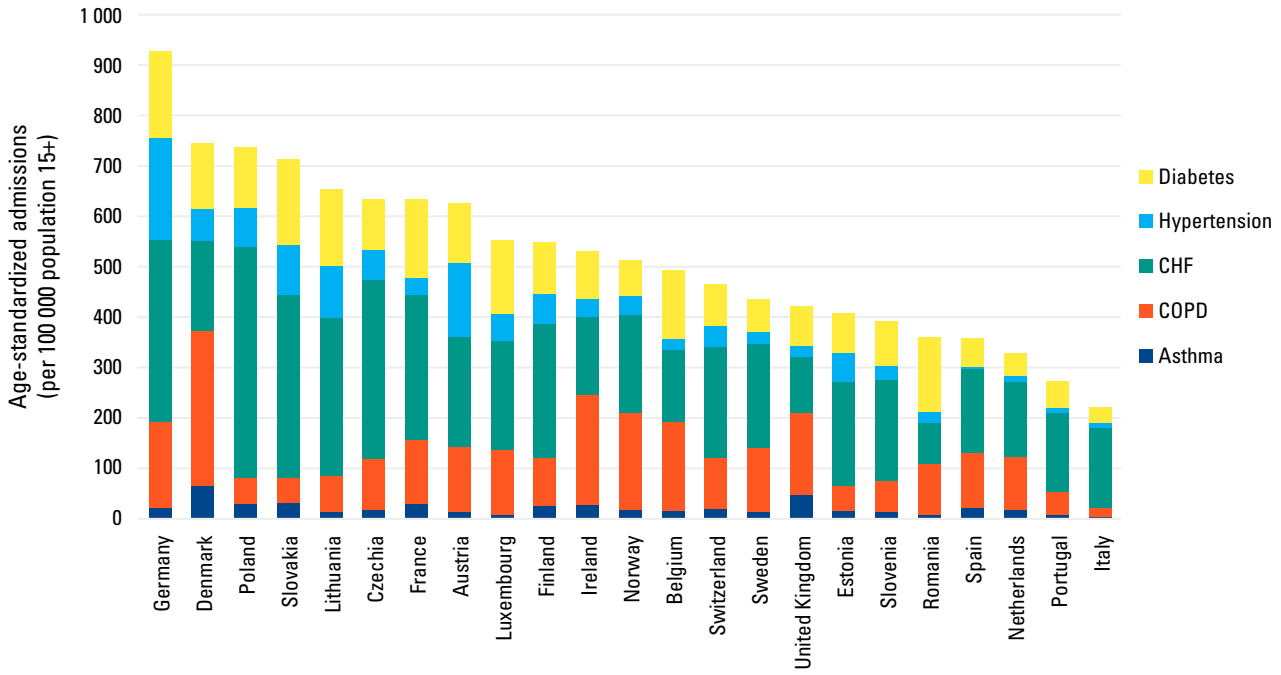
Note: EEA: European Economic Area.

Source: Eurostat, 2024.

Health care quality

Luxembourg does not have a national health care quality assurance programme and the responsibility for monitoring and ensuring the quality of services remains with the service providers. Data on quality of care in the country remains insufficient. According to internationally used metrics to assess quality of primary care, Luxembourg does not perform particularly well. The age-standardized avoidable hospital admission rates for conditions that could be treated effectively within ambulatory care, ie. asthma and chronic obstructive pulmonary disease, congestive health failure, diabetes and hypertension combined was 554.5 per 100 000 population in 2021, placing Luxembourg in the middle group of European countries with reported data (Fig. 9). Efforts to collect and analyse patient-reported experience and outcome measures are ongoing (see Box 6).

Fig. 9 Avoidable hospital admission rates for asthma and chronic obstructive pulmonary disease, congestive heart failure, hypertension and diabetes, EU/EEA countries, 2021



Notes: CHF: congestive heart failure; COPD: chronic obstructive pulmonary disease. Data refers to 2021 or latest available.
Source: OECD, 2024.

Box 6 What do patients think of the care they receive?

