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North Macedonia

Health system review

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PREFACE

The Health Systems in Transition (HiT) series consists of country-based reviews that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each review is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, reviews are based on a template prepared by the European Observatory, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a report.

HiTs seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe and other countries. They are building blocks that can be used to:

- learn in detail about different approaches to the organization, financing and delivery of health services, and the role of the main actors in health systems;
- describe the institutional framework, process, content and implementation of health care reform programmes;
- highlight challenges and areas that require more in-depth analysis;
- provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries; and
- assist other researchers in more in-depth comparative health policy analysis.

Compiling the reviews poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including data from national statistical offices, the Organisation for Economic Co-operation and Development (OECD), the International

Monetary Fund (IMF), the World Bank's World Development Indicators and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate review.

A standardized review has certain disadvantages because the financing and delivery of health care differ across countries. However, it also offers advantages because it raises similar issues and questions. HiTs can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situations. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to contact@obs.who.int.

HiTs and HiT summaries are available on the Observatory's website (www.healthobservatory.eu).

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The HiT uses data available in August 2024, unless otherwise indicated. The HiT reflects the organization of the health system and the data availability, unless otherwise indicated, as it was in August 2024.

The Observatory is a partnership that includes the governments of Austria, Belgium, Finland, Ireland, the Netherlands (Kingdom of), Norway, Slovenia, Spain, Sweden, Switzerland and the United Kingdom; the Veneto Region of Italy (with Agenas); the French National Union of Health Insurance Funds (UNCAM); WHO; the European Commission; the Health Foundation; the London School of Economics and Political Science

(LSE); and the London School of Hygiene & Tropical Medicine (LSHTM). The partnership is hosted by the WHO Regional Office for Europe. The Observatory is composed of a Steering Committee, core management team, research policy group and staff. Its secretariat is based in Brussels and it has offices in London at LSE and LSHTM and at the Technical University of Berlin. The Observatory team working on HiTs is led by Josep Figueras, Director; Elias Mossialos, Martin McKee, Reinhard Busse (Co-directors); Richard Saltman, Ewout van Ginneken and Suszy Lessof. The Country Monitoring Programme of the Observatory and the HiT series are coordinated by Anna Maresso. The production and copy-editing process of this HiT was coordinated by Jonathan North, with the support of Lucie Jackson, Jennifer Butt (copy-editing) and Natalia Binert (typesetting).

LIST OF ABBREVIATIONS

AKAZUM	Agency for Quality and Accreditation of Health Care Institutions
CME	continuing medical education
COPD	chronic obstructive pulmonary disease
COSI	Childhood Obesity Surveillance Initiative
CT	computed tomography
DRG	diagnosis-related group
EU	European Union
EU SILC	EU Statistics on Income and Living Conditions
GDP	gross domestic product
GP	general practitioner
HIF	Health Insurance Fund
HiT	Health Systems in Transition
HTA	health technology assessment
IPA	Instrument of Pre-Accession Assistance
IPH	Institute of Public Health
IVF	in vitro fertilization
MALMED	Agency for Medicines and Medical Devices
MKD	Macedonian denar
MLSP	Ministry of Labour and Social Policy
MoES	Ministry of Education and Science
MoH	Ministry of Health
MRI	magnetic resonance imaging
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket
PET	positron emission tomography
SDGs	Sustainable Development Goals
SDR	standardized death rate
SEEHN	South-eastern Europe Health Network

SSHI	State Sanitary and Health Inspectorate
UHC	universal health coverage
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations' Children Fund
USAID	United States Agency for International Development
VHI	voluntary health insurance
WHO	World Health Organization

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ABSTRACT

This analysis of North Macedonia's health system reviews developments in its organization and governance, financing, provision of services, health reforms and health system performance. Life expectancy improved prior to the COVID-19 pandemic, but remains far below the EU average, and the country still struggles with comparatively high levels of morbidity and mortality. The social health insurance system covers almost the entire population and progress has been achieved in providing access to publicly covered essential health services. However, challenges remain for patients in accessing health services and in financial protection. Geographical accessibility of services varies, with better access in the capital and major cities compared to smaller towns and rural areas. In terms of health financing, the health system offers universal population coverage for a wide range of benefits and services, which are free at the point of delivery or require only minimal co-payments to prevent overuse. Yet the share of private spending on health as a percentage of current health expenditure is high, which undermines the achievement of key health system goals, such as financial protection, equity and efficiency. The health workforce has been a focus of health reforms and efforts are underway to strengthen education and training to improve the skill mix and competences of the health workforce to respond to new challenges and an ageing population. The ratio of physicians per population has increased markedly in recent years, but remains below the EU average. The priorities for the country in the National Health Strategy 2021–2030 are restructuring the hospital system, continuing the country's primary care reform, and improving quality of care while increasing the efficiency of resource use. Access to medicines has improved, but further efforts are needed to ensure access to innovative medicines and treatments. Overall, the Macedonian health system has made important progress, especially in terms of digitalization of health care and access to e-services and telemedicine, but unmet needs remain an issue. The main outstanding challenges include increasing the responsiveness of the

health system to population needs; redistributing resources and activities from hospitals to primary health care; ensuring access to medicines; and safeguarding the financial sustainability of the health system.

EXECUTIVE SUMMARY

Life expectancy is far below the EU average due to prevailing unhealthy behaviours and underdeveloped public health policies

North Macedonia has a total population of approximately 1.8 million and faces the same demographic challenges as many other European countries, including population ageing, a low birth rate and a negative migration trend. Until 2019 life expectancy at birth increased to 75.8 years but, due to the impact of the COVID-19 pandemic, decreased to 74.4 years in 2020 and 74.5 in 2021, which was far below the EU average of 80.1 years in 2021. The gender gap in life expectancy is smaller than in the EU, with females on average living 4.4 years longer than males, compared to an EU average of 5.7 years.

Mortality rates for the most common causes of death have declined since the 2000s, especially for circulatory diseases and cancer, but are still above the EU average. A number of risk factors influence these health outcomes, including high smoking rates, obesity, sedentary lifestyles and low levels of physical activity. On a positive note, alcohol consumption per person is lower than the EU average.

The centralized health system uses mandatory social health insurance as the main source of public funding

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 main strategic planning is articulated in the National Health Strategy, renewed in 2020 for the period

2021–2030. The Ministry of Health also regulates standards for quality of care that are enforced by the Agency for Quality and Accreditation of Healthcare Institutions (AKAZUM). Decision-making and financing of public institutions is fully centralized, including appointment of management structures, service planning and budget allocation. The Ministry of Health also makes decisions on the scope and number of institutions eligible to provide services under social health insurance, which constitute the national Health Network.

North Macedonia has a mandatory social health insurance system which consolidates public financing under a single entity, the Health Insurance Fund (HIF), which is the single purchaser of health services provided under the social health insurance scheme. The HIF contracts all health care institutions which are part of the Health Network. For services which are either not available in public institutions or for which there is insufficient capacity, the HIF concludes contracts with private providers. In addition, the HIF concludes contracts with primary care providers, which have been operating as private entities since a reform in 2004.

All primary care practices have been privatized

Although most health care providers (especially of secondary and tertiary care) remain under public ownership, private providers have grown in number, notably in primary care, specialist and inpatient care, dental services and pharmaceuticals. All primary care practices have been privatized and operate under contracts with the HIF. On the other hand all public university hospital centres, university hospitals, general hospitals, medical institutes and health centres are under the direct authority of the Ministry of Health, including appointment of management, financing and recruitment.

There is an increasing awareness of patient rights, but to date comparative information on providers is missing and there seem to be few repercussions for violating patient rights. People can choose their primary care provider in general practice, obstetrics/gynaecology, and dentistry, and can change them up to twice a year without stating a reason.

The share of public spending is low and private spending is substantial

North Macedonia spends less on health per capita than the averages in the WHO European Region and the EU. Health spending as a proportion of GDP (8.5% in 2021) was close to the average of the WHO European Region (8.7% in 2021) but below the EU average (9.4%).

The share of public spending as a proportion of current health expenditure is comparatively low and stood at 54.5% in 2021. Consequently, out-of-pocket (OOP) spending as a share of current health expenditure remains high (41.7% in 2021), far exceeding the EU average of 15.0% in 2021. Although available since 2012, and growing since 2015, voluntary health insurance plays a minor role in health financing, accounting for 2.7% of current health spending in 2021.

All citizens and residents have the right to health care through the social health insurance scheme, and population coverage is nearly universal; those not covered are persons without regular employment or self-employed people who do not pay contributions. Although the breadth and scope of the scheme are broad, patients must contribute to the costs of many goods and services through co-payments. There are exemptions from co-payments for vulnerable population groups, including children, older people, people with disabilities and those on low incomes. For certain population groups (e.g. unemployed, households who receive permanent social assistance and people who are not insured under existing eligibility provisions), social health insurance contributions are financed from the state budget or other line ministries and institutions.

Providers contracted by the HIF are paid on the basis of different payment mechanisms. Primary care providers are paid using a blended capitation model, whereas preventive services and specialist consultative services are paid according to defined packages. Inpatient care and hospitals are paid on the basis of global budgets, linked to a diagnosis-related group (DRG) system.

There are sufficient physical resources but migration poses challenges

To ensure equitable geographical access to health services, the Health Network of certified health care providers was introduced in 2012. However,

inequities remain and the largest number of beds and health workers per population is in the capital, mainly due to tertiary care being provided solely by the university clinics in Skopje. In primary care, most cities and towns have good coverage, but challenges remain for remote and rural areas, and the Ministry of Health introduced a financial incentives policy with the aim of increasing access to primary care in these areas.

As regards human resources, North Macedonia struggles with overall shortages, emigration and internal migration. Of the total health workforce in 2020, 66% were employed in the public and 34% in the private sector, including primary, secondary outpatient specialist, and inpatient care. Currently, there is no health workforce planning system in place, and the Ministry of Health has initiated a process for assessing human resources in health, with the aim of gathering data to enable long-term planning of the demand and supply of health workers and of the necessary skills and competencies.

Tobacco control policies are underdeveloped and the efficiency of hospital and inpatient care remains a challenge

The provision of public health services is organized through a network of public health institutes, with one national institute (the Institute of Public Health, IPH) and 10 regional Centres of Public Health operating through 21 local units which are coordinated and supervised by the IPH. The IPH is responsible for the collection, analysis and publication of public health statistics and epidemiological data, as well as for health promotion and health education. However, the data collection processes are outdated and efforts are underway to integrate the IPH system with the digitalized solutions of the My Appointment (*Moj Termin*) health information system platform. Although some policies have been adopted, such as nutrition standards for school children, intersectoral policies to address key determinants of ill health, such as smoking, physical inactivity and poor nutrition, remain absent or underdeveloped. In particular, a reversal of the anti-tobacco policy in 2018 and a lack of media campaigns against tobacco use have undone the modest progress achieved in the 2010s.

Primary care physicians (general practitioners, family doctors, obstetricians/gynaecologists, and dentists) are the first point of contact for patients and serve as a gateway to more complex medical care. Primary care services

are provided mainly in solo practices, although group practices are sporadically available. Challenges in primary care are gaps in the availability of general practices in rural areas, and of obstetrics/gynaecology care in rural and some urban settings due to a historical lack of specialists.

Specialist outpatient care is delivered in private outpatient practices, public health centres and public hospital outpatient departments. Inpatient care is provided in general, clinical and specialized hospitals, university clinics and private hospitals. However, efficiency remains a challenge, with very low utilization rates of hospital beds (on average 49% for curative care).

Access to pharmaceuticals is poorer in rural areas and impeded for all by an outdated positive list

All community pharmacies are private, but only some have a contract with the HIF for dispensing medicines under the social health insurance scheme. Pharmacies are mainly located in cities and towns, while in rural areas access remains poor. To improve access in rural areas, pharmaceutical stations can be opened, with fewer staff and responsibilities. To improve access to medicines under social health insurance, in 2019 the HIF removed the sales quota principle (limiting the maximum value of publicly covered pharmaceuticals that could be sold) which had been introduced in 2009. However, the positive list of medicines covered under social health insurance has been only minimally amended in recent years, undermining patient access to newer and more innovative therapies.[1]

Long-term care is largely provided by informal carers

The country's long-term care system is still underdeveloped, with little coordination between the social welfare and health systems, or between public and private (not-for-profit and for-profit) providers. Long-term care is still mostly provided by informal carers (family members, relatives, etc.).

1 In October 2024, when this document was being finalized, there were promising developments regarding the positive list, including a high-level policy dialogue for its revision. These developments are not included here in greater detail, as they fall outside the coverage period of this document, which reflects the situation in August 2024.

Residential and semi-residential providers of long-term care include hospitals and other public and private institutions. Only about 0.4% of older people received any form of residential long-term care in 2020 (below the EU average of 2%), whereas it has been estimated that about 17% of persons above the age of 65 years require such care.

Strategies are being developed to improve care in a variety of areas

Palliative care is offered in two centres, with other initiatives emerging in recent years. The Ministry of Health plans to develop a national palliative care strategy, given the under-provision of palliative care and challenges regarding accessibility and quality.

Mental health services are mainly provided in institutions. The country is pursuing the deinstitutionalization of mental health services with the aim of establishing more community-oriented mental health centres, as part of the goals of the Mental Health Strategy 2021–2025.

Dental care remains underfunded and underdeveloped, particularly in relation to the oral health of children and young people. The National Strategy for Prevention of Oral Diseases for Children up to 14 years old 2008–2018 was renewed for the period 2018–2028, as several of the goals of the previous strategy were not achieved.

Health reforms have been adopted but the alignment of processes has been challenging and affects the capacity for implementation

Health reforms are guided by a national health strategy, but do not always correspond to it in practice. There is a lack of continuous and constructive evaluation processes that would allow for improvements and adjustments. Furthermore, processes are not always aligned to ensure the implementation of reforms. The frequent turnover of Ministers of Health, evident with four changes between 2019 and 2024, exacerbates the issue. The Ministry's stewardship and governance functions, including strategic planning, policy development and resource generation, need further strengthening. In addition,

the Ministry faces challenges in monitoring and analysing health system performance and lacks mechanisms to enact corrective actions promptly. These limitations underscore the need for sustained commitment, stable leadership and strengthened governance structures to ensure effective policy implementation and performance management within the health sector.

The National Health Strategy 2021–2030 is expected to be a key strategic document to direct future efforts, particularly as it is the first strategy that takes a comprehensive approach towards health system restructuring and efficiency improvements in both hospital/inpatient and primary care. However, until 2024 it had not been systematically implemented, partly due to the need to respond to the COVID-19 pandemic during 2020–2022.

Affordability is a concern for poorer households

There is nearly universal population coverage and a wide range of services are covered by social health insurance. However, affordability is a concern, especially for poorer households, due to very high OOP expenditures, including co-payments for specialized and hospital care and pharmaceuticals. Affordability is particularly an issue for pharmaceuticals, which consumed up to half of OOP payments in 2021.

The COVID-19 pandemic provided an added incentive to accelerate health reforms, in particular the digitalization of the health system and enabling access to e-services such as e-prescriptions and telemedicine. However, it is unclear how far these initiatives helped to prevent unmet health needs, and if other health needs were affected as a result (e.g. disease management through regular consultations).

Improving the quality of care is an explicit policy aim, but premature mortality rates remain high

North Macedonia faces high rates of premature mortality and a disease burden that could be improved if public health policies were strengthened and health care provided more effectively in a timely manner, particularly in the treatment of noncommunicable diseases. Several mortality rates are among the highest in the region, including deaths linked to major risk

factors (smoking, poor nutrition and physical inactivity) and air pollution. Improving health care quality is an explicit policy aim of the National Health Strategy 2021–2030, but so far a comprehensive quality improvement strategy with an action plan that defines priorities, performance indicators and roles/responsibilities has not been developed.

1

Introduction

Chapter summary

- North Macedonia is an upper middle-income country on the Balkan Peninsula in South-eastern Europe with a population of 1.8 million, composed of different ethnic, cultural and religious population groups.
- After declaring independence in 1991, the country introduced a market economy and became a parliamentary democracy. Following several economic shocks, the country's economy grew rapidly and stabilized in the 2000s and 2010s, but was affected by COVID-19, resulting in a 6% decline of GDP in 2020. In the same year, North Macedonia became a member of NATO and in 2022 it started accession negotiations with the EU.
- The country faces the demographic challenges of an ageing population and population decline, caused among others by a very low fertility rate (1.6 births per woman) and emigration.
- Life expectancy in North Macedonia continues to rise despite a drop in 2020 during the COVID-19 pandemic. Since 2000, the mortality rate for ischaemic heart disease has decreased threefold and there has been a nearly twofold decrease for stroke, but trends for cancer and diabetes are a concern.
- Unhealthy lifestyles are major drivers of mortality in North Macedonia with risk factors such as high blood pressure, tobacco use

and an unhealthy diet being above the EU averages and accounting for nearly three quarters of deaths.

- Over the past two decades neonatal and maternal mortality have declined significantly, bringing the country closer to the EU average.

1.1 Geography and sociodemography

North Macedonia is a small landlocked country on the Balkan Peninsula in South-eastern Europe, with a total area of 25 436 km^2 (State Statistical Office, 2021). The country borders Serbia to the north, Kosovo (in accordance with Security Council resolution 1244 (1999))[1] to the northwest, Albania to the west, Greece to the south and Bulgaria to the east, with a total of 850 km in land boundaries (Fig. 1.1).

The territory is predominantly mountainous (79%), with elevation levels ranging from 50 m at Vardar river to 2764 m above sea level at Golem Korab. The official language is Macedonian, while Albanian has co-official status and is the largest minority language.

According to the 2021 census, the total population was 2.1 million, but the resident population stood at 1.8 million, indicating that about 260 000 citizens[2] (12% of the total population) were living abroad. More than half of the population (58%) lives in urban areas, including the capital, Skopje, with 526 502 inhabitants (State Statistical Office, 2022a). In ethnic terms, Macedonians make up 58.4% of the population, Albanians 24.3%, Turks 3.9%, Roma 2.5%, Serbs 1.3%, and other minorities less than 1 per cent each.

The fertility rate of 1.6 births per woman in 2021 was below replacement level. As in most other European countries, the country's population is ageing. While the proportion of young people is decreasing, the share of older people is increasing. In 2022, the annual population growth rate was negative (-0.4%) (Table 1.1).

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1 All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

2 The total non-resident population includes both citizens of North Macedonia abroad for more than 12 months and foreigners temporarily present in North Macedonia for less than 12 months. Source: https://www.stat.gov.mk/PrikaziSoopstenie_en.aspx?rbrtxt=146

TABLE 1.1 Trends in population/demographic indicators, 2000–2022 (selected years)

	2000	2005	2010	2015	2020	2022
Total population (millions)	2.0	2.0	2.1	2.1	2.1	2.1
Population aged 0–14 years (% of total)	22.7	20.2	17.9	16.8	16.1	16.0
Population aged 65 years and above (% of total)	9.9	11	11.6	12.5	14.6	14.9
Population density (people per km²)	79.7	80.1	81.5	82.1	82.2	81.9*
Population growth (average annual % growth rate)	0.45	0.21	0.21	0.13	-0.2	-0.4
Fertility rate, total (births per woman)	1.7	1.5	1.47	1.5	1.3	1.6*
Urban population (% of total population),	59	58	57	57	59	59

Notes: * 2021 data.

Sources: World Bank, 2024.

FIGURE 1.1 Map of North Macedonia and neighbouring countries

Source: UN Geospatial, 2020.

The educational attainment measured in the 2021 census shows that the majority of the population had primary (27.8%) or secondary (44%) education, which are mandatory by law, while 19.6% of the population had higher education (State Statistical Office, 2022a). About 8% of the population had either no education or incomplete primary education, a decrease from 18% in the 2002 census.

1.2 Economic context

North Macedonia is an upper middle-income country that has undergone major economic transformation to a market economy since its independence in 1991. Following a turbulent start during the transition process, the country's economy started to recover in 1995, and since 2000 GDP per capita has increased rapidly and more than tripled between 2000 and 2022 (Table 1.2). Similar to many other countries, the COVID-19 pandemic affected the country's economy negatively and the GDP per capita declined by nearly 6% in 2020 (Table 1.2), although this was slightly below the average decrease across EU members states of 6.2%.

While in the 2000s more than one third of the population was officially unemployed (36.5% of the total labour force in 2005), the unemployment rate had decreased to 14.4% by 2022 (Table 1.2). This is partly due to subsidized employment measures for people with disabilities introduced in 2005 (MLSP, 2005) and people receiving social assistance since 2013 (MLSP, 2013). However, youth unemployment rates remain high, reaching 34.1% in 2021, far above the EU average of 19.5% (World Bank, 2022b). This is mainly attributable to low-quality employment and weak attachment of youth to the labour market (World Bank, 2019).

Income inequality as measured by the Gini index declined between 2015 and 2020, narrowing the gap with the EU average (Table 1.2). In 2020, the highest at-risk-of-poverty rates were measured in households of two adults with three or more dependent children (45.6%) and single parent households with dependent children (41.7%) (State Statistical Office, 2022c).

TABLE 1.2 Macroeconomic indicators for North Macedonia, 2000–2022 (selected years)

	2000	2005	2010	2015	2020	2022
GDP per capita (current US$)	1 862	3 073	4 578	4 862	5 965	6 591
GDP per capita (current international US$, PPP)	6 152	7 849	11 361	13 888	17 325	20 162
GDP per capita growth (annual, %)	4.1	4.5	3.1	3.7	-5.9	2.5
General government final consumption expenditure (% of GDP)	16.9	16.2	18.3	17.0	16.7	15.8
Government deficit/surplus (% of GDP)[a]	n/a	n/a	n/a	n/a	-8.5	n/a
General government gross debt (% of GDP)[a]	40.5*	36.7	24.1	38.1	51.5	n/a
Unemployment, total (% of labour force)	30.5	36.5	31.9	26.7	16.6	14.4
People at risk of poverty or social exclusion, total (% of total population)	n/a	n/a	26.8	21.9	21.6**	n/a
Income inequality (Gini index)	n/a	n/a	40.1	3.0	3.0	n/a

Notes: * Data refer to the year 2002, ** Data refer to the year 2018.
GDP, gross domestic product; PPP, purchasing power parity.
Sources: World Bank, 2024; [a] Government of North Macedonia, 2020.

1.3 Political context

The country gained its independence in 1991, and was the only former Yugoslav Republic that was not embroiled in the ethnic wars of the 1990s (Gjorgjev et al., 2006). North Macedonia made significant political and economic improvements and became a member of NATO in 2020. In 2019, following a two-decade dispute with neighbouring Greece, the country's parliament approved a constitutional amendment to change the country's name from "The former Yugoslav Republic of Macedonia" to the "Republic of North Macedonia". Following the granting of EU candidate status in 2005, and the country's progress in aligning its legislation to EU standards, the EU gave its formal approval to begin accession talks in July 2022.

Both parliamentarian and presidential elections took place in spring 2024. Gordana Siljanovska Davkova, supported by the Internal Macedonian Revolutionary Organization–Democratic Party for Macedonian National Unity (VMRO–DPMNE), was elected president; VMRO–DPMNE also won the majority of seats in parliament (58 out of 120), and formed a government with the VLEN coalition of Albanian parties and ZNAM – For our Macedonia.

Citizens have the right to vote for parliamentary representatives, the president, municipal councils and mayors through secret ballot elections. The majority rule is applied for presidential elections, as well as for electing municipality mayors in local elections. The proportional election model is used for members of parliament and members of municipal councils (Milevska Kostova et al., 2017). The fiscal decentralization completed in 2008 enabled local authorities to take more responsibility for education, communal services and social services (in part).

As part of the EU accession process, progress is being made in aligning health policies with EU legislation. Health policy is also influenced by the United Nations, including the WHO Regional Office for Europe. North Macedonia was a founding member and has been part of the South-eastern Europe Health Network (SEEHN) since 2001. This is a political and institutional forum set up to promote regional collaboration in the health sector (Milevska Kostova et al., 2017). The country has also hosted the SEEHN Secretariat since 2016, making it a hub of health policy exchange for South-eastern Europe.

1.4 Health status

Life expectancy at birth increased from 73.3 years in 2000 to 75.8 years in 2019, but then declined to 74.4 years in 2020 due to the COVID-19 pandemic. The gap in life expectancy between males and females decreased from 5.7 years in 2005 to 4.0 years in 2019, but had increased again to 4.4 years by 2021 (see Table 1.3).

The main causes of death are cardiovascular diseases, cerebrovascular diseases and cancer (Winkelmann et al., 2021). In 2019, noncommunicable diseases accounted for 96% of all deaths (World Bank, 2022a). However, over the past two decades standardized death rates (SDRs) for ischaemic

heart disease have seen a threefold decrease, from 112.0 deaths per 100 000 population in 2000 to 37.2 in 2019, and there was a nearly twofold decrease for stroke, from 200.6 in 2000 to 108.3 in 2019 (Table 1.3), while other causes of deaths have remained relatively stable. While North Macedonia has sustained continuously decreasing mortality rates for major noncommunicable diseases since 2000, much remains to be done regarding cancer, where rates have stagnated, and diabetes, which has seen an increase (Table 1.3).

TABLE 1.3 Mortality and health indicators, 2000–2021 (selected years)

INDICATOR	2000	2005	2010	2015	2019	2020	2021
Life expectancy (years)							
Life expectancy at birth, total[a]	73.3	74.0	74.7	75.4	75.8	74.4	74.5
Life expectancy at birth, male[a]	70.8	71.7	72.7	73.4	73.8	72.2	72.4
Life expectancy at birth, female[a]	75.8	76.4	76.7	77.5	77.8	76.7	76.8
Life expectancy at 65 years, male[b]	n/a	n/a	13.9	14.3	14.9	13.0	12.5
Life expectancy at 65 years, female[b]	n/a	n/a	16.0	16.2	16.9	15.7	14.9
Mortality (SDR per 100 000 population)							
Ischaemic heart disease[c]	112.0	104.9	82.9	59.3	37.2	n/a	n/a
Stroke[c]	200.6	206.0	183.7	145.4	108.3	n/a	n/a
Malignant neoplasm[c]	165.6	160.3	171.5	159.5	150.3	n/a	n/a
Respiratory diseases[c]	38.5	41.2	34.4	32.1	35.6	n/a	n/a
Diabetes[c]	30.8	35.8	34.1	36.6	36.5	n/a	n/a
Infant mortality rate (per 1000 live births)[a]	14.3	12.2	9.2	10.0	6.0	5.2	4.6
Maternal mortality rate (modelled estimate, per 100 000 live births)[a]	1	9	6	5	3	3	n/a

Note: SDR = standardized death rate.

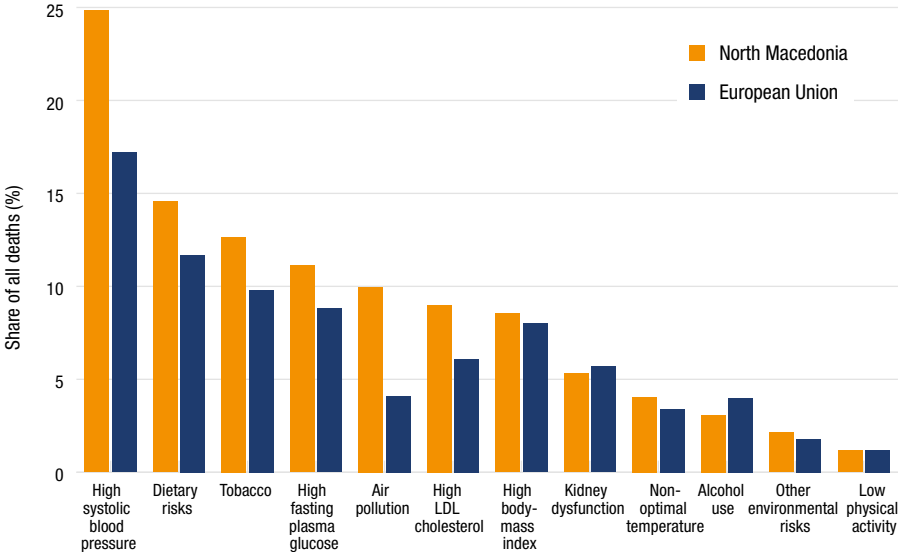
Sources: [a]World Bank, 2024; [b]Eurostat, 2024; [c]WHO Regional Office for Europe, 2024a (for the years 2000–2013); own calculations based on WHO Country Office North Macedonia (number of deaths), Eurostat, 2024 (population), WHO European standard population (for the years 2014–2019).

Since 2000 there has been much progress in maternal and infant health, resulting in a decrease of mortality rates. This has brought the country's infant

mortality rate of 4.6 deaths per 100 000 live births in 2021 closer to the EU average rate of 3.4 deaths, and the maternal mortality rate of 3.0 deaths per 100 000 live births in 2020 well below the EU average rate of 7.8 deaths (Table 1.3). A joint report of the Ministry of Health, WHO and UNICEF on perinatal audits in 2019 showed that the majority of neonatal deaths were due to asphyxia in high-risk neonates with respiratory distress, suggesting a lack of timely initiation and adequate inotropic support (MoH et al., 2020). In 2020, a National Perinatal Care Master Plan 2020–2030 (MoH, 2020a) was developed and put into action to accelerate progress towards achieving the United Nations Sustainable Development Goals (SDGs).

While life expectancy has increased, major risk factors continue to impact morbidity and mortality. About 25% of all deaths in 2021 were estimated to be attributable to high blood pressure, followed by approximately 15% due to dietary risks and 13% due to tobacco, all of which were higher than the EU averages (Fig. 1.2).

FIGURE 1.2 Risk factors affecting health status, 2021



Note: LDL, low density lipoprotein.
Source: IHME, 2024.

Tobacco use remains a major risk factor, and is still highly prevalent among the population, including the country's youth. A 2019 survey on

tobacco consumption covering 1000 adults in North Macedonia found that nearly half (48.4%) used tobacco, with smoking prevalence reaching 57.9% among men and 39.0% among women (Mijovic Hristovska et al., 2020). These smoking prevalence rates were much higher than in the EU (22.7% in 2020 in both sexes combined) and are among the highest smoking rates in the WHO European Region, alongside some of North Macedonia's neighbouring countries.

The government enacted different anti-tobacco measures from 2003 on, including prohibiting broadcasted advertising, limiting tar content, increasing pricing (although prices remained below those in neighbouring countries) and in 2010 a complete ban on smoking in public spaces. These measures likely contributed to a reduced prevalence of smoking among young people, from 57.6% in 1999 to 38.4% in 2015 (Analytica, 2018). However, in 2018 the government amended the Law on Protection from Smoking, easing the complete smoking ban in public places by allowing smoking in specially designated areas and open-air terraces. These changes have had a negative impact on the health of the population, marking a regressive step away from the previously enacted legislation (Analytica, 2018) (see also Section 5.1).

An analysis of the EU Statistics on Income and Living Conditions (EU SILC) 2017 health module found that only 59% of respondents in the 17–24 years age group were physically active, 26% were overweight and 3% were obese (UNICEF, 2021). Prevalence of both obesity and severe obesity among children in North Macedonia was high compared to most other European countries participating in the Childhood Obesity Surveillance Initiative (COSI) between 2007–2008 and 2012–2013 (Spinelli et al., 2019). Furthermore, according to the 2019 COSI survey, children from urban settings were 1.7 times more likely to be overweight than those living in rural areas (UNICEF, 2021).

Air pollution was estimated to cause 13.7% of all deaths in 2019, a share 3.5 times higher than in the EU (Fig. 1.2). Air pollution also likely to contributes to a high prevalence of respiratory conditions, including among children. The country has made a commitment to address air pollution (WHO Regional Office for Europe, 2020b), including by transitioning to renewable energy sources and, in 2022, providing subsidies for home insulation (Government of RNM, 2022). However, a more strategic and comprehensive approach is needed to address air pollution from cars and household heating with conventional energy sources such as crude oil or wood.

2

Organization and governance

Chapter summary

- North Macedonia has a centralized health system, with stewardship and policy processes vested at the national level and with little input from the municipalities. The Ministry of Health is responsible for the governance and organization of the health system. Funding and regulation are also managed at the national level.
- The country has a mandatory social health insurance system in which the Health Insurance Fund (HIF) is the single purchaser of all publicly funded health services. The HIF is responsible for the development and implementation of purchasing mechanisms for health services provided under the social health insurance system. Every year the HIF adopts an annual working plan defining types and volumes of services to be purchased and negotiates contracts with providers.
- The most relevant actors in health care system governance and planning are the Ministry of Health regarding health policy, and the HIF regarding the purchasing of health services under the social health insurance system.
- The Agency for Medicines and Medical Devices (MALMED)

plays a role in pharmaceutical policy and access to safe and quality medicines and medical devices.

- Funding for health care from the state budget is subject to approval by the Ministry of Finance that has overall responsibility for state budget planning, which is adopted by the parliament.
- Most providers of secondary and tertiary care remain in the public domain, while primary care is provided by publicly owned health centres and by private practices contracted by the HIF. Provision of publicly paid services by private providers is regulated on the basis of the Health Network that was established in 2012. In addition, private providers offer services that are fully paid out of pocket and are not covered by the mandatory health insurance system.
- Partial decentralization of public health services has been envisaged, but this process slowed down amid the economic situation of municipalities and the COVID-19 pandemic.
- Awareness of patient rights and patient-centred care has grown since the mid-2000s, but there is scope for expanding patient involvement, especially in patient safety and shared decision-making.

2.1 Historical background

After declaring independence in 1991, North Macedonia based its health system on that inherited from the Socialist Federal Republic of Yugoslavia, which was free at the point of use and had a well developed network of health facilities. The 1991 Law on Health Care reaffirmed the principles of solidarity and citizens' participation. During the 1990s, governments were under pressure to deal with the challenges of transition, including a dramatic decline in public resources. In this period, health policy was characterized by incremental changes that aimed to sustain health care benefits and by efforts to improve the efficiency of service provision (Kacarska & Milevska Kostova, 2021). One of the changes was a liberalization of health service provision, opening the market for private providers. Initially, private services were only allowed for dental care, some specialist services and pharmacies (Nordyke & Peabody, 2002).

In the mid-2000s the scope of permitted private services was extended to all primary care providers (Milevska Kostova et al., 2017) (see Section 5.3). In

addition, improvements were made to ensure quality of care. These included, inter alia, the establishment of a continuous professional development and licensing system for health professionals, the transformation of primary care, the establishment of an independent Agency for Medicines and Medical Devices (MALMED), the Agency for Quality and Accreditation of Healthcare Institutions (AKAZUM) and the establishment of a Directorate for E-Health. The country also maintained health system functions, including the control of communicable diseases, the delivery of preventive services (including universal immunization), and access to health consultations with primary care providers.

In 2000, the adoption of the Health Insurance Law provided continuation of the social health insurance system, introducing a third-party payer through the establishment of the Health Insurance Fund (HIF) as a semi-autonomous agency and purchaser of publicly paid services, a function previously performed by the Ministry of Health.

2.2 Organization

The main legislation laying the foundation for the health system include:

- the Law on Health Care, first adopted in 1991 with a consolidated and revised version published in 2019 (Official Gazette of RM, 2016a; Official Gazette of RNM, 2019);
- the Law on Medicines and Medical Devices, first adopted in 1998, revised in 2016 (Official Gazette of RM, 2016b) and in 2018;
- the Law on Health Insurance, first adopted in 2000, with a consolidated version including all revisions published in 2023 (Official Gazette of RNM, 2023).

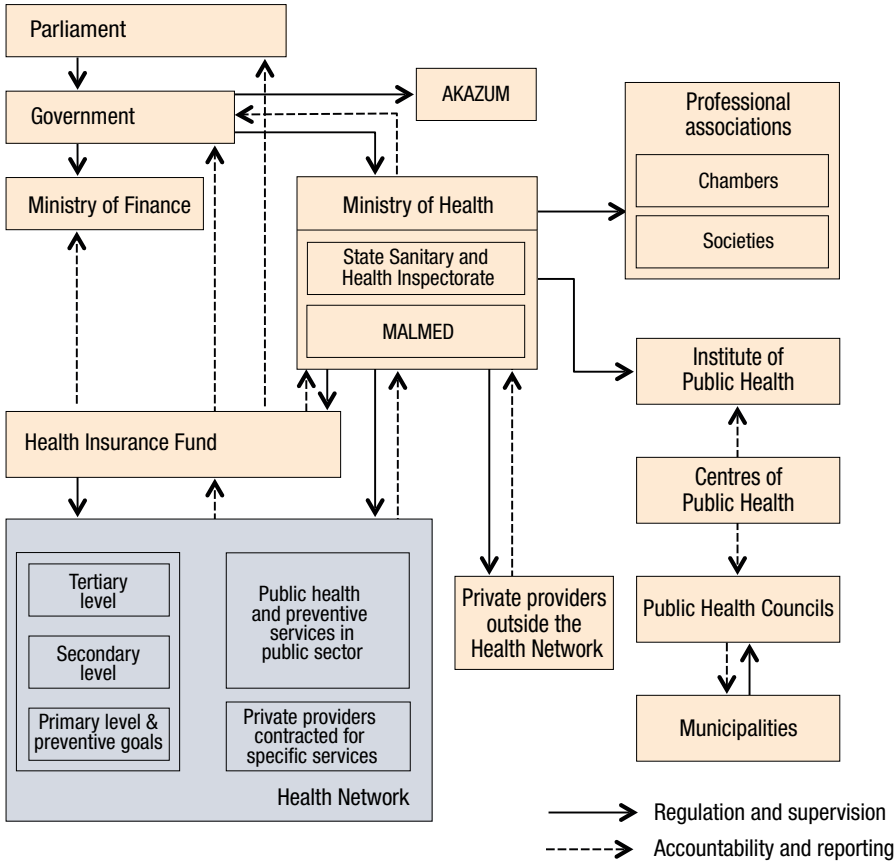
The operation of the State Sanitary and Health Inspectorate (SSHI) is regulated in a separate Law on Sanitary and Health Inspection adopted in 2006.

The Law on Health Care regulates the organization, governance and management of the health system, health service delivery, and the rights and responsibilities of stakeholders. The Law on Medicines and Medical Devices regulates medicines and medical devices for human use, including

with regard to safety, efficacy, quality, market rules and pricing mechanisms. The Law on Health Insurance establishes the social health insurance system and the purchaser–provider split, and regulates the rights and responsibilities arising from the health insurance system.

Fig. 2.1 depicts all the major actors in the country's health system and their interrelatedness in regulatory and accountability terms. The legislative power is vested in the parliament, which is responsible for adopting legislation and the state budget, including the budgets of the Ministry of Health and the HIF. The parliament has its own Committee on Health Care that reviews, comments on and provides opinions on draft legislation related to health care before adoption. The committee provides its opinions to the members of parliament before their deliberation and adoption.

FIGURE 2.1 Overview of the health system



Source: Authors' compilation.

2.2.1 *Ministry of Health*

The executive mandate lies with the government and its line ministries. Among them, the Ministry of Health has a central role for the health system through its responsibilities for formulating health policy, strategic directions and priorities; overseeing policy and legislation implementation; and collecting data to inform policy-making. In addition to its policy-making and monitoring role, the Ministry of Health is involved in the health system at the operational level. The Minister of Health appoints directors of publicly owned health care institutions, plans and allocates their capital investments, defines public health care provision, and participates in the financing of public hospitals on an ad hoc basis (see Section 3.7).

2.2.2 *Ministry of Finance*

The Ministry of Finance is responsible for negotiating and setting out the budget for the Ministry of Health, as part of the process for defining the state budget. It also negotiates and approves the HIF budget with regard to revenues and expenditures on a yearly basis (for details see Chapter 3).

2.2.3 *Other line ministries*

Other line ministries and agencies are also involved in population health and health care:

- the Ministry of Education is involved in the training of health professionals;
- the Food and Veterinary Agency is involved in food safety issues;
- the Ministry of Environment and Physical Planning is involved in ensuring a healthy environment and water quality;
- the Ministry of Foreign Affairs is involved in the implementation of international health-related legislation, such as the United Nations Sustainable Development Goals (SDGs), the WHO Framework Convention on Tobacco Control, and the International Health Regulations;

- the Ministry of Labour and Social Policy is involved in social issues of common interest, especially social transfers and issues of violence and health;
- the Ministry of the Interior is involved in traffic and road safety, migrant health, and prevention of violence and use of illicit drugs;
- the Ministry of Justice is involved in prison health;
- the Ministry of Economy is involved in implementing excise taxes (such as on tobacco or alcohol) and trade agreements relevant to health; and
- the Ministry of Transportation and Communications is involved in advertising bans (Milevska Kostova et al., 2017).

2.2.4 *Health Insurance Fund*

The Health Insurance Fund (HIF) is the main purchaser of health services in the country. It is an independent agency established by the government and supervised by a multistakeholder board including representatives of the Ministry of Health, the Ministry of Finance, the chambers of commerce, professional chambers and patient/consumer associations. The HIF is responsible for the development and implementation of purchasing mechanisms for health services from the public and private providers that are part of the Health Network. The HIF adopts an annual working plan defining types and volumes of services to be purchased. Every year, it negotiates and signs performance-based contracts with different groups of providers for curative services at primary, secondary and tertiary care levels, as well as for some preventive services in primary care (see Chapter 3).

2.2.5 *Public health agencies*

The Institute of Public Health is the top-level professional and scientific institution for public health, providing services such as monitoring, research and analysis of the health status of the population, and proposing measures for the protection and promotion of the health of the population. It collects and analyses epidemiological data for policy-making and provides teaching activities through cooperation with the Faculty of Medicine in Skopje.

The 10 regional Centres of Public Health are responsible for providing public health services at the local level in the areas of social medicine, environmental health, epidemiology and microbiology, as well as laboratory services. The Centres of Public Health are independent from the Institute of Public Health, but are required to report to the institute their activities and services that are part of annual preventive and curative programmes (see Section 5.1). The Centres of Public Health are linked to the municipalities through the Public Health Councils, which are established at municipal level with representation from the centres and are responsible for public health and planning of health promotion activities at community level.

At national level, the Institute of Occupational Health, a WHO Collaborating Centre since 2003, is responsible for delivering occupational health services, implementing education and research activities, and standardizing workplace safety criteria. The institute also proposes legislative and policy changes in occupational health and safety.