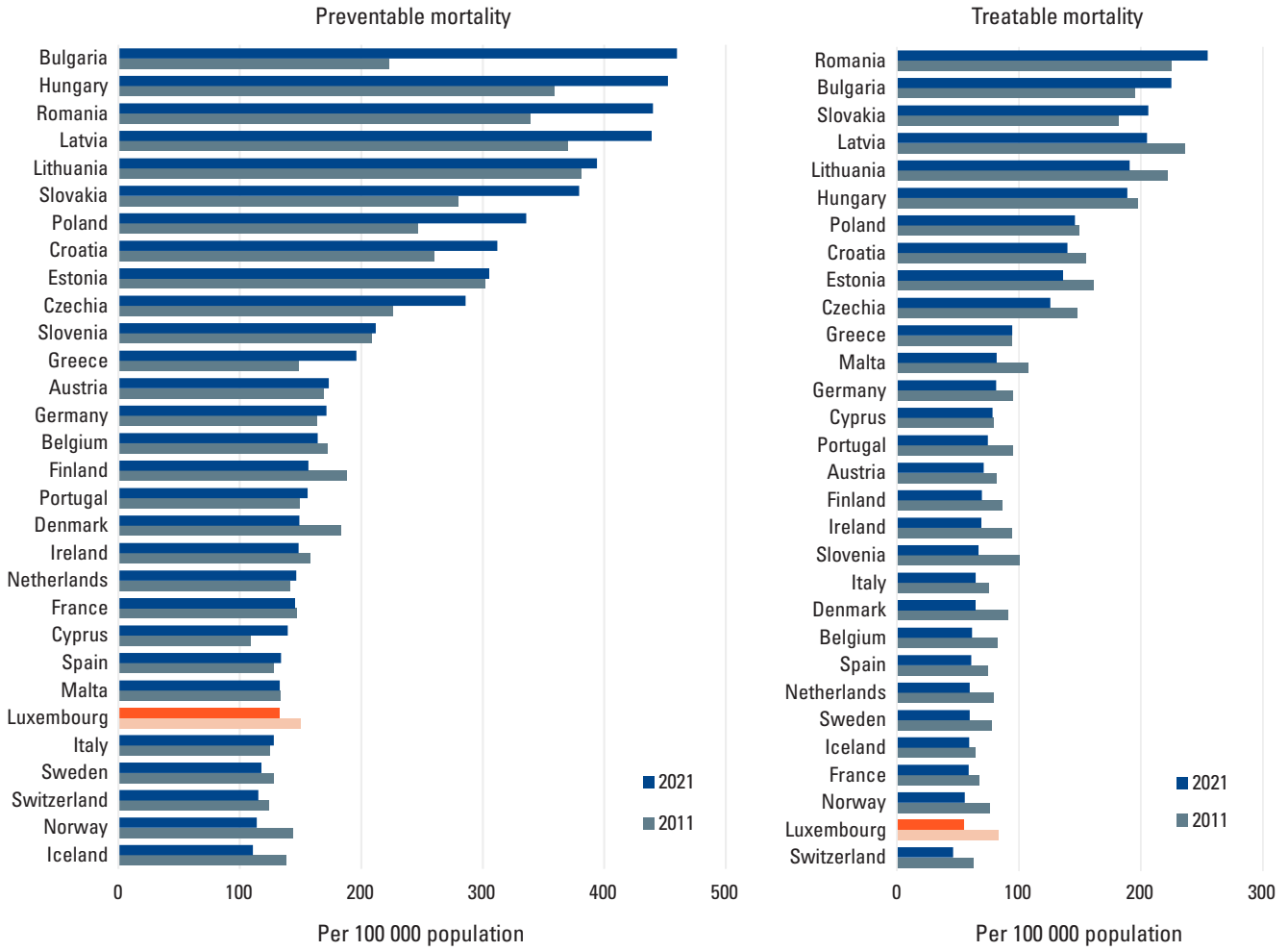
The European Health Interview Survey (EHIS) conducted in Luxembourg includes information on patient satisfaction and perception of the health care system. In 2019, residents were generally satisfied, with over 90% of the patients reporting that their physician spent enough time during their last consultation, provided sufficient information, and/or allowed them to ask questions or raise concerns. Around 85% of the respondents also felt involved in shared decision-making.