2.2.6 *State Sanitary and Health Inspectorate*

The primary tasks of the State Sanitary and Health Inspectorate (SSHI) are inspection and supervision of health-related regulation, especially in health protection and protection of patients' rights. It is also mandated with monitoring the implementation of measures on communicable disease prevention and outbreak response, and played a key role during the COVID-19 pandemic. Other important functions include ensuring adherence to regulations on sources of non-ionizing radiation and on the production and trade of opioid drugs, poisons and precursors; implementation of preventive check-ups of the population; and monitoring health care facilities in terms of hygiene, medical waste management, working conditions, health records and patient rights.

2.2.7 *Agency for Medicines and Medical Devices*

The Agency for Medicines and Medical Devices (*Agencija za lekovi i medicinski sredstva*, MALMED) was established in 2014 and is an independent agency that emerged from the Drug Bureau of the Ministry of Health. It is

a regulatory agency mandated with market authorizations, the monitoring and evaluation of the quality of all produced and imported medicines, as well as surveillance of all community and hospital pharmacies.

2.2.8 *Agency for Quality and Accreditation of Health Care Institutions*

Quality of care and the national accreditation of health care institutions are within the mandate of the Agency for Quality and Accreditation of Health Care Institutions (*Agencija za kvalitet i akreditacija na zdravstvenite ustanovi vo Makedonija*, AKAZUM), established by the government in 2014. AKAZUM develops and proposes quality standards, which are submitted for endorsement by the government and adopted by the parliament.

2.2.9 *Civil society*

The government pursues attempts to introduce inclusive participatory processes in policy-making, especially related to the engagement of citizens' associations and patient organizations, although these attempts are to a great extent due to the EU accession requirements. In 2020, a sector working group on health was established with EU support, instituting multisector consultative processes in priority-setting and policy-making. Governed by the Ministry of Health, the working group includes representatives of civil society, international organizations and other governmental bodies, and has regular meetings to discuss and propose solutions for important health policy issues. However, civil society representatives perceive the work of the group to be mainly technical, too focused on institutions, and rarely taking into consideration proposals coming from other sectors (Lazarov et al., 2021).

2.3 Centralization and decentralization

In the Macedonian health system, all major decisions are made by the government and the Ministry of Health with little input from the country's municipalities. The fiscal decentralization completed in 2008 enabled local authorities to take more responsibility for education, community services and

social services (in part). Although partial decentralization of health services (including preventive and primary care, mental care, surveillance and public health functions) is envisaged by law, the health sector still remains centrally managed (Milevska Kostova et al., 2017). The postponed decentralization in health care is mainly due to smaller municipalities lacking capacity to assume this responsibility, which was proven justified during the COVID-19 pandemic. The influence and involvement of local authorities in health care is limited to their representatives on management boards of publicly owned health care institutions and the local Public Health Councils, where such councils exist and are operational.

2.4 Planning

The Ministry of Health is responsible for the strategic development and planning of the health system, which it carries out by developing health policies and strategies, planning the Health Network, and deciding on strategic capital and infrastructure investments (Box 2.1). The HIF is involved in planning health services purchasing under the social health insurance system, and MALMED plays a role in planning pharmaceutical policy and ensuring access to quality and safe medicines and medical devices.

Since 2014, the Ministry of Health has worked on shifting from the previous input-based system of planning towards planning that is based on health needs (Milevska Kostova et al., 2017). However this process was slowed down by the COVID-19 pandemic. Significant progress has been made in reforming primary care , which is largely based on the health needs of the population (see Section 6.1).

2.5 Intersectorality

A Health in All policies approach has been recognized as important since 2009, with the establishment of several intersectoral government committees on health-related topics. The UN 2030 Agenda for Sustainable Development has been one of the main catalysts, especially through the process of SDG localization, involving national and community-level actors across sectors, local government and civil society (Milevska Kostova et al., 2017).

BOX 2.1 Is there sufficient capacity for policy development and implementation?

Health policy is mainly developed and proposed for adoption by the Ministry of Health, with a growing role for professional societies and chambers as well as civil society, especially following the EU decision to start accession talks. The accession process is supported by the EU Instrument for Pre-accession Assistance (IPA) funding, which includes funding for civil society to support the authorities in implementing structural reforms. Both civil society and professional chambers are involved in the decision-making process in the governing bodies of the HIF and are regularly invited to join the working groups of the Ministry of Health. This cooperation is especially prominent in the implementation of preventive programmes on HIV/AIDS, the development and implementation of a programme for the treatment of rare diseases, and the policy dialogue on health system reform, strengthened in particular since the change of government in 2017.

In 2014, the country started developing the National Health Strategy 2020 under the leadership of the Intersectoral Committee for Health, co-chaired by the Prime Minister and the Minister of Health. The steering role of the committee as an intersectoral body was pivotal in the process of preparing and enacting the strategy. Key drivers of the process were the Ministry of Health and the professional public health community. It included all relevant stakeholders at the national and local level. The overall process was supported by the existing structures of the Ministry of Health, and the secretariat for the process was provided by the focal points for collaboration with WHO at both the political and technical levels (WHO Regional Office for Europe, 2019a). Following the successful model of intersectoral collaboration, in 2020 the Ministry of Health started the process to renew the strategy with technical support from EU experts, leading to the development and adoption of the current National Health Strategy 2021–2030 (MoH, 2021). While the strategy is very well developed and outlines the key reforms needed for improving health outcomes, national stakeholders have not fully taken ownership of it because its drafting was led by EU consultants, ultimately leading to a lack of implementation.

2.6 Health information systems

The health information system in the country is rather well developed. A major impetus for this was the Health Sector Transition Project (1996–2002) supported by the World Bank, which introduced electronic recording of hospital stays with the aim of improving resource allocation for inpatient care. Following this innovation, payment by diagnosis-related groups (DRGs) was introduced in 2009. In parallel, in order to reduce waiting times for complex and tertiary care services, an appointment platform called *Moj Termin* (My Appointment) was developed, which has since been upgraded with numerous modules for interlinking levels of care, monitoring health services and medicines consumption, as well as for health mapping and human resources planning (Milevska Kostova et al., 2017). My Appointment includes several modules such as e-health records and e-referrals; ordering laboratory and imaging services; and e-prescriptions for all visiting patients. Its objective is to incorporate all health data, including national registries of diseases. Since its implementation, significant reductions in waiting times for diagnostic imaging and clinical appointments have been recorded, demonstrating the importance of strategic planning for e-health. Despite these successes, there are still several legal and operational barriers hindering further uptake of the system, such as integration of diagnostic images and access to the system for certain health care providers.

During the COVID-19 pandemic, My Appointment was instrumental in ensuring continuity of care, especially for the monitoring and management of chronic conditions. A telemedicine module was introduced, not only between providers and patients (mostly in primary and specialist ambulatory care), but also between providers from different institutions and levels of care (mainly consultations between secondary care providers and more specialized colleagues in tertiary care in Skopje). Initially hosted by the Ministry of Health, the health information system was migrated into a Directorate for e-Health in 2015, with national competences for health data collection and management. The system continues to evolve and has recently been linked to mortality data from the State Statistical Office, enabling an up-to-date epidemiological overview in real time, which can be used for policy-making and resource planning.

In 2019, the Ministry of Health reinstated the National Health Accounts in the State Statistical Office, enabling decision-makers to track funding

flows across sectors and spending on specific health needs, across levels of care, types of care and major disease groups (see Chapter 3). WHO technical assistance supported capacity building to develop the National Health Accounts, as well as for the effective use of findings for informing the policy-making process (Lionello et al., 2020). The National Health Accounts are published regularly on the State Statistical Office website for use by other stakeholders (State Statistical Office, 2022b).

2.7 Regulation

The country's health system is regulated through legislative, administrative and market mechanisms. Legislative power is vested in the parliament, while administrative regulation is implemented through various permission and licensing procedures of the Ministry of Health, MALMED, SSHI and the HIF. The Ministry of Health can delegate some of its authority to other bodies and agencies, such as for the licensing and re-licensing of health professionals (see Chapter 4).

2.7.1 *Regulation and governance of third-party payers*

The third-party payer system was introduced in 2000 with the establishment of mandatory health insurance in an independent HIF. Voluntary health insurance only plays a very minor role. The HIF has its own management that is overseen by a governance board. The government, professional bodies and civil society are represented on the HIF board, which includes the Ministry of Health and the Ministry of Finance, professional chambers, pensioners' associations and patient organizations. HIF annual reports are submitted to the Ministry of Health and adopted by parliament.

2.7.2 *Regulation and governance of providers*

Health service provision is governed by the Law on Health Care, its accompanying by-laws and other health-related legislation (Table 2.1). Services are provided by either public or private providers, either within the Health Network (for services covered under mandatory health insurance) or outside it (for private services fully paid for out of pocket, see Chapters 3 and 5).

Table 2.1 Overview of provider regulation

	LEGISLATION	PLANNING	LICENSING / ACCREDITATION	PRICING / TARIFF SETTING	QUALITY ASSURANCE	PURCHASING /FINANCING
Public health services	National level, MoH and HIF	National level, MoH through Health Network	National level, through Doctor's Chamber	Nationally unified tariffs set by the MoH	IPH supervises regional Centres of Public Health, based on national MoH regulation	Publicly financed through annual preventive programmes from the state budget
Ambulatory care (primary and secondary care)	National level, MoH and HIF	National level, MoH through Health Network	National level, through professional chambers	For public providers and services covered under social health insurance, tariffs are set by HIF; for privately paid services, prices are set autonomously by providers	Under the authority of AKAZUM	HIF pays primary care providers based on a blended capitation model, and purchases secondary services from all public hospitals and some private hospitals (subject to Health Network membership and contractual arrangements)
Inpatient care	National level, MoH and HIF	National level, MoH through Health Network	National level, through professional chambers	For public providers and services covered under social health insurance, tariffs are set by HIF; for privately paid services, prices are set autonomously by providers	Under the authority of AKAZUM Private facilities, especially large hospitals, autonomously undertake international quality accreditation	HIF purchases inpatient care from all public hospitals and some private hospitals (subject to Health Network membership and contractual arrangements)
Dental care	National level, MoH and HIF	National level, MoH through Health Network	National level, through Dental Chamber	For public providers and services covered under social health insurance, tariffs are set by HIF; for privately paid services, prices are set autonomously by providers	Under the authority of AKAZUM, but not yet established	HIF pays primary dental care providers based on a blended capitation model, and purchases secondary dental care from public dental providers (the University Dental Clinic)

Pharmaceuticals (ambulatory)	National level, MALMED	National level, MoH through Health Network	National level, through Pharmaceutical Chamber	National system of reference pricing, determined in collaboration with HIF	n/a	HIF covers the costs of pharmaceuticals on the positive list of medicines, obtained with prescription from public providers
Long-term care	National level, MLSP in collaboration with municipalities	MLSP in collaboration with MoH	n/a	Largely privately financed, with prices set autonomously by private providers; for public providers prices are set by MLSP and MoH	MLSP (as general inspection)	MLSP partially supports long-term care through subsidies for private residential homes
University education of personnel	National level, MoH and MoES	MoH and MoES	National level, through professional chambers	Largely publicly financed with tuition fees defined by the MoES, while tuition fees are set autonomously by private universities	Professional chambers	Public universities are covered by public funding for undergraduate studies, for a fixed quota. Postgraduate studies at public universities and all levels of studies at private universities are privately paid by students, with some scholarship availability

Notes: AKAZUM: Agency for Quality and Accreditation of Health Care Institutions; HIF: Health Insurance Fund; IPH: Institute of Public Health; MALMED: Agency for Medicines and Medical Devices; MoH: Ministry of Health; MLSP: Ministry of Labour and Social Policy; MoES: Ministry of Education and Science; n/a: not applicable.

Source: Authors' compilation.

With the establishment of the Health Network in 2012, the Ministry of Health regulated the provision of services covered by social health insurance, including by private providers for services that are not available in the public sector. The government determines the geographical and functional scope of the Health Network, which is then operationalized and monitored by the Ministry of Health. The Health Network defines the levels of health services to be provided by each health care provider at the regional level.

2.7.3 *Regulation of services and goods*

The basic benefits package covered by social health insurance has a very broad scope and includes almost all secondary and tertiary care in public health care facilities, as well as all services by primary care providers who are in the private domain but have a contract with the HIF. The basic benefits package does not specifically list services which are included, but rather defines a list of excluded services, such as aesthetic surgery and "above-standard accommodation" in hospitals. In addition, the basic benefits package includes some services from private secondary care providers contracted by the HIF (see Section 3.3.1). The Ministry of Health defines the scope of care through a trilateral committee established by the ministry and including representatives of the HIF and the Doctor's Chamber. Decisions are based on available funding and what are deemed necessary levels of care. However, the process is not based on health technology assessment (HTA). So far, no HTA agency has been established, and in most cases the covered services are based on historic data and experience, rather than on a formal assessment of cost-effectiveness. Orthopaedic and other medical devices and aids are included in the social health insurance package and are described in more detail in Section 2.7.5.

2.7.4 *Regulation and governance of pharmaceuticals*

The regulation of pharmaceutical care in North Macedonia is governed by the Law on Medicines and Medical Devices, and the Law on Health Care. MALMED, an independent agency established in 2014, is the governing body for the pharmaceutical market in the country and is directly

accountable to the government. MALMED has established a National Drug Committee and committees for traditional and herbal medicines, and for clinical trials of medicines and medical devices. It is also responsible for international cooperation related to medicinal products, and for issuing and revoking permissions for the retail sale of drugs and medicinal products on the pharmaceutical market.

MALMED oversees marketing authorization, regulatory inspections and clinical trials. Market authorization requires pharmaceutical companies to submit comprehensive documentation, including clinical trial data, to MALMED, which then evaluates the safety, efficacy and quality of the medicines before granting approval. The Law on Health Insurance regulates access to medicines covered by the HIF (see Section 2.7.4). Quality control of pharmaceuticals is carried out by two laboratories: one at the Institute of Public Health, and the other at the Faculty of Pharmacy in Skopje (WHO Regional Office for Europe, 2018). The Law on Medicines and Medical Devices regulates pharmaceutical production, import, and distribution through registered wholesale companies (*veledrogerii*).

The HIF provides wide coverage of pharmaceuticals. Medicines are covered by the HIF when they are included in the positive list (commonly known as the essential drug list), which consists of two segments: outpatient medicines (referred to as List A) and inpatient medicines (known as List B). Pricing mechanisms for these medicines are established through a combination of reference pricing and negotiations between the HIF and pharmaceutical companies to ensure affordability and sustainability. The Ministry of Health is responsible for setting the prices for all prescription-only medicines on the market in the country, using a comparative international methodology based on medicine prices in reference countries. Additionally, the HIF sets the reference prices for medicines subject to reimbursement.

Following changes to the Law on Health Insurance, the Minister of Health established an expert commission that specifies the list of medicines covered by the HIF (also called positive list of medicines). However, since 2012, the positive list has only been changed minimally, with the inclusion of very few new or more effective medicines. Following changes to the law in 2022 regarding the list of medicines, the government envisages more significant revisions of the list in 2024 and 2025.

2.7.5 *Regulation of medical devices and aids*

Medical devices and aids of approved quality are largely covered by social health insurance, with some co-payment. The indications and standards of medical aids, as well as related procedures, are regulated in the rulebook on the criteria for obtaining orthopaedic and other aids, a by-law of the Law on Health Insurance. The necessity of orthopaedic or other medical aids and devices is determined by a specialist or in particular cases by a primary care provider, which is then confirmed by the HIF regional office for further processing. The specialist prescribes specific aids such as orthopaedic, ophthalmological and dental devices, whereas primary care providers are entitled to prescribe aids and devices for regular use, such as intubation devices, feeding aids or sanitary accessories for immobile patients. The rulebook defines the quality standards for aids and devices, how often requests need to be renewed, as well as other conditions related to the right to medical aids and devices.

2.8 Person-centred care

2.8.1 *Patient information*

The 2008 Law on the Protection of Patients' Rights safeguards the rights of patients, including over their information. The main responsibility for providing and overseeing patient information is vested in the Ministry of Health that, together with MALMED, the HIF and the Institute of Public Health, ensures appropriate access to information, such as on safety of medicines, rights to social health insurance, and health promotion and education. However, legislation requires that all other actors in health, such as health care providers, professional societies and industry, provide sufficient and appropriate information that can help users understand benefits and risks, and make an informed decision. In addition, patient organizations and other associations play a key role in providing comprehensive access to information, especially for particular diseases and conditions. See Table 2.2 for more detail about patient information.

TABLE 2.2 Patient information

TYPE OF INFORMATION	IS IT EASILY AVAILABLE?	COMMENTS
Information about statutory benefits	Yes, through the website of the HIF	The HIF provides some updates through its website, but relevant information dissemination is mainly ensured by professional societies and patient organizations
Information on hospital clinical outcomes	No	So far, only information on the level of bed occupancy by complexity of cases admitted to hospitals is available, through the DRG reporting of the HIF. In addition, hospitals report the number of cases and deaths related to particular causes to the epidemiological services. There are no plans for instituting a system for measuring or reporting on hospital clinical outcomes
Information on hospital waiting times	No	So far, this feature is only available for ambulatory outpatient medical appointments through the My Appointment system
Comparative information about the quality of other providers (for example, GPs)	No	Planned as part of the My Appointment system
Patient access to own medical record	Yes (partial)	In 2023, the My Health (*Moe Zdravje*) web portal was launched, providing each patient access to their personal medical record. The portal is still in development, and currently offers mainly information about referrals, prescriptions and vaccine records
Interactive web or 24/7 telephone information	No	The "Hello, doctor" line was established in the mid-2010s, but it was discontinued after several years
Information on patient satisfaction collected (systematically or occasionally)	Yes (sporadically)	Individual patients are invited to submit their views through a questionnaire provided when leaving each health care facility. Overall patient satisfaction is assessed sporadically in periodic surveys, and mainly by private providers
Information on medical errors	No	There is no system or plan for reporting medical errors, and thus patients have no access to such information. Patients can report unwanted drug reactions to the Pharmacovigilance Centre at the Faculty of Pharmacy, but the data and analysis are not publicly available

Notes: DRG: diagnosis-related group; GPs: general practitioners; HIF: Health Insurance Fund.
Source: Authors' compilation.

Each year, the Ministry of Health allocates funding for health education campaigns, for preparation and distribution of information materials, and for organizing educational events, which are mainly carried out by the Institute of Public Health and the Centres of Public Health in collaboration with other stakeholders. In addition, as part of the blended capitation payment system in primary care, primary care providers are obliged to organize various health education and promotion activities, including individual consultations for different patient categories (see also Chapter 5).

Regarding rights to health care, the HIF provides information through its website, and patients can obtain information on the availability of medical appointments through the My Appointment system. However, there is still no access to comprehensive information about individual health care professionals, and this remains a plan for the future.

2.8.2 *Patient choice*

The patients' right to choose is mainly regulated in two laws: the Law on Health Care and the Law on the Protection of Patients' Rights. At the primary care level, patients have the right to choose their general practitioner, obstetrician/gynaecologist, dentist or pharmacy, and can decide to change them up to twice a year without stating the reason.

At the secondary and tertiary care levels, patients can be referred to any hospital that performs the required services. Following the initial referral, patients can be referred further vertically or horizontally within the system. In addition, patients can receive care paid out of pocket at any private health care facility operating inside and outside the Health Network.

More detail on patient choice is available in Table 2.3.

2.8.3 *Patients' rights*

Patients' rights are stipulated in the Constitution, the Law on Health Care and the Law on the Protection of Patients' Rights (Alcheva et al., 2013). The Law on the Protection of Patients' Rights was enacted in 2008 after extensive deliberations involving all stakeholders, including civil society, patient organizations and professional societies. This law was a significant achievement, as it expanded the already existing rights to include the right to a second opinion, privacy and confidentiality, personalized care within the possibilities of the system, and personal safety, and to avoid unnecessary pain and suffering. Patients also have the right to refuse a treatment and to leave the hospital. In both cases, they need to sign a consent form, confirming their intention and that they have been informed about the risks of such a decision.

TABLE 2.3 Patient choice

TYPE OF CHOICE	IS IT AVAILABLE?	DO PEOPLE EXERCISE CHOICE? ARE THERE ANY CONSTRAINTS?
Choices around coverage		
Choice of being covered or not	Yes, but only under certain conditions	Persons covered by employment, retirement or other state programmes cannot opt out of the social health insurance system
Choice of public or private coverage	Yes, under certain conditions	Since employed persons cannot opt out of the social health insurance system, those who choose to have private health insurance have to acquire it on top of the mandatory premiums
Choice of purchasing organization	Yes, depending on the insurance type	For the social health insurance system, there is a single insurer and purchaser (the HIF). For private and voluntary health insurance, citizens can choose from a number of insurers
Choices of provider		
Choice of primary care practitioner	Yes	Citizens have the right to choose their primary care provider and can exercise this right up to twice a year.
Direct access to specialists	Partially	Although the main route is through referral from a primary care provider, patients can visit specialists with a so-called emergency referral. In addition, patients can directly visit specialists that are not in the Health Network and pay for those services out of pocket
Choice of hospital	Yes	Although there are plans for the regionalization of hospitals, the system allows for patients to choose their hospital from any level and in any geographical region. This contributes to the concentration of service delivery in the capital city of Skopje.
Choice to have treatment abroad	Yes, partially	Patients can get treatment abroad, but only if services are not available in the country and following an approval procedure involving medical opinion and approval from the HIF
Choices of treatment		
Participation in treatment decisions	Yes	Patients and their carers have the right to participate in decision-making about diagnostics, treatment and disease management
Right to informed consent	Yes	By law, health care providers are obliged to request informed consent from patients for all surgeries and any major invasive diagnostic and treatment procedures
Right to request a second opinion	Yes	According to the Law for the Protection of Patients' Rights, patients have the right to a second opinion covered by social health insurance
Right to information about alternative treatment options	Yes	This right is regulated under the Law for the Protection of Patients' Rights, but is not always ensured in reality

Source: Authors' compilation.