In acute hospitals, patient-reported experience measures (PREMs) are collected on an individual basis. However, assessing PREMs is challenging due to a lack of standardized approaches across hospitals and comparable publicly available data are insufficient. Efforts to develop PREMs and Patient-Reported Outcome Measures (PROMs) are underway but, to date, they are not widely implemented.

Health system outcomes

Overall, Luxembourg performs well on measures of its population's health status. In 2022, life expectancy at birth in Luxembourg was 83.0 years, slightly above the pre-COVID-19 pandemic level (82.7 years). It is one of the highest life expectancy levels among EU countries and 2.4 years above the EU average (80.6 years) (Eurostat, 2024). Over the past decade, mortality from preventable and treatable causes has decreased in Luxembourg. In 2020, Luxembourg recorded the second lowest age-standardized treatable mortality rate in the EU (60.3 deaths per 100 000 inhabitants), as well as one of the lowest age-standardized preventable mortality rates (133.7 deaths per 100 000 inhabitants) (Fig. 10). Nonetheless, behavioural risk factors remain a major contributor to mortality in Luxembourg and are estimated to be responsible for about one in three deaths (OECD/European Observatory on Health Systems and Policies, 2023). In 2021, healthy life years at birth for both women and men (61.6 years and 62.3 years respectively) were lower than the EU average (64.2 years and 63.1 years respectively) (Eurostat, 2024). Hence, as suggested by the example of tobacco policies (see Box 7), more emphasis could be placed on implementing effective public health interventions.

Fig. 10 Mortality from preventable and treatable causes 2011 and 2020, EU/EEA countries



Note: After 2020, deaths due to COVID-19 are counted as preventable deaths, resulting in an increase in mortality from preventable causes for most countries.

Source: Eurostat, 2024.

Box 7 Are public health interventions making a difference? The example of tobacco

Although smoking rates among youth had been on a downward trend in recent years, they saw a slight increase in 2021. The initial decline can be attributed to various anti-tobacco initiatives, including a ban on smoking in public spaces introduced in 2006 and subsequent legislation in 2013 and 2017. These measures restricted certain substances, as well as banning the advertisement and sponsorship of tobacco products (except at points of sale) and in the form of the product name and brand (the introduction of neutral packaging). Furthermore, the law requires that tobacco products display health warnings as well as graphic images on cigarette and rolling tobacco packages. In addition to these government initiatives, a smoking cessation programme offers free consultations at medical facilities to help individuals quit smoking.

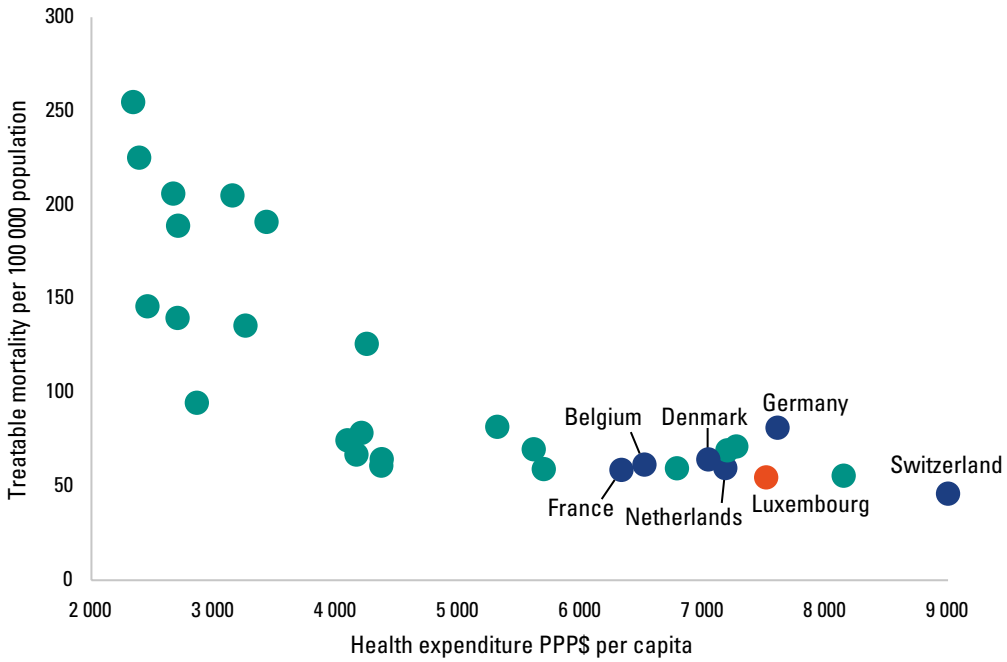
In 2023, the National Cancer Foundation launched the A Generation Free of Tobacco campaign, aiming to create the first tobacco-free adult generation by 2040. However, Luxembourg remains less proactive than other European countries in using financial disincentives against smoking, and it currently has the lowest cigarette prices in Europe, with 20-cigarette packs costing approximately €5–8, compared to around €12 in France. In July 2023, prices rose by €0.20 per pack (Luxembourg Government, 2023).