The law obliges the Ministry of Health to appoint councillors for patients' rights in every public health care facility, and the same obligation exists for all private providers. In addition, the law obliges the municipalities and the city of Skopje to establish permanent committees for the protection of patients' rights, as well as offices for the promotion of these rights. In most health care institutions councillors have been nominally appointed, but most municipalities do not yet have functional committees for the protection of patients' rights. There are administrative and court procedures that patients can also use in case of a violation of their rights (see Table 2.4).

An additional mechanism for claiming violation of rights is the Office of the Ombudsperson, established in 1997, with an appointed Deputy for the Protection of Children's Rights and Health-related Rights. The Ombudsperson can provide advice to institutions on the violation of rights and suggested actions, but this advice is not legally binding (Milevska Kostova et al., 2017).

2.8.4 *Patients and cross-border health care*

Cross-border health care is available to citizens through bilateral agreements with many countries in Europe, in particular neighbouring countries, which makes it possible under certain circumstances to receive care abroad that is covered by social health insurance. A system of reimbursement of costs for treatment abroad is well established that reimburses care not available in North Macedonia, following prior approval by the HIF (see Chapter 3). Although utilization of treatments abroad is high, the demands for cross-border care are not fully satisfied due to limited funding and strict rules for obtaining care. Many patients still seek health services abroad at their own expense, most often specific surgeries.

TABLE 2.4 Patients' rights

PATIENT RIGHT	Y/N	COMMENTS
Protection of patients' rights		
Does a formal definition of patients' rights exist at the national level?	No	Patients' rights and the definition of each right are specifically stipulated in the Law on the Protection of Patients' Rights, although some of the rights are also derived from other health care legislation
Are patients' rights included in legislation?	Yes	In the Law on the Protection of Patients' Rights as well as in other health care legislation
Does the legislation conform with WHO's patients' rights framework?	Yes	
Patient complaints avenues		
Are hospitals required to have a designated desk responsible for collecting and resolving patient complaints?	Yes	The Ministry of Health appoints councillors for the protection of patients' rights in every public health care institution, including hospitals where patients can file a complaint
Ils a health-specific Ombudsperson responsible for investigating and resolving patient complaints about health services?	Yes	The National Ombudsperson office appoints one Deputy Ombudsperson for health and related rights
Are there other complaint avenues?	Yes	According to the law, patients can complain through the National Committee for the Protection of Patient Rights, through patient rights offices at municipal level or through court procedures
Liability/compensation		
Is liability insurance required for physicians and/or other medical professionals?	No	
Can legal redress be sought through the courts in the case of medical error?	Yes	Patients can initiate administrative, civil or criminal lawsuit against the health professional(s) or health care institution in question
Is there a basis for no-fault compensation?	No	
If a tort system exists, can patients obtain damage awards for economic and non-economic losses?	Yes	Patients can initiate civil lawsuits for obtaining compensation for economic and non-economic (psychological, emotional, etc.) damage and loss
Can class action lawsuits be taken against health care providers, pharmaceutical companies, etc.?	Yes	

Source: Authors' compilation.

3

Financing

Chapter summary

- North Macedonia has a mandatory social health insurance system with almost universal population coverage and a comprehensive publicly paid benefits package.
- Health expenditure per capita was US$ 1535 (adjusted for differences in purchasing power) and 8.5% as a share of GDP in 2021, placing the country at the lower end in the WHO European Region and below the EU average.
- Social health insurance contributions are the major source of public funding for health, accounting for about 55% of current spending on health and close to 91% of public spending on health. The Health Insurance Fund (HIF) is the main purchaser of publicly funded health services.
- The scope of benefits is broad, covering emergency care, primary care, secondary and tertiary outpatient and inpatient care, and preventive and rehabilitation services, yet access may be limited in practice, partly due to limited capacity in the public sector.
- There is strong reliance on OOP payments which represent more than 40% of health spending and are among the highest in South-eastern Europe. Out-of-pocket spending mainly consists of co-payments for services partly covered by social health insurance

and of direct payments for over-the-counter medicines and health services not covered by social health insurance.

- Medicines are the biggest driver of OOP spending, and one of the reasons is the outdated positive list of medicines. Informal payments are most widespread in obstetric and gynaecological care and constitute an important portion of OOP spending.
- Purchasing mechanisms have been introduced for all types of health services, but mechanisms for paying public providers in particular are not yet based on performance and outputs.
- Further efforts to increase public and reduce private spending on health are needed to improve financial protection and ensure access to essential health services.

3.1 Health expenditure

Health expenditure in North Macedonia has grown continuously in absolute numbers (measured as health expenditure per capita in US$ purchasing power parity), but has fluctuated as a percentage of GDP, with a decline between 2000 and 2015 (from 8.9% to 6.3% of GDP) and an increase in 2019–2021, reaching 8.5% in 2021 (see Table 3.1 and Fig. 3.1).

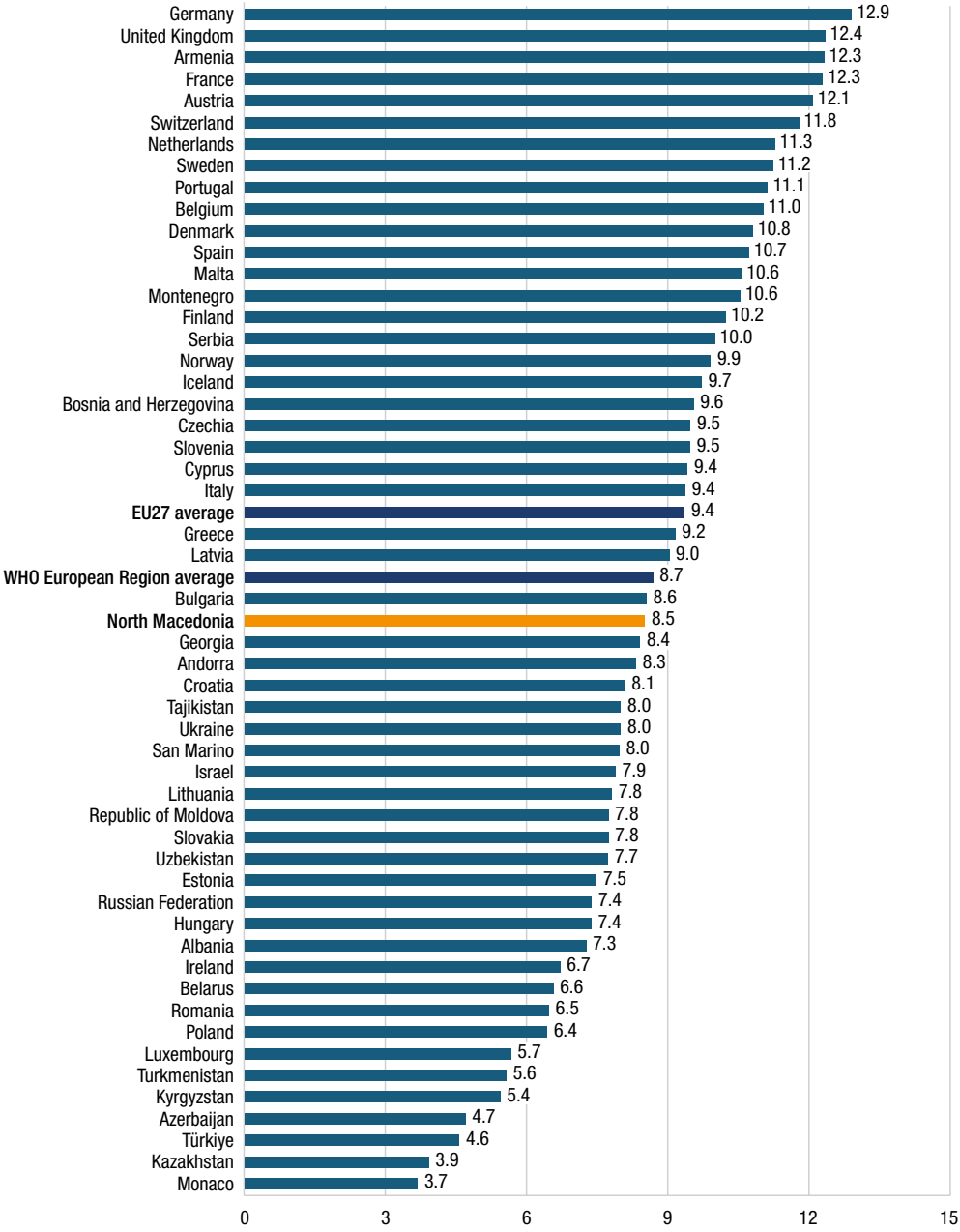
TABLE 3.1 Trends in health expenditure in North Macedonia, 2000–2021, selected years

EXPENDITURE	2000	2005	2010	2015	2020	2021
Current health expenditure (per capita in international US$ (purchasing power parity)	543	591	749	865	1 295	1 535
Current health expenditure (as % of GDP)	8.9	7.7	6.7	6.3	7.9	8.5
Public expenditure on health (as % of CHE)	53.1	57.0	60.6	65.0	60.4	54.5
Public expenditure on health per capita in international US$ (purchasing power parity)	288	337	453	562	782	837
Private expenditure on health (as % of CHE)	42.9	41.5	38.8	34.7	39.6	45.5
Public expenditure on health (as % of general government expenditure)	14.7	13.5	12.5	12.8	12.8	13.0
Government health spending (as % of GDP)	4.7	4.4	4.0	4.1	4.8	4.6
OOP payments (as % of CHE)	42.1	41.2	37.8	34.3	38.9	41.7

Notes: CHE: current health expenditure; GDP: gross domestic product; OOP: out-of-pocket.

Source: WHO, 2024.

FIGURE 3.1 Current health expenditure as a share (%) of GDP in the WHO European Region, 2021



Note: Note that the Netherlands (Kingdom of) comprises six overseas countries and territories and the European mainland area. As data for this review refers only to the latter, the review refers to it as the Netherlands throughout.

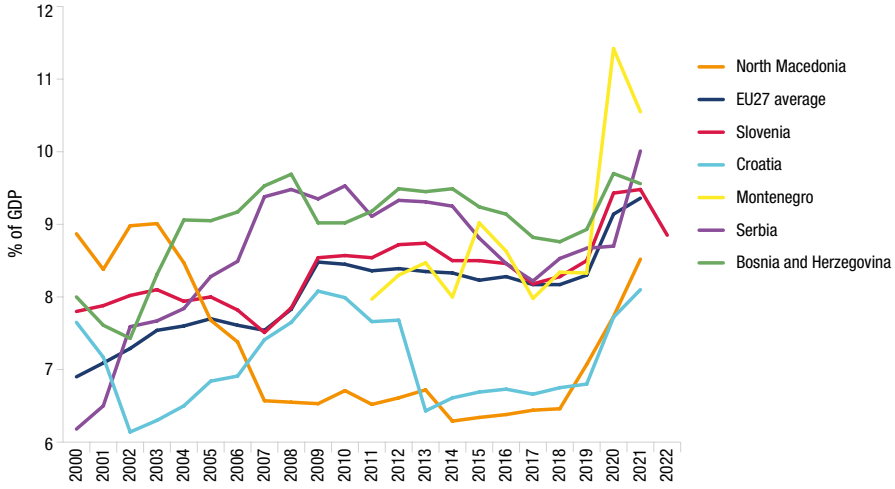
Source: WHO, 2024.

The share of public spending on health increased from 53.1% in 2000 to 65.0% in 2015, but dropped to 54.5% in 2021. Correspondingly, private expenditure on health declined from 42.9% in 2000 to 34.7% in 2015, increasing to 45.5% in 2021.

From an international perspective, with 8.5% of GDP spent on health in 2021, the country remains below the EU average of 9.4% and comparable to the average of the WHO European Region of 8.7% (Fig. 3.1).

Compared to countries in South-eastern Europe, spending on health as a percentage of GDP in North Macedonia is similar to Croatia, but below all other former Yugoslav countries. Fig. 3.2 illustrates that North Macedonia's spending on health as a share of GPD declined in the early 2000s, but increased markedly in 2019 and 2020, similar to increases in many other countries due to the response to the COVID-19 pandemic.

FIGURE 3.2 Trends in current health expenditure as a share (%) of GDP in North Macedonia and selected countries, 2000–2022

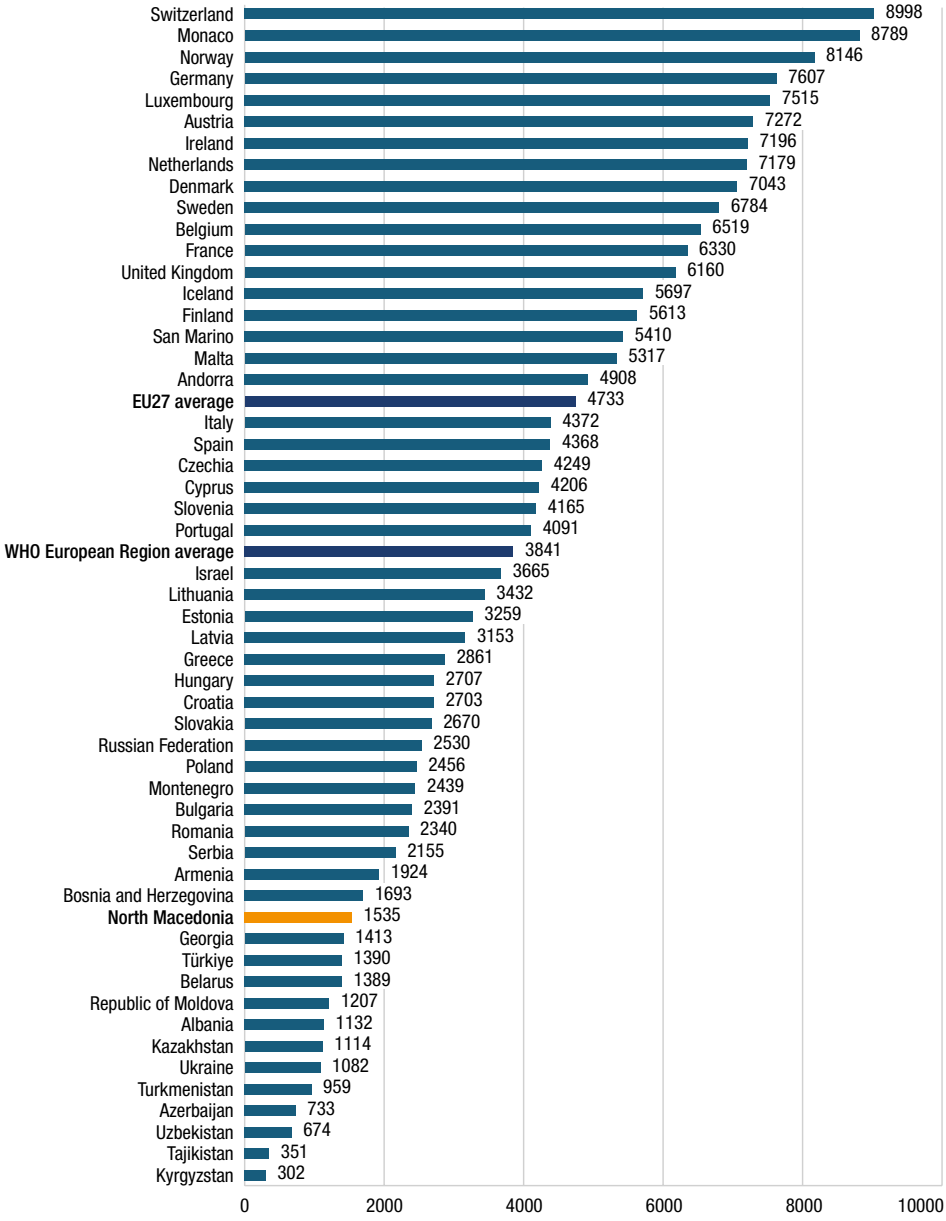


Source: WHO, 2024.

Comparing per capita spending on health with that of other countries in the WHO European Region shows North Macedonia to be at the lower end. With US$ 1535 per capita (adjusted for differences in purchasing power) in 2021, the country was among the lowest spenders in South-eastern Europe. Per capita spending was also well below the EU average of US$ 4733 in 2021 (Fig. 3.3).

Similarly, health spending from public sources as a share of current health expenditure was only 54.5% in 2021, which was well below the WHO European Region average of 67.4% in 2021, and also among the lowest proportions in South-eastern Europe (Fig. 3.4).

FIGURE 3.3 Current health expenditure in US$ PPP per capita in the WHO European Region, 2021

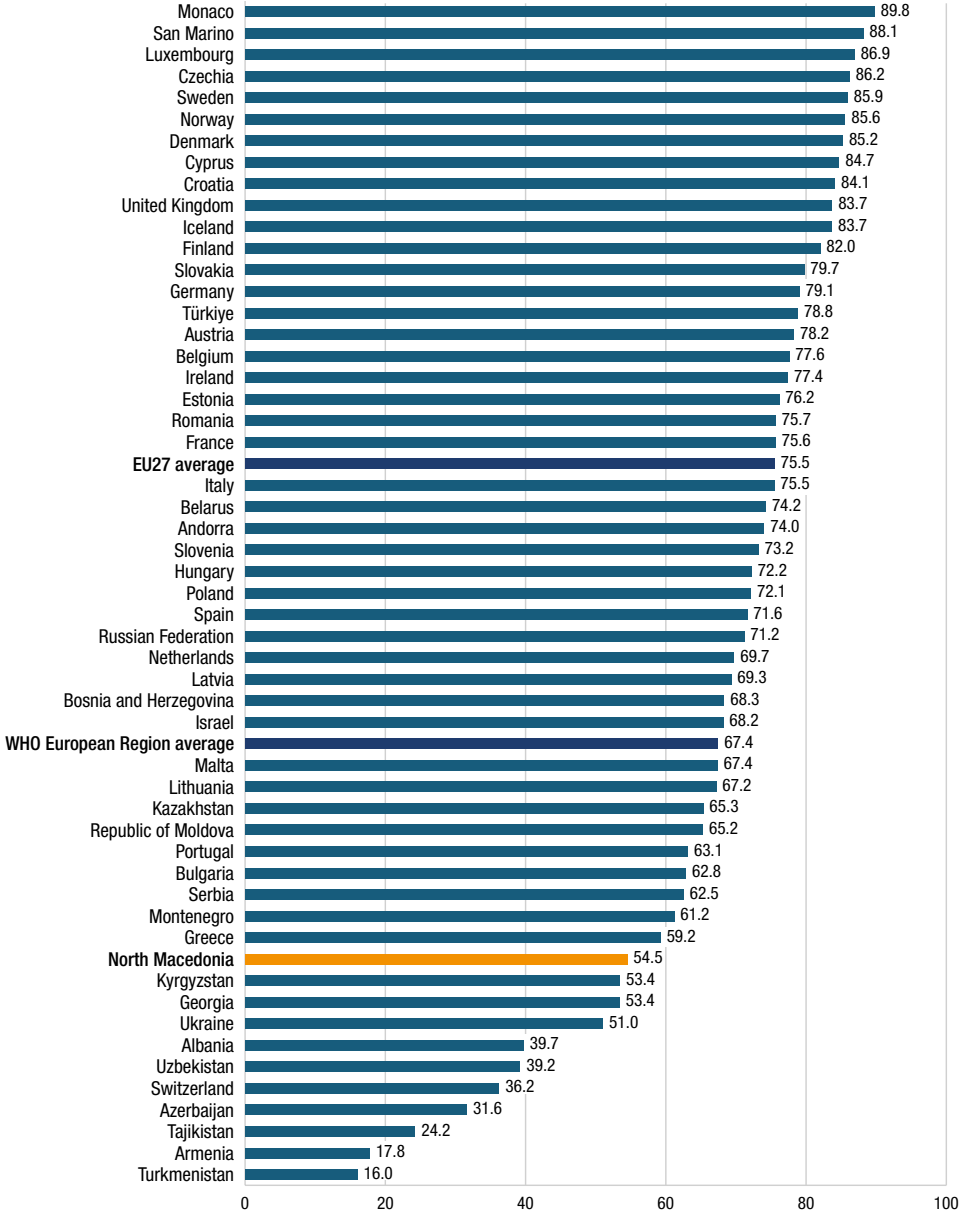


Note: PPP: purchasing power parity.

Source: WHO, 2024.

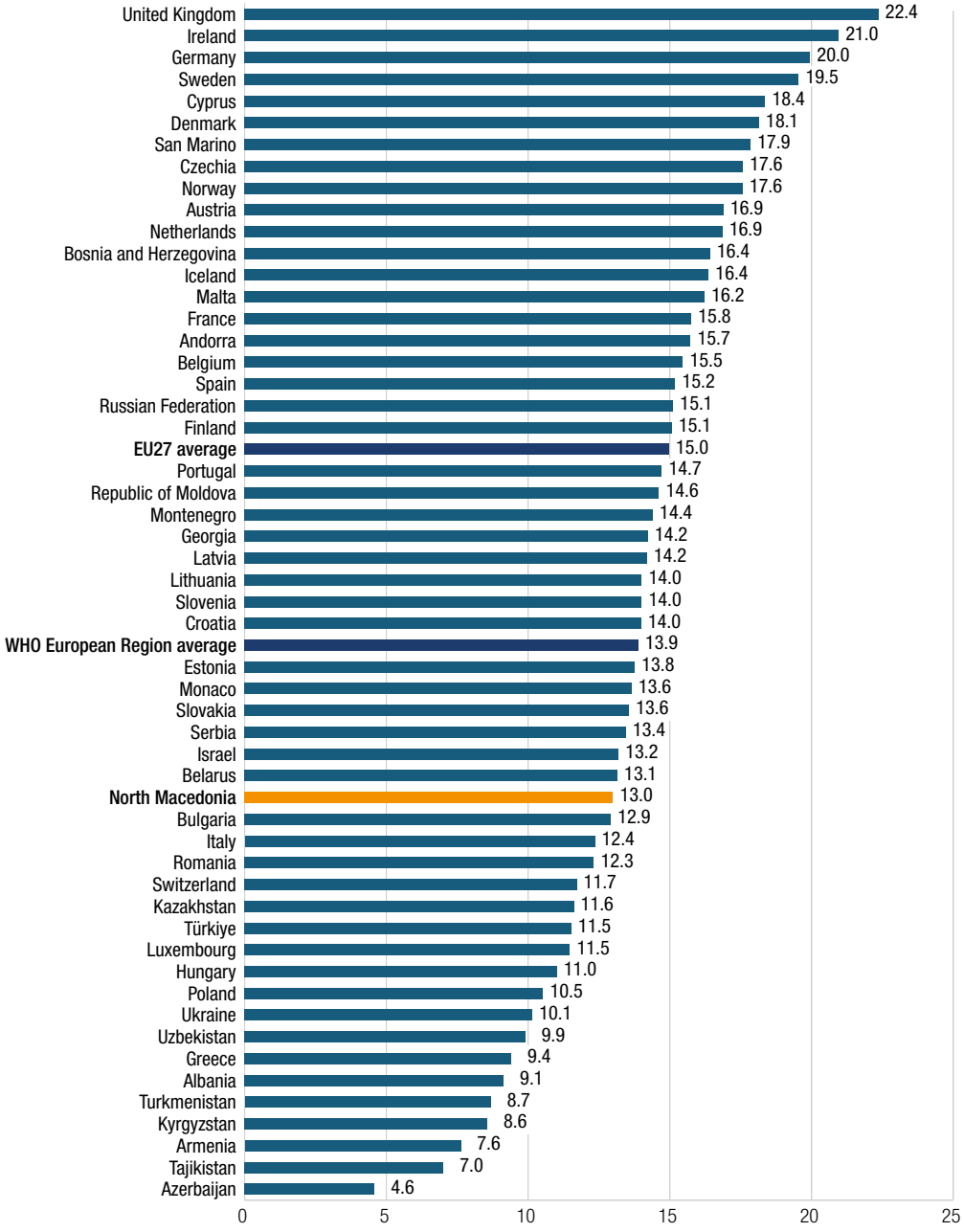
In terms of prioritizing public funds for the health sector, with 13.0% of government funds spent on health in 2021, North Macedonia allocated more than most of the non-EU countries in the WHO European Region, but less than the region's average of 13.9% and the EU average of 15.0% in 2021 (Fig. 3.5).

FIGURE 3.4 Public expenditure on health as a share (%) of current health expenditure in the WHO European Region, 2021



Source: WHO, 2024: data from December 2023.

FIGURE 3.5 Public expenditure on health as a share (%) of general government expenditure in the WHO European Region, 2021



Source: WHO, 2024.

In terms of health spending by function, pharmaceuticals accounted for 24.6% of current health expenditure in 2021, followed by inpatient care (24.5%) and outpatient care (24.1%). Public health services accounted for 4.4%, long-term care for 0.1% and administrative expenditures for 1.3%, while other services (such as day care, rehabilitative care, ancillary services and medical goods other than pharmaceuticals) and uncategorized spending accounted for 21% (Table 3.2).

TABLE 3.2 Expenditure on health (as % of current health expenditure) according to function and type of financing, 2021

	INPATIENT CARE	OUTPATIENT CARE	LONG-TERM CARE	PHARMACEUTICALS	PUBLIC HEALTH	ADMINISTRATION	OTHER SERVICES	TOTAL
General government	0.04	1.02	0.00	2.43	3.10	0.33	0.30	7.22
Social health insurance	14.04	15.06	0.00	4.01	0.63	0.84	13.56	48.16
Private out-of-pocket	10.33	7.93	0.10	18.18	0.65	0.00	4.56	41.74
Private insurance	0.00	0.00	0.00	0.00	0.00	0.13	2.55	2.68
Other (for example, non-profit institutions serving households)	0.10	0.09	0.00	0.00	0.01	0.00	0.01	0.21
Total expenditure	24.50	24.11	0.10	24.62	4.39	1.30	20.98	100

Source: National health statistics.

3.2 Sources of revenue and financial flows

The health system is financed from three main sources: (1) compulsory insurance contributions (salary-based contributions), (2) spending from the state budget (with revenues raised via general taxation) and other agencies, and (3) OOP expenditure directly paid by the population (Fig. 3.6). Donors and non-governmental organizations play a minor role, which continues to decrease as a share of current health expenditure, while the share of voluntary health insurance has shown major growth since 2015, although it is still a very small source of revenue. Following the revenue collected through the HIF, revenue raised from OOP payments by households constitutes the

second largest source, amounting to 41.7% of health expenditure in 2021 which is far above the EU average (see Section 3.4.1). The largest share of public funds (91%) is channelled through the HIF, which pools insurance contributions and purchases services on behalf of its insured population.

In 2021, the HIF obtained its health-related revenues from several sources: compulsory salary-based social health insurance contributions (59%), contributions from pensioners (24%), contributions from other agencies on behalf of specific groups (12%), revenues from user charges (1%), transfers from the central budget (1%), and other revenues (1%). Contributions from other agencies include those for economically inactive people, such as unemployed people who receive compensation from the Employment Service Agency, households who receive permanent social assistance from the Ministry of Labour and Social Policy, other unemployed people, and people who are not insured under existing eligibility provisions. Transfers from the central budget in 2021 were intended for HIF expenditure related to COVID-19.

3.3 Overview of the statutory financing system

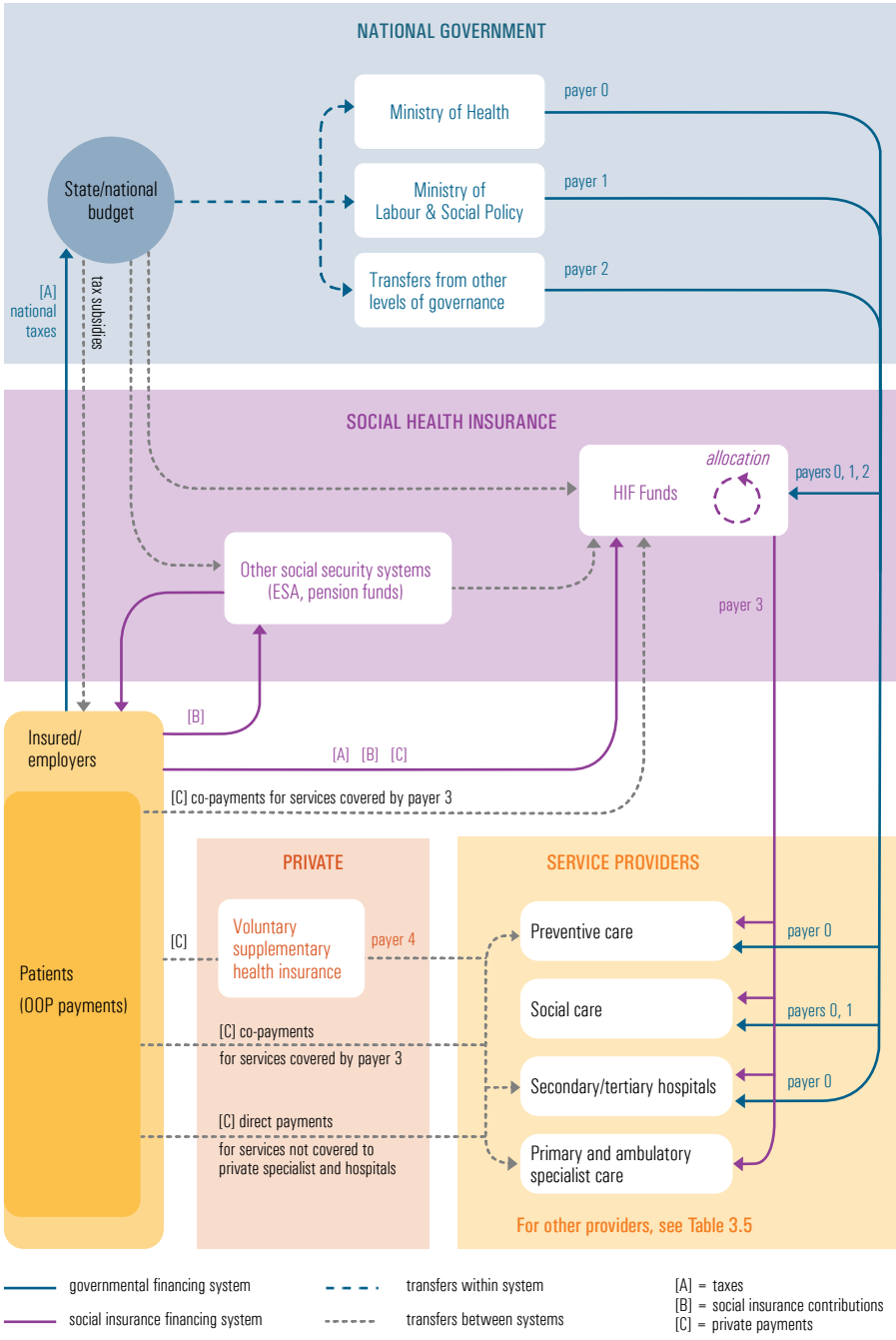
3.3.1 *Coverage*

BREADTH: WHO IS COVERED?

The Law on Health Insurance defines 15 categories of insured people. Entitlement to publicly financed coverage is based on the payment of contributions but the government pays contributions on behalf of specific groups of the population. This includes people with an income below the minimum wage, recipients of the guaranteed minimum income, people permanently unable to work, recipients of social benefits, people under 26 years of age with disabilities and special needs, informal carers, refugees, asylum seekers, users of institutional care, victims of domestic violence, victims of human trafficking, and war veterans (Milevska Kostova et al., 2017).

The rest of the population is required to pay contributions themselves to be covered by the mandatory social health insurance scheme. The contribution rates are defined by the Law on Mandatory Social Insurance Contributions and vary by category. Dependent family members are automatically covered if

FIGURE 3.6 Financial flows



Note: ESA: Employment Service Agency; OOP: out-of-pocket.

Source: Authors' compilation.

the spouse is not eligible under any other category and if children are under 18 years (or 26 years if they are enrolled in higher education or have a disability). In 2022, four insurance categories (employees including dependent family members, retired people, people with low income and farmers) accounted for about 98% of people covered by the HIF (Health Insurance Fund, 2023).

Based on the latest census of the population conducted in 2021, social health insurance covers the entire population. Nevertheless, minor gaps in coverage may still occur, such as: (1) people without regular employment who do not pay contributions; (2) employees whose salary payment has been delayed for more than two months due to the employer's lack of liquidity; and (3) Macedonian citizens living abroad. In addition, a recent WHO study found disparities in population coverage, with certain groups experiencing higher rates of not being covered (WHO Regional Office for Europe, 2024b) (see also Section 7.2).

SCOPE: WHAT IS COVERED?

The publicly paid basic benefits package is relatively comprehensive and includes provision of some dental care for adults, but not long-term care. The benefits are defined through a positive list of medicines and medical devices and a negative list for all other types of care. Health technology assessment (HTA) is not used for deciding which are the most cost-effective services, medicines or medical devices to be included, although there have been attempts and plans to introduce HTA for updating the positive list of medicines, which has remained largely unchanged since 2012.

Irrespective of insurance status, residents are entitled to emergency care and preventive health services, which are provided to everyone. The preventive services are covered by programmes funded by the Ministry of Health, including postnatal home visits for newborns, immunization and health check-ups of school children, Health for All prevention and awareness campaigns, and HIV prevention and control. The Ministry of Health also has curative programmes for the treatment of rare diseases, tuberculosis and HIV, as well as other public health services (see also Chapter 5).

Employees are entitled to compensation for sick and maternity leave, which are covered by the Ministry of Labour and Social Policy and administered through the HIF. The paid sick leave amounts to 70% of the average

income in the previous six months (85% in the case of cancer) and is paid partly by the HIF and partly by the employer, in different percentages and schemes, depending on the disease category. For maternity leave the cash benefit of 100% of the average salary in the previous 12 months is provided for a duration of nine months, starting either one month before the delivery due date or from the date of delivery. The cash benefits for caring for a sick child are also the responsibility of the HIF, as are the benefits for leave of absence due to blood, tissue or organ donation.

Other benefits of the health insurance package include orthopaedic and other medical devices and aids (subject to various criteria), as well as compensation for transportation to care providers under certain conditions (e.g. transportation for rehabilitative services for children).

Some health services are obtained solely on an OOP basis, by direct payments of users for items such as over-the-counter medicines, aesthetic surgery and services provided by private providers who do not have contracts with the HIF or services that are not covered in the HIF contracts with the respective institutions (Box 3.1).

BOX 3.1 What are the key gaps in coverage?

While the population is entitled to a comprehensive basic benefits package, including some dental care and compensation for sick and maternity leave and care for sick children, there are still gaps in coverage for some services.

One of the main gaps is the access to innovative and newer generation medicines, which in many cases might be available in the country, but are not placed on the positive list of medicines, resulting in the patients having to bear the costs for these treatments. The positive list of medicines has hardly been revised since 2012, undermining patient access to more effective and less costly medicines for some conditions and diseases.

The HIF is constantly aiming to improve access to services that are not sufficiently available within the public sector (such as ophthalmic and cardiovascular surgery) by negotiating contracts to purchase such services from private providers. However, this is not the case for some of the services that are available in the public sector but for which there is insufficient capacity to meet population needs (such as mammography or obstetrics/gynaecology services), creating a demand for private OOP paid services to avoid long waiting times.

DEPTH: HOW MUCH OF BENEFIT COST IS COVERED?

Emergency care and mandatory immunization programmes are free for everyone, irrespective of insurance status. Primary care visits to general practitioners (GPs and family doctors), obstetricians/gynaecologists, paediatricians and dentists are free at the point of use for insured people.

All other covered services and products are subject to user charges (co-payments), which are set through legislation. Most user charges take the form of percentage co-payments, which range from 0% to 20% of a reference price (tariff) applied by the HIF to all services except treatment abroad. Reference prices (tariffs) apply equally to all contracted providers. On average, co-payments are around 10% of the reference price. Fixed co-payments are charged for some services, such as rehabilitation days and some dental services (see also Section 3.4).

There are various mechanisms in place to protect people from user charges, with exemptions and caps explicitly targeting people on low incomes. Recipients of social benefits; people under 26 years of age with special needs; people with mental conditions; pregnant women, new mothers and newborns; people receiving in vitro fertilization (IVF) treatment; and people with some chronic conditions are exempt from user charges for inpatient care, outpatient care, dental care and diagnostic tests. In addition, pensioners with below-average pensions have also been exempt from user charges for inpatient care since 2013. There are caps on co-payments per episode of care and annual caps for most types of care, with the exception of medical products and outpatient medicines. Over time, several changes to coverage policy are likely to have affected OOP payments. Most changes aimed to reduce OOP spending.

3.3.2 *Collection*

Contributions for social health insurance are collected through an integrated collection system, i.e. income tax and all contributions are automatically deducted from gross salary payments and transferred to the relevant social insurance funds. The Public Revenue Office is responsible for the collection of taxes and contributions.

Contribution rates vary by category and are defined by the Law on Mandatory Social Insurance Contributions. The contribution rate for employees is 7.5% of their gross income and there is no split between employee and employer, so that the contribution rate for employers is 0%. Contributions to the social health insurance system tend to be a proportional source of financing, as the contribution rate is defined as a percentage of income, which is related to solidarity – one of the principles of the social health insurance system (see Box 3.2).

Through different agencies the government covers the contributions for specific groups, such as for social categories (see Section 3.3.1), or people with an income below the minimum wage who are not insured under other categories. The government pays a contribution rate of 7.5% for social categories and 5.4% for people with low incomes, with the contributions based on 50% of the average salary.

BOX 3.2 Is health financing fair?

The social health insurance system in North Macedonia is built on the principles of comprehensiveness, solidarity, equality and efficient utilization of funds, emphasizing the importance of fair public financing. Public funding for health is collected primarily from social health insurance contributions, with rates that vary across different categories. Key contributors include employees paying 7.5% of their salary, farmers paying the same rate but based on a fifth of the average salary, pensioners contributing 13% of their pension, and the government paying a reduced contribution of 5.4% for its beneficiaries (vulnerable groups of the population). While the diverse bases and rates are intended to promote fairness, in reality they introduce complexity into the system and distribute the financial burden unequally. Pensioners, who are frequent users of health services but in general have a lower income than the economically active population, bear a higher cost for mandatory health insurance, while the government contributes less for its beneficiaries. With private spending (both out-of-pocket and spending on voluntary health insurance) constituting around 40% of current health expenditure, the financing structure is regressive. This means that those on lower incomes have to spend a larger share of their income on health than those with higher incomes. A more in-depth analysis is needed to evaluate the financial equity of the health system, considering both public and private funding sources.

3.3.3 *Pooling and allocation of funds*

North Macedonia has retained a single health insurance fund, despite past initiatives that aimed to establish multiple funds. The contributions are pooled along with other revenues in the HIF treasury account held by the Ministry of Finance. The Ministry of Finance approves and parliament adopts the HIF's annual budget (as part of the state budget approval process), based on estimates of expected revenues from contributions and other inflows, in accordance with macroeconomic indicators and fiscal policies. When adopted, the HIF budget restricts HIF spending according to three budget lines: (1) health services, (2) salary compensations (sick and maternity leave), and (3) administrative expenditure

The Ministry of Health also undergoes a process of budget negotiations with the Ministry of Finance. The Ministry of Health finances vertical programmes that include preventive and curative programmes and are targeted at the whole population, regardless of health insurance status. The funding of these programmes mainly comes from the state budget (general taxation), but there are also specific earmarked public revenues that are allocated directly to the ministry's treasury account, such as excise duties from tobacco and alcohol. In addition, some external funds from donors have in the past been channelled through Ministry of Health programmes (e.g. funds from the Global Fund until 2017).

3.3.4 *Purchasing and purchaser–provider relations*

The HIF purchases health services based on contracts signed with providers that are part of the Health Network. The Health Network was adopted in 2013 and has been managed by the Ministry of Health since then (see Chapter 2). Each provider that has obtained a licence to provide services within the Health Network is entitled to sign a contract with the HIF.

The HIF concludes multi-year contracts with providers. The content of contracts, such as conditions, obligations and rights of both the HIF and the providers, is negotiated with the relevant professional chamber (medical, pharmaceutical and dental). The volume of services and the financial caps for providers are subject to annual negotiations with the chambers and the providers. Usually, the HIF negotiates individually with all public providers,

primary care providers and the bigger private providers at secondary level that provide limited services under the social health insurance system (Box 3.3).

BOX 3.3 Are resources put where they are most effective?

Following a reform in 2007, the HIF underwent a transformation from an item-based financing system, primarily paying public providers, to becoming a purchaser of services from both public providers and also the expanding private health care sector. While this meant a significant change and improvement in terms of the effective allocation of public funds for health, the HIF did not continue to progress towards strategic purchasing by introducing selective contracting and quality criteria.

Since the reform, the HIF has introduced budget allocation criteria for contracted private providers, using the available historical data from the health information system. However, for public providers, the budget allocation continues to be predominantly based on historical expenditure. This indicates that the budgeting approach for public providers remains tied to past spending patterns, reflecting a more passive than strategic approach to resource allocation.

3.4 Out-of-pocket payments

Although North Macedonia has a system of social health insurance covering almost all of the population and a comprehensive basic benefits package, OOP payments are high by EU standards. In 2021, the OOP share of current spending on health was 41.7%, which was well above the EU average of 15%. This high level of OOP spending undermines principles of equity, efficiency and fairness, as well as the financial protection of the population, making the poorest households more vulnerable to financial hardship (see also Chapter 7).