A further reduction in smoking rates may be achieved through additional strategies, such as implementing and evaluating tobacco control measures and strengthening financial disincentives.

Health system efficiency

Indicators of health system efficiency suggest that there is room for improvement in Luxembourg's health care system. A cursory illustration of the health system's performance in terms of input costs and outcomes can be obtained by plotting current health expenditure against the treatable mortality rate (Fig. 11). On this metric, while Luxembourg has one of the lowest rates of treatable mortality, it also has one of the highest per capita healthcare expenditures among countries with similar health system

Fig. 11 Treatable mortality per 100 000 population versus health expenditure per capita, Luxembourg and selected countries, 2021



Note: US$ PPP: US dollars adjusted for differences in purchasing power.

Sources: Eurostat, 2024; WHO, 2024.

outcomes. Moreover, despite various reforms aimed at improving financial sustainability and containing costs, Luxembourg still lacks a prioritization mechanism for budget allocation. The current financing model provides few incentives to enhance efficiency, and preventive care remains a low priority within health care delivery.

Additional factors affecting efficiency include obstacles to promoting task-sharing among different healthcare professional groups, as well as limited interoperability among information technology systems. This lack of interoperability results in non-standardized data recording, with health information not readily accessible to all health care providers.

Summing up

Luxembourg has a well-performing health system with challenges shared by many other EU countries

Luxembourg's health system operates under a SHI model with a single insurance fund but faces challenges due to fragmented decision-making. Efforts to address these issues include the recent merger of two ministries into the M3S. Moving forward, further efforts could focus on developing an overarching health plan. The ongoing development of a HSPA framework and enhancement of information systems will further contribute to evidence-based decision-making. Luxembourg's population benefits from high coverage rates, with a comprehensive health package, and reports high levels of satisfaction with the health system. Unmet medical needs from medical and dental care are low. Nevertheless, access to SHI for part of the population is still challenging, and differences in reported unmet needs between the lowest and the highest income quintiles of the population remain. While efforts to tackle these challenges are ongoing, notably with the universal health coverage pilot project CUSS and the existence of cost-sharing exemptions, universal application is still lacking and administrative barriers still exist.

Luxembourg performs particularly well on health outcome indicators, with low preventable and treatable mortality rates. However, further gains can be made by strengthening public health actions, advancing digitalization and enhancing the health system's efficiency. Finally, health workforce challenges are also an important focus of ongoing and future health policies.

Population health context

Key mortality and health indicators

Life expectancy (years)	2022
Life expectancy at birth, total	83.0
Life expectancy at birth, male	80.8
Life expectancy at birth, female	85.2
Mortality	**2022**
All causes (SDR per 100 000 population)	803.7
Circulatory diseases (SDR per 100 000 population)	212.0
Malignant neoplasms (SDR per 100 000 population)	202.0
Communicable diseases (SDR per 100 000 population)	22.5
External causes (SDR per 100 000 population)	41.9
Infant mortality rate (per 1 000 live births)	1.7
Maternal mortality	3 recorded deaths between 2011 and 2021

Notes: SDR: standardized death rate; SDR are age-adjusted rates with the European Standard Population 2013.
Sources: Life expectancy: Eurostat, 2024; mortality: Health directorate, 2023; maternal mortality: Seuring, Ducomble & Berthet, 2024.

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