3.4.1 *Cost sharing (user charges)*

Various mechanisms are in place to protect people from paying high amounts of user charges, resulting in financial hardship. The cap per service or product is set at MKD 6000 (approximately €100), while the annual cap for

co-payments per insured person is set at 70% of the average salary (or approx. €450), with lower caps for certain vulnerable groups.

Exemptions for co-payments for inpatient care, outpatient care, dental care and diagnostic tests are granted to recipients of social benefits; persons under 26 years of age with special needs; persons with mental conditions; pregnant women, new mothers and newborns; persons receiving IVF treatment; and persons with some specific chronic conditions. In addition, pensioners with a below-average pension have been exempt from user charges in inpatient care since 2013 (Table 3.3).

There are also exemptions or reduced co-payment rates for some population groups for outpatient medicines, medical devices and treatment abroad. Due to high costs in the past for treatment abroad which is approved and covered by the HIF, the maximum co-payment since 2013 has been limited to €200 per referral (Table 3.3).

3.4.2 *Direct payments*

Direct payments are payments made by health care consumers for services not included in the benefits package, or for uncontracted private services. Most direct payments are for medicines dispensed by pharmacies at community (primary care) level that are not on the positive list or that are obtained without a prescription or with a private prescription not covered by the HIF. In addition, people pay direct payments for services provided by private specialized clinics and hospitals, which either do not have contracts with the HIF or have contracts only for limited types and volumes of services. Users usually pay out of pocket if they have issues with their health insurance, want to bypass waiting times, or want to receive the seemingly higher quality services provided by private hospitals.

3.4.3 *Informal payments*

Informal payments for doctors and other health workers used to be common in both public and private facilities (Crvenkovski, 2020; Habibov & Cheung, 2017), but there is little up-to-date information on this issue. Anecdotal

evidence suggests that obstetricians and gynaecologists in primary care often charge insured people even when they have no right to do so. Since 2013, the Health Education and Research Association (HERA) has been monitoring reproductive health services for individuals in vulnerable situations and found that these individuals regularly make informal payments; for example, in 2019 over 60% of women in vulnerable situations reported making informal payments for their visit to an obstetrician or gynaecologist (HERA, 2020).

TABLE 3.3 User charges for health services

HEALTH SERVICE	TYPE OF USER CHARGE IN PLACE	EXEMPTIONS AND/ OR REDUCED RATES	CAP ON OOP SPENDING
Primary care	None	n/a	n/a
Outpatient specialist visit	Percentage co-payment of the reference price	People aged <26 years with special needs People receiving social benefits Pregnant women, new mothers, newborns People with mental health conditions Blood, tissue and organ donors IVF treatment and treatment of infectious diseases, dialysis, diabetes, growth hormone deficiency and haemophilia	MKD 6000 (~€100) per episode of care Annual caps: 20% of average monthly salary for households with income below 60% of the average salary and children aged 1–5 years 40% of average monthly salary for households with an income below the average salary, children aged 5–18 years and people aged >65 years 70% of average monthly salary for all others
Dental care	Primary care dental check-up – none Dental services in primary care: fixed co-payments MKD 100–600 (~€1.5–10) Specialist dental services: Percentage co-payment of the reference price		
Inpatient stay	Percentage co-payment of the reference price Fixed co-payment for some services (daily rates for rehabilitation and gerontology residential centres)		
Outpatient prescription drugs	Percentage co-payment of the reference price plus difference between the reference price and the retail price	People with special needs <26 years Therapy for transplant patients (donor and recipient)	MKD 600 (~€10) per prescribed medicine
Medical devices	Percentage co-payment of the reference price plus difference between the reference price and the retail price	Orthopaedic and optical devices for children aged <18 years; hearing aids; wheelchairs; incontinence products; extremity prostheses	No
Treatment abroad	Percentage of the service price	People with special needs <26 years	MKD 12 000 (~€200) per referral

Notes: IVF: in-vitro fertilization; MKD: Macedonian denar; n/a: not applicable; OOP; out-of-pocket.

Source: Authors' compilation.

3.5 Voluntary health insurance

Since 2012 voluntary health insurance (VHI) in North Macedonia has been regulated under a separate law. It is provided by private insurance companies and is under the authority of the Insurance Supervision Agency.

Voluntary health insurance has two roles – supplementary and complementary. Supplementary VHI is supplied by private insurers for people covered by social health insurance. It offers greater choice, including access to private providers not contracted by the HIF, use of private rooms, and access to services outside working hours in public facilities. Complementary VHI was established to cover all co-payments in the social health insurance system. It is open to all those covered by the HIF and can be sold by any insurance company. However, very few insurers offer this type of VHI.

Although VHI has grown continuously since 2015 and especially in 2021, it still plays a minor role in health financing, accounting for 2.7% of current health spending in 2021.

3.6 Other financing

3.6.1 *Parallel health systems*

There are no parallel health systems in North Macedonia.

3.6.2 *External sources of funds*

External sources of funds have played a limited role, especially since 2017 when the Global Fund programme for fighting AIDS, tuberculosis, and malaria ended. While the country is no longer primarily dependent on external funding, the EU has remained a critical partner, providing both technical support and financial assistance for various initiatives. Notably, during the COVID-19 pandemic, the EU's support was crucial despite North Macedonia's status as a candidate country and ineligible for financial assistance designated for EU member states and accession countries. In recent years, the EU's contributions have focused largely on technical support,

particularly in the development of North Macedonia's health system strategy, and continue to be an important source of assistance for the country's health system development.

3.6.3 *Other sources of financing*

There are no other significant sources of financing.

3.7 Payment mechanisms

All services provided by public providers in health centres, hospitals and tertiary university clinics are subject to negotiations and are financed by a mix of fee-for-service, episode payments and global budget. The HIF negotiates contracts for an annual volume of services for a predefined sum, based on the service volume of the previous year and the expected service volume for the current year. Health care providers send monthly invoices for the health services they have provided. Unlike private providers, public providers are paid in equal monthly instalments but if the invoiced amount is over or under the allocated budget, adjustments can be made based on availability of funds.

3.7.1 *Paying for health services*

PRIMARY CARE

Since the transformation of primary care in 2005, private primary care providers (GPs, family doctors, paediatricians, dentists, obstetricians/gynaecologists, school medicine doctors) have signed contracts with the HIF and received payments through a capitation-based system (Table 3.4).

The HIF sets the value of the capitation point based on budget availability, but the calculation of the capitation itself is based on the age of the insured persons, the number of insured persons registered with the GP (per practice), and the achievement of preventive health targets. General practitioners in less densely populated rural areas receive additional compensation, and new GPs are subsidized for the first year of practice.

In general, the capitation-based contract includes two main payment categories: 70% of the total amount consists of a fixed capitation fee based on the number and age of registered patients, and the remaining 30% is conditional on meeting the preventive health targets for primary care.

Preventive and primary care services provided by the health centres (emergency care, immunization, preventive medical examinations, community nursing and home visiting following hospital discharge) are financed through "primary care packages" that are based on the monthly cost of the team and related direct and indirect costs.

TABLE 3.4 Provider payment mechanisms

PAYERS/ PROVIDERS	HIF	MINISTRY OF HEALTH	OTHER MINISTRIES
GPs	C + preventive health targets		
Health centres	GB/capped episode payment		
Ambulatory specialists	GB/capped episode payment		
Other ambulatory provision	GB/capped episode payment		
Acute hospitals	GB/capped DRG + conditional budgets		
Other hospitals	GB/capped FFS + DRG		
Hospital outpatient	GB/capped episode payment		
Dentists	FFS		
Pharmacies	Reimbursement		
Public health services	Preventive packages	Health programmes	
Social care			Salary

Notes: C: capitation; FFS: fee-for-service; DRG: diagnosis-related group (case-based payment); GB: global budget; GPs: general practitioners.

Source: Authors' compilation.

AMBULATORY SPECIALIST SERVICES

For outpatient specialist services in health centres, hospitals and specialist practices, the HIF uses "specialist care packages", which can be individual services or several services grouped into a package covering one episode of treatment.

INPATIENT CARE

Since 2009, all inpatient facilities contracted by the HIF use the DRG hospital payment system, which is an adapted version of the Australian Refined Diagnosis Related Groups model 5.2. Every admission and treatment is recorded electronically in a web application called Grouper. In the first few years after the introduction of the system, the number of DRG codes increased from 665 to 676, but no further updates of the system have been implemented in the last decade. Additional payments for complex patients have been incorporated into the system, amounting to 10% of the realized DRG invoice for tertiary level providers, and 25% of the invoiced services for specialized paediatric and psychiatric care providers. This reflects the complex demands placed on these institutions, as they provide more diagnostic services, have longer patient stays and higher expenses for medical treatments.

However some services, such as critical care, long-term mental care, rehabilitation and emergency services, were not included in the DRG system. To overcome this, as well the restriction on further adding and adjusting DRG codes, the HIF introduced inpatient services within the system of specialist care packages. The service groups consist of different segments of health care, including ophthalmology, orthopaedic services, psychiatry, dentistry, dermatology, physical therapy, hearing and speech therapy, neurology, and since 2020, treatment of COVID-19.

To further strengthen its strategic purchasing role and to discourage hospitals from providing low-quality or improperly planned health services, the HIF uses so-called "conditional budgets" for public secondary and tertiary level clinics and hospitals. These budgets, set by the HIF, define the volume of services that must be delivered by the provider. If they are not supplied according to the agreed plan, they are reallocated to another provider at the end of the quarter. When the concept was introduced, it was more focused on services that were either deficient or of special interest to the health authorities, but in 2021 almost all conditional budgets were dedicated to the provision of inpatient medicines. In 2021, €20.5 million were allocated as conditional budgets to 16 public providers.

PHARMACEUTICAL CARE

All community pharmacies in the country are private and in 2022, 948 of them had signed contracts with the HIF for dispensing medicines under the social health insurance system. The HIF budget for outpatient medicines in 2021 amounted to €41.2 million, which was 8.2% of the total health budget.

Until 2019, the HIF used sales quotas for pharmacies as a prerequisite for a contract. The monthly quota defined the maximum value of medicines that each of the contracted pharmacies could dispense. When the sales quota was reached, the pharmacy could only dispense medicines that were fully paid out of pocket. In mid-2019 this payment system was abolished, and all dispensed prescription medicines are now reimbursed by the HIF to the contracted pharmacies, providing improved access to outpatient medicines for the insured population.

The country has implemented an international price comparison model to calculate national price ceilings for medicines, as well as for reference pricing. The national price ceilings are set by the Ministry of Health and MALMED, and they define the maximum price at which a registered medicine can be retailed. The HIF calculates the reference prices for medicines on the positive list, and the calculation is based on the pricing systems of four comparator (reference) countries (Bulgaria, Croatia, Slovenia and Serbia).

Inpatient medicines are procured directly by health care institutions and are invoiced to the HIF as part of the services provided to the patient. Given that the positive list of medicines has not substantially changed since 2012, hospitals have been able since 2016 to procure new and innovative medicines (that are not on the positive list) with prior approval from the Ministry of Health and the HIF. The limitations of this approach are that it is ad hoc, lacks transparency, and does not address uncertainty for people in need of medicines. According to HIF data, public providers in 2021 spent MKD 5.9 billion (approximately €96 million) overall on inpatient medicines.

3.7.2 *Paying health workers*

The payment of the health workforce varies depending on the level of care and type of provider. General practitioners, family doctors, dentists, obstetricians/gynaecologists and paediatricians in primary care, as well as specialists

with solo practices, are self-employed and their revenues are mainly based on capitation, the budget from the HIF and user charges. Their revenues are used to cover salaries, medical supplies, utilities and equipment.

The salaries of other private providers depend on the internal rules of the provider and employment contracts of their health staff.

With public providers, all salaries are regulated in the collective agreement negotiated, agreed and signed between the minister and the union of health workers. The agreement defines inter alia the minimum salary in the health sector, which serves as a base point for calculating each salary in the public sector, with coefficients for education, experience, working conditions and position.

Since 2018, doctors who undergo practical training towards their specialization have been compensated for their work in delivering health services. Their compensation is at the level of the average net salary of a publicly employed doctor without specialization.

In 2023, the country abandoned the pay-for-performance (P4P) model that was introduced in 2014 with the aim of improving the efficiency of health service delivery by linking doctors' salaries with their output. The main reason for abolishing the P4P model was that it was based on inputs rather than health needs, leading to a disproportionate increase in the volume of services and the number of specialist visits, without a clear indication of their impact on the health of the population.

4

Physical and human resources

Chapter summary

- North Macedonia has fewer acute hospital beds per population than many other countries in South-eastern Europe.
- Although the numbers of physicians and nurses have increased, there are fewer health workers per population than in neighbouring countries. Outmigration of health professionals particularly to Germany has been increasing in recent years.
- In 2012, the Health Network of certified health care providers was introduced to ensure equitable geographical access to health services provided by public and private providers. It defines the types of health services provided in specified geographical areas, the needed health workforce, infrastructure and hospital bed capacity for each medical specialty and the type and amount of diagnostic and other medical equipment for each level of care.
- North Macedonia has set up a nationwide e-health system, *Moj Termin* (My Appointment), which is used by all institutions within the Health Network for electronic health records, referrals to higher levels of care for diagnostic tests and treatment, electronic discharge letters, as well as e-prescriptions for pharmaceuticals.

4.1 Physical resources

4.1.1 *Capital stock and investments*

CURRENT CAPITAL STOCK

In 2021, the Health Network included 124 institutions:

- the Institute of Public Health
- 10 Centres of Public Health
- 67 (public and private) hospitals
- six polyclinics for outpatient specialist services
- one dental clinical centre
- 34 health centres, and
- five health stations (MoH, 2021).

In addition, 1067 primary care practices (GPs, family doctors and paediatricians), 148 obstetrics/gynaecology practices and 1075 dental practices were contracted by the HIF to provide primary care services.

Of the 67 hospitals, 53 were for acute care and 14 for chronic care. There were 33 secondary care providers:

- 15 general hospitals (13 public and two private)
- five clinical hospitals (three public and two private)
- 13 specialized hospitals:
  - three for pulmonary diseases and tuberculosis
  - one for pulmonary diseases in children
  - three psychiatric hospitals
  - one for obstetrics and gynaecology
  - one for orthopaedics and traumatology
  - one for geriatric and palliative care, and
  - three private specialized hospitals: two for gynaecology and obstetrics, and one for ophthalmology).

Tertiary care is provided by 30 university clinics and institutes, all situated on the same campus. General hospitals are located in all major towns,

but all tertiary care services are provided solely in the capital city of Skopje (see Box 4.1). In addition, there are five centres for treatment, rehabilitation and spa services.

Public health services are provided by the IPH and 10 regional Centres of Public Health with 21 units at community level. The Health Network expands every year based on needs assessment. For example in 2022, 69 licensed specialized dental practices that provide orthodontics, prosthetics and oral surgery joined the network (MoH, 2022).

REGULATION OF CAPITAL INVESTMENT

Capital investment in publicly owned health facilities is centrally planned and secured by the Ministry of Health through its annual budget, which is approved by the Ministry of Finance and adopted by the parliament. Capital investment includes procurement of equipment (for diagnostics or treatment), and improvement of infrastructure (refurbishing existing or building new health facilities).

The Health Network acts as a regulatory instrument for capital investment in the public sector, whereas private providers are free to invest in their own infrastructure.

INVESTMENT FUNDING

According to the Law on Health Care, investment funding in the public sector is secured through the state budget and is separate from the reimbursement for service delivery. Other sources of funds include donations, loans and the EU Instrument for Pre-Accession Assistance (IPA). Some public providers also purchase equipment from their own budget, based on identified needs. Municipalities have no direct competence to invest in their local health system, but they advocate and negotiate with the Ministry of Health through their line ministry (the Ministry of Local Self-Government).

Between 2017 and 2020, the Ministry of Health invested in the physical infrastructure of 32 publicly owned health facilities across all levels of care (polyclinics, general hospitals and university clinics) (MoH, 2020b). In addition to refurbishing facilities at all levels of care, investments were made in

new facilities, the largest of which is a new building for the clinical hospital in Shtip. This €30 million investment – the largest capital investment in health since the country's independence – was due to be completed in 2023; however due to diligence issues with the company that won the tender, the procedure was annulled and a new tender was planned to be released in 2024.

Investments for improved access to specific services were also made, in particular in facilities for:

- noncommunicable diseases (the Centre for Cardiovascular Diseases in the City General Hospital "8th September" in Skopje);
- mental and neurological health services (the Centre for Early Interventions and Treatment of Children with Autism Spectrum Disorders in Ohrid; the new Department for Acute Care in the Psychiatric Hospital in Negorci; and the new male pavilion at the Psychiatric Hospital in Demir Hisar);
- emergency care facilities (the new emergency centre in Kumanovo); and
- social and assistive services (three referral centres for victims of sexual violence, six parenting schools, and a "Parents' House" for parents whose children are staying long-term in hospital but are not entitled to a hospital companion).

All government cabinets since 2011 have promised to build a new clinical centre in Skopje to replace the current university clinics complex, but the project has not yet been initiated.

4.1.2 *Infrastructure*

To ensure equitable geographical access to health services, the Health Network of certified health care providers (both public and private) was introduced in 2012 in accordance with the Law on Health Care. The Health Network defines the types of health services provided in specified geographical areas, the necessary health workforce, infrastructure and hospital bed capacity for each medical specialty, and the type and amount of diagnostic and other medical equipment for each level of care (see Section 2.4). The Health Network includes all public health care facilities, and it also includes private ones for services that are insufficiently or not at all available from

public providers. All providers in the Health Network have to be certified by the Ministry of Health to be eligible for a contract with the HIF and to provide services under the social health insurance system. Although one of the aims of the Health Network is to integrate preventive, primary, secondary and tertiary care, evidence suggests that service provision remains rather fragmented, with limited communication and coordination across different levels of care (WHO Regional Office for Europe, 2019b). Private health institutions outside the Health Network provide health services for which patients have to pay the full price out of pocket, as there are no ceilings or any kind of service pricing policy (see Chapter 3).

BOX 4.1 Are health facilities distributed appropriately?

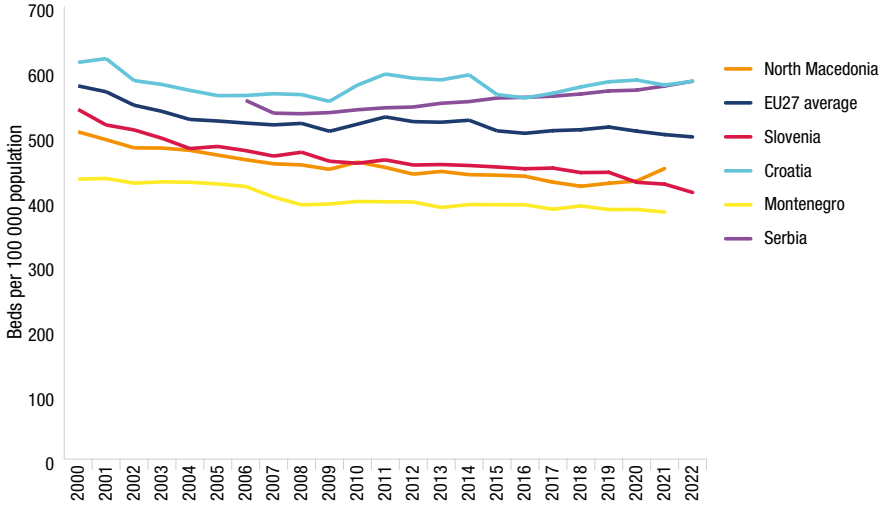
The country has good geographical distribution of hospital facilities and health centres, but due to the unequal distribution of human resources and the lack of standardized quality of care, the availability of services across regions is still uneven (see Chapter 5). Due to the size of the country, some specialized services and tertiary level care can be accessed solely in the capital city of Skopje.

Following the initial and the ongoing primary care reform (see Chapter 6), all primary care services are provided by private GPs and family doctors. The availability of primary care services varies, in particular in smaller municipalities and rural areas. In addition, the scope of services is poorly defined and practices have relatively low usage of equipment, which can have an impact on the availability and quality of care.

The total number of hospital beds per 100 000 population in North Macedonia declined from 506 in 2000 to 449 in 2021, in line with trends in most other European countries. There was an increase in hospital beds per population in 2019–2021, due to the response to the COVID-19 pandemic, but the ratio remained below the EU27 average of 483 in 2021 (Fig. 4.1).

Of the total number of hospital beds in 2021, 320 per 100 000 population (71%) were for curative care, 77 per 100 000 (17%) were for long-term care, 20 per 100 000 (4%) were for rehabilitative care, and 31 per 100 000 (7%) were for other purposes (Eurostat, 2024). The share of hospital beds in private hospitals has increased, but about 95% of beds are still in publicly owned hospitals (Eurostat, 2024).

FIGURE 4.1 Hospital beds per 100 000 population in North Macedonia and selected countries, 2000–2022



Source: Eurostat, 2024.

In 2019, bed occupancy rates were among the lowest in Europe: 47% for general and clinical hospitals, 48.5% for specialized hospitals, and 59% for university clinics (Institute of Public Health, 2021a). By 2022, the overall bed occupancy rate saw only a marginal increase to 47.4%, while the utilization of acute care beds remained low at 40.8%. This underutilization persisted despite a significant rise in hospitalization rates due to the COVID-19 pandemic: rates increased from 82.0 per 1000 residents in 2020 to 111.8 per 1000 in 2022. During this period, there was also a 20.8% increase in the number of discharged patients and a 4.7% increase in hospital days. At the same time, the average duration of treatment decreased from 8.1 to 7.1 days, indicating a faster patient turnover.

While acute care beds remained underutilized, occupancy of long-term care beds for neuropsychiatry and geriatrics was very high, with rates at 90.5% and 99.6% respectively in 2019 (Institute of Public Health, 2021a). The high occupancy rates and growing waiting lists reflect the lack of capacity and the increasing demand for long-term care services.

4.1.3 *Medical equipment*

PROCUREMENT

According to the Law on Health Care, high-cost medical equipment is considered capital investment and is funded by the central budget through the Ministry of Health. Public sector providers are responsible for developing plans to procure medical equipment (based on the information from the registry for medical equipment and the electronic health system). The plans, together with funding requirements, are submitted to the Ministry of Health for approval. The procurement is done by individual institutions, based on approved plans and funding, and the process is governed by their procurement committee, appointed by the institution's management. In the private sector, health facilities (including private practices providing primary care) plan, decide and purchase their own equipment for providing the basic benefits package, based on their needs assessment and investment potential.

EQUIPMENT INFRASTRUCTURE

Despite investment in medical equipment, North Macedonia has limited capacity of imaging equipment and ranks below the volume of magnetic resonance imaging (MRI) and computerized tomography (CT) units of most neighbouring countries and the EU average (Table 4.1). Most MRI units are located in the capital Skopje. Of the remaining seven regions of the country, three (Eastern, Pelagonia and Polog) have one MRI unit each, while four regions have none. Twelve out of 29 CT units are in Skopje. All three clinical hospitals and about half of all general hospitals have a CT unit. Since 2017, the country has two positron emission tomography (PET) scanners (including PET-CT) – one each in public and private ownership.

4.1.4 INFORMATION TECHNOLOGY AND E-HEALTH

North Macedonia launched a nationwide e-health system in 2012, My Appointment (*Moj Termin*), and established a Directorate for e-Health under

the Ministry of Health in 2015 (see Section 2.6). Since its introduction, the functionality of *Moj Termin* has expanded from a scheduling system for clinical appointments and diagnostic tests to a fully-fledged e-health system for managing appointments and electronic health records. The e-health system is used by all institutions within the Health Network (including primary care, health centres, hospitals, institutes, clinics and pharmacies) for electronic health records, referrals to higher levels of care for diagnostic tests and treatment, and electronic discharge letters, as well as e-prescriptions for pharmaceuticals, linking private primary care providers and community pharmacies. *Moj Termin* also aggregates data from more than 70 sources on communicable and noncommunicable diseases and supports the creation of digital health registers. In addition, it now has an integrated real-time module for early detection of clusters and outbreaks of communicable diseases.

TABLE 4.1 Items of functioning diagnostic imaging technologies (MRI units, CT scanners) per 100 000 population, latest available year (2021 for North Macedonia, 2022 for EU average and other countries)

	NORTH MACEDONIA	EU AVERAGE	SLOVENIA	CROATIA	SERBIA
MRI units	0.77	1.87	1.70	1.74	0.57
CT scanners	1.59	2.71	1.85	2.23	1.80

Source: MoH, personal communication, 2024; Eurostat, 2024.

4.2 Human resources

The total number of staff (in both public and private facilities) in 2019 was 33 544, including 27 759 health care professionals. This included:

- 9 321 health workers with university degrees, namely: 6 468 physicians, 1796 dentists and 1057 pharmacists;
- 13 020 health workers with vocational university degrees or high school qualifications (including nurses, midwives, and technicians in dentistry, pharmacy, physiotherapy and optometry);

- 2 186 health associates (laboratory staff, biomedical scientists and other health-associated professionals);
- 384 workers with lower educational qualifications; and
- 5 785 administrative and technical staff (MoH, 2021).

Of the total health workforce in 2020, 66% were employed in the public and 34% in the private sector, including the private primary care practices (Institute of Public Health, 2021b).

4.2.1 *Human resource planning*

Currently, there is a basic process for health workforce planning that solely relies on replacement. Furthermore, there is limited capacity within the Ministry of Health to coordinate supply and demand of health workers and the necessary skills and competencies in the long run. According to a recently conducted health labour market assessment (WHO Regional Office for Europe, unpublished report, 2022), there is a mismatch between need and supply of staff, education practices and health needs. The Ministry of Health has so far not played a major role in identifying health workforce needs or in shaping the future supply and distribution of the health workforce.

While a significant amount of data is collected in North Macedonia, workforce data are limited and insufficiently disaggregated, for example by staff type, full-time equivalent, practice role, location and education, limiting its usefulness for policy-making and planning purposes.

To improve the quality of health workforce data, a digital roster was implemented in 2020 as part of the e-health system which allows health care facilities to enter some basic information about their health staff. Registration is not mandatory at present, but in the future this new system is intended to yield more reliable data on the availability and distribution of the health workforce across the country. As one of the initial steps, the Ministry of Health developed the first roadmap for innovation in workforce and service delivery, aimed at improving skill utilization and creating new roles with diversified skill-sets. This roadmap, through the example of the geriatric and palliative care workforce, looks into:

- enablers of workforce development, including governance structure, system leadership and financial and legal requirements necessary

for a sustainable current and future health workforce;

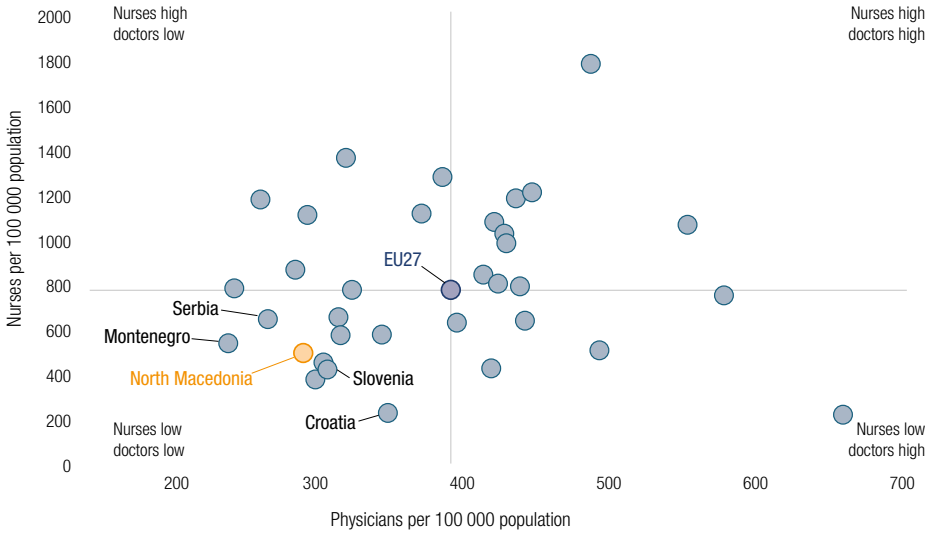
- current workforce, with a focus on their needs and what needs to be put in place to meet those needs (e.g. retention, well-being, upskilling and integration);
- future workforce, including necessary steps to meet the needs of the future workforce, such as workforce planning, new roles and education and training.

4.2.2 *Trends in the health workforce*

North Macedonia has a lower ratio of physicians and nurses per population than some other countries in the region and also falls below the EU27 average (Fig. 4.2). Between 2000 and 2021, the ratio of physicians increased markedly, from 220 to 323 per 100 000 population (Fig. 4.3), but remained lower than the EU27 average of 407 doctors per 100 000 and also below the ratios of some other countries in the region (Croatia and Slovenia), despite it including all professionally active doctors rather than only those practising.

Similarly to physicians, the ratio of nurses also increased, from 287 in 2000 to 489 per 100 000 population in 2021 (Fig. 4.4). However, the nurse-to-population ratio was below the EU27 average (770 nurses per 100 000) and also below the nurse-to-population ratio in Montenegro and Serbia. The ratio of nurses in North Macedonia is higher than that in Slovenia and Croatia which might be due to the data on North Macedonia (like those for Montenegro) including professionally active nurses and not only those practising. The number of midwives decreased from 71 per 100 000 population in 2000 to 48 in 2019 (MoH, 2021). In addition, there are also disparities in the regional distribution of health workers, with shortages among primary care providers in smaller urban and rural areas and among patronage nurses (public health nurses who provide care for families with young children and for people aged over 60 years) (see Box. 4.2).

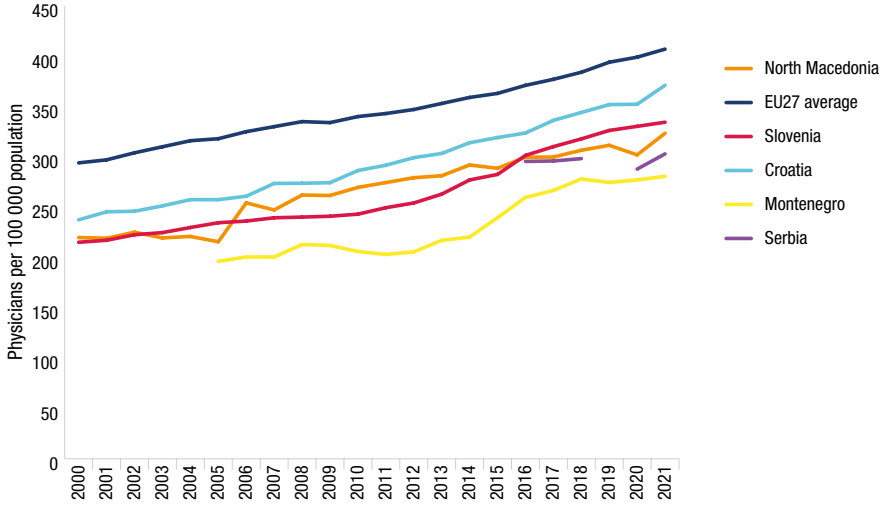
FIGURE 4.2 Nurses and physicians per 100 000 population, 2021 (or latest available year)



Note: Professionally active (rather than only practising) doctors in Montenegro, North Macedonia, Slovakia; professionally active (rather than only practising) nurses in France, Portugal, Slovakia, Montenegro and North Macedonia.

Source: Eurostat, 2024.

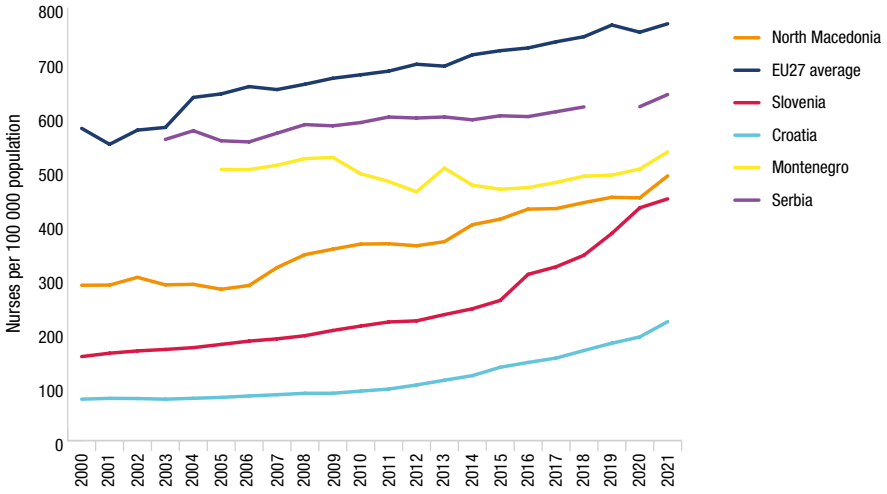
FIGURE 4.3 Physicians per 100 000 population in North Macedonia and selected countries, 2000–2021



Note: Professionally active doctors for Montenegro and North Macedonia.

Source: Eurostat, 2024.

FIGURE 4.4 Nurses per 100 000 population in North Macedonia and selected countries, 2000–2021



Note: Professionally active nurses for Montenegro and North Macedonia.

Source: Eurostat, 2024.

BOX 4.2 Are health workers distributed appropriately?

Addressing the uneven distribution of health workers between urban and rural areas and developing a strategy for planning and retention of health workers is a priority for the Ministry of Health. The main concern is the lack of primary care doctors and nurses in small urban settlements (of less than 15 000 population) and rural areas. To increase the presence of doctors in rural areas and small towns and to expose them to work outside the hospital, in 2019 the Ministry of Health introduced mandatory 6-month internships for recently licenced physicians in health centres in vaccination teams, community care or emergency services.

The distribution of the persistently low number of gynaecologists and obstetricians remains uneven between the different regions of the country, both in primary and secondary care. According to the 2022 Annual Report of the HIF, the number of obstetricians and gynaecologists in primary care varies between 0.1 and 0.2 per 1000 insured women (Health Insurance Fund, 2023). The number of community patronage nurses also remains insufficient and varies across regions (UNICEF, 2022b).

4.2.3 *Professional mobility of health professionals*

North Macedonia faces the challenge of sustaining the health workforce due to emigration. For example, 180 physicians left the country in 2019, equal to the number of medical graduates in that year. Most emigrating health professionals have moved to Germany since it opened its health labour market for skilled workers from non-EU countries in 2020. By 2018, about 470 physicians from North Macedonia lived in Germany and most of them worked in hospitals (World Bank, 2020). There are limited data on the international mobility of nurses, as there is no regulatory body for registration or licensing of the nursing workforce. Estimates suggest that about 300 nurses left North Macedonia to work abroad in 2018. However, this might be an underestimate as it is based on the number of recognized diplomas from North Macedonia in German statistics (World Bank, 2020). Main reasons for emigration are the search for better working conditions, higher salaries and recognition of work based on merit (World Bank, 2019).

In an attempt to increase the retention of health workers, North Macedonia has adopted several measures, such as increasing the capitation rate for GPs and family doctors in primary care, and increasing the salaries for specialists and nurses working in the public sector. To retain professionals who are completing their specialist training, the Ministry of Health introduced remuneration and social health insurance contributions for private residents in medicine and dentistry (publicly paid residents receive these benefits automatically from their employer). It also increased significantly the salaries of other health professionals. Between 2009 and 2019, the average salary in the health sector increased by 35.5% in real terms for all professional groups combined, which was significantly higher than the 24.1% increase in the rest of the economy (Lionello et al., 2020). In addition, to improve working conditions, the country has made major investments in health infrastructure and medical equipment. To reduce the workload for health professionals and to mitigate the overall lack of health professionals, retired physicians are allowed to continue working past their previous mandatory retirement age.

4.2.4 *Training of health personnel*

Higher medical education is provided by three faculties (in Skopje, Shtip and Tetovo). For physicians, the 6-year medical degree consists of 5 years of medical education focused on theoretical training with limited practical work, and 1 year of practical work in teaching hospitals and academic teaching centres, obtaining practical skills in different specialities such as internal medicine, surgery, obstetrics/gynaecology, public health, paediatrics and family medicine.

Completion of undergraduate studies in medicine is followed by a 6-month mandatory internship for the final state examination. Qualified doctors have to register with the Doctor's Chamber to obtain a certificate of professional qualification and a licence to practise. Physicians interested in pursuing specialized training or independent practice are required to pursue a 6-month paid internship in health centres in vaccination teams, community (patronage) care or emergency services.

The Doctor's Chamber is also responsible for continuing medical education (CME) and revalidation. The licence to practise medicine is valid for 7 years. During this period, physicians are required to gain 140 points in total and not less than 20 points per year through various forms of professional development (CME, publications, congresses, etc.).

Nurses in North Macedonia undertake 4-year vocational education and training at high school level. There are separate teaching programmes taught at 22 high schools in the country: nurse, gynaecological and obstetrical nurse, dental technician, pharmaceutical technician, optometrist and radiology technician. To qualify as a nurse or health-related technician after completion of high school training, a 6-month internship in a hospital and a final state examination are required. A significant number of students who complete vocational nursing education at a high school level continue to higher medical education (in medicine, dentistry or pharmacy) or to a 3-year professional degree programme in nursing or midwifery and do not join the nursing workforce immediately (WHO Regional Office for Europe, 2021c).

Those who choose to pursue the 3-year professional degree programme in nursing or midwifery do so at one of the three medical faculties (Skopje, Tetovo and Shtip), at the higher medical school (*Висока медицинска школа*) in Bitola or at the two private higher medical schools towards a title of graduated nurse or midwife. Nurses wishing to specialize further can choose

one of the currently available specializations in intensive care, oncology or community (patronage) care by undergoing an additional year of specialized professional studies.

Enrolment to a graduate degree in nursing does not require prior completion of a vocational high school programme. The lack of unified curricula and absence of accreditation, licensing and relicensing of the nursing profession contribute to a dearth of CME requirements. Consequently, the competencies and scope of services for nurses remain undefined, and specialized qualifications fail to translate into commensurate remuneration. This situation perpetuates constrained, non-autonomous practices among nurses and midwives, particularly in primary care, and hampers the advancement of specialized or advanced practice roles.

As there is no established system of licensing or relicensing for nurses, the professional advancement of nursing staff is still largely based on personal interest and self-motivation. To bridge this gap and address the professional development needs of nursing staff, in 2019 the Ministry of Health requested WHO technical assistance for a professional development programme for nurses and midwives in primary care, to facilitate the implementation of the new model of primary health care in the country (see Chapter 6). Within this programme, 440 nurses were trained. Following the initiative of professional societies and based on the stipulations in the Law on Health Care, the Ministry of Health aims to institute a professional development system through delegating authority to a regulatory body or chamber in charge of a nursing registry, licensing/relicensing and continuing professional development (see Chapter 6).

To qualify as a dentist, students must complete 5 years of undergraduate studies in one of four dental schools (in Skopje, Tetovo or Shtip), followed by a 6-month internship. Similarly to medical doctors, dentistry graduates must pass a state examination after completing their internship and register with the Dental Chamber to obtain a certificate of professional qualification and a licence to practise. The Dental Chamber is also responsible for dentists' CME and revalidation.

The pharmaceutical profession requires students to obtain a degree through an integrated undergraduate and master's degree, qualifying them as Master in Pharmaceutical Studies at one of the three pharmaceutical undergraduate schools (in Skopje, Shtip and Tetovo). Following graduation, a mandatory year of practice on a rotation basis in different specialties and

in a pharmacy is required, followed by a state examination. Pharmacists need to obtain a licence to practise from the Pharmaceutical Chamber, which is responsible for continuing education and revalidation.

In addition, there are programmes for training health care-associated professionals available at four higher education institutes across the country. The medical faculty in Skopje offers 3 or 4-year programmes in speech therapy and 3-year programmes for radiology technicians, physiotherapists and medical laboratory analysts. The universities in Shtip and Tetovo provide similar training opportunities. The university in Shtip offers programmes in medical laboratory science, physiotherapy, dental prosthetics and optometry, while the university in Tetovo provides courses in physiotherapy, health technology and cosmetology. Additionally, the higher medical school in Bitola offers programmes for medical laboratory analysts, radiology technicians and physiotherapists.

4.2.5 *Physicians' career paths*

Graduate doctors with a licence to practise can start working in general medicine or pursue specialty training. Most specialties take between 3 and 6 years of training, followed by a written thesis and a specialist examination. As family medicine is only offered in private practices, doctors need to pay for their specialization in family medicine themselves, in contrast to physicians employed by public health care institutions. In addition, primary care (and family medicine) practices are awarded through a bidding procedure, which makes specialization in family medicine even less attractive.

Promotion of doctors in the public sector is predominantly based on years of experience, level of specialization and excellence of practice, although there are exceptions. Academic advancement is conditional on completion of postgraduate and doctoral degrees, scientific work and publications in peer-reviewed journals.

4.2.6 *Other health workers' career paths*

Licensed physicians, dentists and pharmacists can work in the public system or open a private practice. Nurses in hospitals can become head nurse of a

department or chief nurse of the hospital. In primary care practices, nurses work in teams with GPs/family doctors. In addition, nurses can work as community (patronage) nurses performing outreach visits predominantly to pregnant women, mothers and newborns, and sometimes also providing consultations for the entire household. Similarly to physicians, academic advancement of dentists and pharmacists is conditional on completion of master's and doctoral degrees and proof of scientific work. Academic careers in nursing are limited to practical education of other nurses alongside physicians and dentists, as the nursing degree is categorized as vocational and there is no postgraduate education in nursing.

5

Provision of services

Chapter summary

- Preventive health services, including immunizations and preventive check-ups for school children and adolescents, are provided by the 34 health centres, while health promotion activities are provided by the Institute of Public Health and 10 Centres of Public Health.
- Primary care providers are private entities contracted under a blended capitation model by the HIF and include GPs, family doctors, paediatricians, obstetricians/gynaecologists and dentists. However, only about one fifth of primary care doctors have the specialty of family medicine or paediatrics.
- Although GPs and family doctors are expected to act as gatekeepers to higher levels of care, there continue to be high numbers of referrals and avoidable hospital admissions.
- Secondary specialist care is provided by health centres, outpatient clinics and hospitals. Emergency care is available at all levels of the health system, including health centres and hospitals. Tertiary care is provided at the university clinics in Skopje for complex and multidisciplinary treatments.
- Community pharmacies are privately owned and can have contracts with the HIF for dispensing medicines covered by health insurance. Most are located in cities, while rural areas are underserved.

- Long-term care is mostly provided by informal carers, whereas institutional and community services are underdeveloped.
- The country has initiated deinstitutionalization of mental health services and establishment of community-based mental health centres.
- Dental care is provided by both public and private providers. The Ministry of Health has prioritized strengthening of preventive dental care for children and adolescents in a strategy, but without notable progress in terms of implementation.

5.1 Public health

Essential public health functions are performed by the Institute of Public Health at national and subnational level (see Section 2.2). The main services provided by the IPH are related to health promotion and disease prevention through surveillance, research and analysis of health outcomes and environmental and societal factors contributing to communicable and noncommunicable diseases, and implementation of measures for protecting and improving population health. They also operate key national health data registers.

At subnational level, the 10 Centres of Public Health with 21 municipal level units are responsible for developing and implementing public health interventions. They provide local-level services in public health and epidemiology, as well as environmental health and microbiology laboratory services.

In 2020, with support from the WHO and a grant from the United States Agency for International Development (USAID), an Epidemics and Public Health Emergency Operations Centre was established in Skopje as part of IPH to provide centralized real-time information, monitoring, reporting and advice on the response to public health events and emergencies (WHO Regional Office for Europe, 2020a). The centre supports coordination among epidemiologists, laboratory staff and public health experts across the public health network, and facilitates an early warning system to detect and report public health events in a timely manner.

Through its annual budget the Ministry of Health funds a number of vertical public health programmes. In 2023, 20 national public health programmes were funded with approximately €94.4 million, including:

- The National Public Health and the Health for All programmes focusing on health promotion, environmental health risk assessment,

occupational health, surveillance of communicable diseases, and health education.

- Four programmes addressing mother, child and adolescent health, covering the following areas: immunization, health protection of mother and child, preventive check-ups of pupils and students, and subsidizing co-insurance for services provided to mothers and infants up to 1 year of age.
- Six programmes targeting noncommunicable diseases, including the prevention of cardiovascular diseases and cancer, diabetes prevention and control, mental health, dialysis costs, haemophilia therapy, and transplantation.
- Three programmes focusing on communicable diseases, particularly on prevention, health education, testing and treatment of HIV, tuberculosis and brucellosis.
- Several programmes addressing the needs of population groups with special health conditions or experiencing financial deprivation. These programmes provide coverage of treatment costs for rare diseases, health insurance for uninsured persons, co-insurance costs for retired persons with income below the national average and socially vulnerable people, and support services for persons with addictions.
- Two programmes providing opportunities for professional development of health workers (education of health workers and co-financing of specializations and sub-specializations).

In 2019, under leadership of the Ministry of Health and supported by the WHO Regional Office for Europe, the country undertook the second self-assessment of essential public health operations, identifying key areas for improving public health services and defining a roadmap with proposed work packages (WHO Regional Office for Europe, 2021d).

5.1.1 *Preventive services*

Most preventive services are provided through the 34 health centres. These services include immunization provided by specialized teams of a medical doctor and a nurse, and health promotion and disease prevention provided by community (patronage) nurses.

In North Macedonia, vaccination is mandatory and free for all children aged 0–18 years, and the calendar is defined in the annual National Immunization Programme. Several new vaccines have been introduced over the past years, including against hepatitis B in 2004, haemophilus influenzae type B in 2008, human papillomavirus in 2009, and rotavirus and pneumococcal infections in 2019.

The COVID-19 pandemic had a significant impact on the routine vaccination of children, resulting in a drop of coverage rates below 90% in 2020 and 2021 (World Bank, 2023) as follows:

- the DPT (diphtheria, tetanus and pertussis) vaccination among children aged 12–23 months decreased from 92% in 2019 to 84% in 2020 and further to 81% in 2021;
- hepatitis B (HepB3) vaccination among 1-year-old children decreased from 92% in 2019 to 84% in 2020 and further to 79% in 2021;
- measles vaccination among children aged 12–23 months declined from 93% in 2014 to 75% in 2019 before the pandemic, dropped to 63% in 2020 then increased to 70% in 2021.

Community (patronage) nurses have the responsibility of visiting pregnant women and mothers and newborns during the postpartum period. Efforts were made to expand their scope of services to health promotion and disease prevention for the entire household (including assessment of living and social conditions). However, due to persistent challenges such as understaffing, inadequate training and lack of resources, patronage nurses continue to primarily focus on home visits for mothers and newborns during the postpartum period.

Preventive services for hypertension, diabetes, asthma, chronic obstructive pulmonary disease (COPD) and hypothyroidism are also provided by GPs and family doctors according to the newly introduced protocols (see Section 6.1). These activities are incentivized through the variable part of the capitation fee (30%) conditional on meeting preventive health targets (see Section 3.7.1).

5.1.2 *Tobacco control*

Progress in improving tobacco control in North Macedonia has stagnated in recent years (Box 5.1) (Winkelmann et al., 2021). In 2018, the smoking

ban in public places introduced in 2010 was weakened by allowing smoking in specially designated areas and on open-air and semi-enclosed terraces. In parallel, the government continued to provide high agricultural subsidies to stimulate tobacco production. In addition, compared to most other countries in South-eastern Europe (Albania, Bosnia and Herzegovina, Croatia, Montenegro and Serbia), North Macedonia has the lowest cigarette prices (Winkelmann et al., 2021). In July 2019, a new law on excise tax was passed, introducing automatic increases in the tax rates for heated tobacco and liquids used in electronic cigarettes. People can access counselling on smoking cessation services in the 10 Centres of Public Health; however, in 2018 only 281 people used these services (Memeti et al., 2020). There are no other smoking cessation supportive therapies or alternatives.

5.1.3 *Sexual and reproductive health*

Women have the right to choose a gynaecologist/obstetrician in primary care and receive a variety of services related to sexual and reproductive health, including prevention and early detection of sexually transmitted infections, family planning counselling, medical care during pregnancy, postpartum check-ups, screening for cervical cancer and breast ultrasound.

North Macedonia has a low prevalence of HIV, concentrated among groups at risk such as men who have sex with men, sex workers and people who inject drugs. However, the number of people diagnosed with HIV has increased in recent years. North Macedonia is the only country in South-eastern Europe that has sustained funding for its HIV programme, following the 2017 decision of the Global Fund to Fight AIDS, Tuberculosis and Malaria to withdraw its support from middle-income countries with relatively small epidemics. With the end of funding from the Global Fund in 2018, the government assumed the responsibility for financing the HIV programme through a social contracting mechanism with civil society organizations providing these activities. Moreover, the government introduced new preventive measures for men who have sex with men, and provides antiretroviral therapy free of charge. North Macedonia's HIV programme in 2022 had funding of €1.6 million and involved 16 civil society and patient organizations in the delivery of preventive services, support in the early detection of people with HIV, and linking people who have been diagnosed with care, peer support and counselling. The 34 health centres also

play a key role in HIV prevention activities, providing information on sexual and reproductive health, conducting educational workshops and offering free and confidential tests for HIV and sexually transmitted diseases.

The 2019 Law on Abortion prioritizes women's needs by enhancing access to abortion as a safe medical procedure (Antonovska, 2021). The new law eliminates mandatory counselling and the 3-day waiting period after counselling, as these were seen to be obstacles to women's health. For the first time in the country, the law introduced medical abortion as a safe, non-invasive option for terminating early pregnancy up to 9 gestational weeks.

5.1.4 *Population wide screening programmes*

Cancer screening is organized through the Ministry of Health's annual programme for early detection of cancer. However, the budget is comparatively small, amounting to approximately €415 700 in 2022. It involves screening and early detection of cervical cancer, pilot screening of colorectal cancer, mammography for detection of breast cancer, and promotional activities for prevention and early detection of hepatocellular carcinoma in the newly opened Centre for Liver Diseases. So far, no systematic assessment of the programme and how well it achieves its objectives has been undertaken.

In 2022, an online web portal (https://skrining.zdravstvo.gov.mk/home) was established to enable women to schedule their cervical and breast cancer screening appointments. The platform is integrated with the My Appointment (Moj Termin) e-health records platform. Upon registration, obstetricians and gynaecologists at the primary care level immediately receive information about the patient and can offer an appointment accordingly. The target group for cervical cancer screening in 2022 were women aged 36–45 who had not undergone a Pap test in the previous 3 years. The screening for this specific age group is provided free of charge.

5.1.5 *Occupational health*

In 2007, the Law on Occupational Safety and Health was enacted to regulate workplace safety and health as an integral part of the health system. The law focuses on disease prevention and health promotion in the workplace.

It also requires employers to designate an authorized health care provider for the provision of health services at the workplace, which is separate from primary care providers to preserve and differentiate the specific function of occupational health services.

At present, there is no integration of the information systems used by occupational medicine and primary care providers which hinders continuity of care and the management of conditions identified at the occupational health screening at primary care level. In terms of occupational health services, it is standard practice for all employees to undergo periodic physical examination and mental health assessment. These must be performed by an occupational medicine specialist who provides an opinion on the worker's fitness to work. Occupational health examinations are performed at least once every 24 months, and more frequent examinations are required for professions that involve specific exposure to occupational hazards, such as chemicals or noise (Velkovski et al., 2018).

BOX 5.1 Are public health interventions making a difference?

Unhealthy lifestyles, including a high prevalence of smoking and unhealthy diets (with a high consumption of sugar, salt and fat) are major drivers of mortality in North Macedonia and are estimated to account for nearly three quarters of deaths (Winkelmann et al., 2021). The country's fragmented and under-resourced public health institutions lack the capacity to effectively address these challenges.

North Macedonia ranks among the top countries worldwide in terms of smoking prevalence and the average number of cigarettes smoked by adults and young people. More than one third of the Macedonian adult population (35%) were smoking in 2017 (Analytica, 2018), one of the highest levels in South-eastern Europe (30% of adults in 2017) and the WHO European Region (25%). Smoking rates in North Macedonia declined from 40% in 2004, likely due to a 2010 smoking ban in public places, increased unit prices of cigarettes, and improved education and public awareness about the negative health effects of smoking. North Macedonia is one of the few countries in the WHO European Region routinely recording patients' tobacco use. However, the data on smoking prevalence are not included in national statistics, limiting the evaluation of measures undertaken (Analytica, 2018). On a more positive note, per capita alcohol consumption among adults (3.8 litres) was far below the average of the WHO European Region and the EU (7.8 and 10.8 litres respectively in 2018) (WHO Regional Office for Europe, 2024a).

5.2 Patient pathways

Patient pathways are the routes patients take from their first contact with the health system to the completion of their treatment. Primary care providers serve as the first point of contact with the health system. General practitioners and family doctors can refer patients to secondary and tertiary care for further examinations, as well as to laboratory and other diagnostic services. Appointments for secondary and tertiary care are scheduled through the My Appointment (Moj Termin) health information system. During out-of-office hours (evenings and weekends) patients can access emergency care through the 34 health centres.

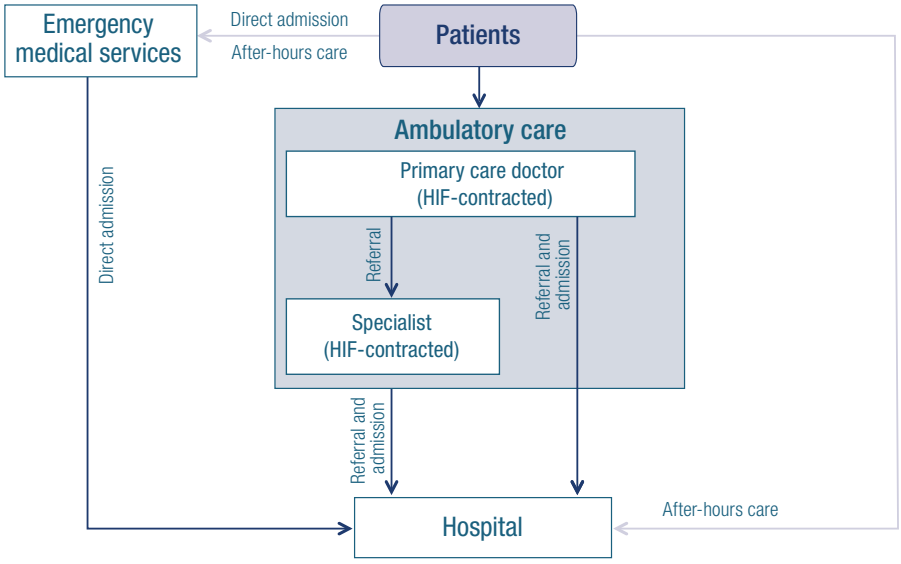
For example, persons with undiagnosed hypertension would follow a structured care pathway as outlined below (see also Fig. 5.1):

- They initially visit their primary care doctor under various circumstances, such as when they experience symptoms and seek a consultation, or when they receive an invitation for screening for existing hypertension and risk factors. Screening covers persons who are registered with a primary care provider, have valid health insurance, maintain an updated mailing address, and meet the screening criteria.
- If necessary, the primary care doctor refers the patient to a secondary level specialist. Ideally, this specialist is located near the patient's residence, but in cases of emergency, referral can be made to any public health care facility at both secondary and tertiary level. Appointments are managed through the My Appointment health information system.
- Depending on the specialist's evaluation, the patient may be further referred to a provider of a different specialty or diagnostic procedure, or to a general (secondary level) hospital for hospitalization, ambulatory care, more specialized diagnostics, or prescription and administration of medications. In cases where medically indicated, the patient may be referred to tertiary care, i.e. a university clinic. University clinics are equipped to provide advanced diagnostics, hospitalization, appropriate treatment and prescription or administration of required medications.
- After their visit to the secondary or tertiary care level, the patient returns to their GP or family doctor to obtain prescriptions for

therapy or other auxiliary treatments, such as rehabilitation services, spa treatments, or orthopaedic and other medical aids.

- The specialist schedules a follow-up consultation, typically within 3 to 6 months after treatment initiation.
- Prescriptions are typically provided for a 6-month period, requiring the patient to visit their GP or family doctor for prescription renewal.
- After 1 year, a follow-up visit to the specialist is mandatory for a check-up and reassessment of the prescribed therapy.

FIGURE 5.1 Patient pathway



Source: Authors' compilation.

The patient can use their prescriptions at any community pharmacy. Medications from the positive list prescribed by HIF-contracted providers can only be obtained with co-payment in community pharmacies contracted by the HIF. Alternatively, patients can purchase prescribed medicines at their own expense and claim reimbursement from the HIF for the costs. All other pharmaceutical products, including medications not prescribed by HIF-contracted provider, over-the-counter medicines, supplements and other health products, can be purchased at any pharmacy.

Patients can obtain the prescribed medical aids through specialized providers. In order for the device to be covered by insurance, patients have

to use the services of a HIF-contracted provider; alternatively, they can opt to purchase the device out of pocket.

In addition, the patient has the option to go to a private hospital or specialist for consultation. However, it is important to note that services obtained through this route are not covered under social health insurance, unless specific services are unavailable in the public sector, and the HIF has contracted with particular private providers to fill these gaps.

5.3 Primary care

In North Macedonia, individuals have the right to choose their primary care provider (GP or family doctor, dentist and obstetrician/gynaecologist), irrespective of their place of residence. Patients have the freedom to change the provider without having to provide any reasons. However, there is a limit of maximum two changes per year.

Primary care services are provided by private general practices contracted by the HIF. At the outset of the privatization of primary care in 2004–2007, physicians and dentists were offered the option of renting premises at non-commercial prices within the health centres in order to maintain the relatively even geographical distribution and equal access to publicly covered primary care (Milevska Kostova et al., 2017). However, providers have increasingly opted for private premises outside the 34 publicly owned health centres, although some still operate from there.

The health centres provide a mix of preventive, emergency and home visit services. In North Macedonia primary care services include:

- health promotion and disease prevention,
- curative and rehabilitative services, such as promoting healthy lifestyles and health literacy,
- preventive check-ups of children, adolescents and adults,
- services for acute conditions and emergency care (including diagnostic procedures and treatment),
- the management of chronic conditions,
- diagnosis and prescription,
- cardiovascular risk assessment,

- services delivered at home, including home visits by a physician and/or nurse, and
- rehabilitative services (WHO Regional Office for Europe, 2019b).

Despite an earlier goal of having all GPs specialize as family doctors by 2018, only 11% had completed the family medicine specialization by then (WHO Regional Office for Europe, 2019b). The limited scope of pharmaceutical and diagnostic care that GPs and family doctors can provide without having to refer to specialist care limits their possibilities to provide more holistic care (Box 5.2). The My Appointment health information system is used for referral of patients from primary to other levels of care. It also allows primary care doctors to access specialist reports and to issue prescriptions.

BOX 5.2 What are the key strengths and weaknesses of primary care?

While primary care providers can be accessed directly and are relatively well distributed throughout the country, equitable access to standardized and quality care remains a challenge, particularly in rural and remote areas. This is due to the large variation of scope of practice and services provided because of a lack of service definition and of standardized clinical practice. Furthermore, primary care physicians are not allowed to prescribe certain therapies (e.g. insulin) or to order specific diagnostic tests (e.g. endoscopies, MRI or CT scans) and must first refer patients with chronic diseases and multi-morbidities to specialists. These limitations of physicians' scope of practice contribute to the relatively high number of referrals from primary to secondary and tertiary care (see also Chapter 7). In addition, nurses also have a limited scope of practice. Because of the high administrative workload in primary care practices, they typically perform mostly administrative tasks.

The privatization of primary care providers as an initial step of the reform in the mid-2000s was well accepted and implemented. However, failure to re-establish functional links between the new private practices at primary level and public facilities at secondary and tertiary levels, alongside the domination of solo practices, has contributed to fragmentation and discontinuity across care levels. In addition, private practices are not systematically linked with the provision of preventive and health promotion services and thus do not cooperate with health centres.

Since the start of the primary care reform in 2004, the provider landscape has undergone significant changes, including privatization of public pharmacies and transformation of general practice. The latter transformation has resulted in mainly solo practices consisting of a doctor and a nurse (accounting for 68% of all practices in 2018), while the remainder are group practices (WHO Regional Office for Europe, 2019b) (see Box 5.2). Solo practices continue to dominate, mainly due to the disincentives embedded in the capitation formula designed to prevent extensive patient rosters through a defined maximum number of patients per practice (Milevska Kostova et al., 2017), coupled with the limited promotion of group practices.

In 2018, with support from WHO, the Ministry of Health launched a second phase of the primary care reform in accordance with the Declaration of Astana. Although implementation of the reform was slowed down by the COVID-19 pandemic, for the first time the country developed primary care protocols and pathways for screening, treatment and management of the most prevalent ambulatory care-sensitive conditions (e.g. hypertension, COPD, asthma, hypothyroidism and diabetes) (see Box 5.3). As part of the reform, the country is also working on introducing e-appointments for primary care, performance measurement mechanisms, expanding the role of nurses and strengthening the role of primary care teams in the management of noncommunicable diseases (see Section 6.1).

5.4 Specialized care

5.4.1 *Specialized outpatient care*

Specialized outpatient care refers to services provided by a specialist in an outpatient setting for the diagnosis or treatment of health conditions and diseases. Specialized outpatient services covered by the HIF are provided mainly through providers in the public domain, i.e. within the 34 health centres (accounting for 87% of the budget for specialized outpatient care), while a smaller volume of publicly paid services (13% of the HIF budget for specialized outpatient care) is provided by approximately 437 private outpatient specialist providers (Health Insurance Fund, 2022). Specialized outpatient care includes a variety of services, such as internal medicine,

psychiatry, ophthalmology and neurology, as well as diagnostics and rehabilitation services. Patients may also self-refer for a specialist consultation and pay privately out of pocket. Continuity of care remains a challenge, and efforts to improve integration of care across care levels are described in Box 5.3.

BOX 5.3 Are efforts to improve integration of care working?

In North Macedonia, recent efforts within the broader health system development agenda have sought to enhance the integration of health services between different levels of care. Integrated protocols and pathways in primary care were established to simplify patient care, enhance treatment outcomes, and mitigate the fragmentation of services across different care levels (see Section 6.1 for further details). Integrated care initiatives such as the integrated health and social care pilots in two municipalities (see Chapter 6) aim to achieve horizontal integration of providers by comprehensively addressing health and social determinants. Moreover, the adoption of digital health solutions such as the electronic health record (EHR), My Appointment, e-prescriptions, telemedicine and so forth marks significant progress in integrating providers and treatments across care levels, enabling enhanced information sharing, telemedicine and an overall improvement in health care management. However, there is a lack of comprehensive data to assess the full impact of these integration efforts. Further evaluation and data collection are warranted to provide a comprehensive understanding of their effectiveness.

5.4.2 *Day care*

According to the 2012 Law on Health Care, day care is defined as the provision of therapy and other forms of treatment that do not require hospital admission but can also not be provided at home, such as radiation, or for which the system cannot offer support for home provision, such as dialysis or the intravenous administration of medications. Diagnostic, treatment and rehabilitation services in day care are restricted to eight hours per day and are offered in all secondary and tertiary hospitals. Approximately 5–10% of hospitalized patients receive day care treatment following discharge. Day care is becoming more widely used, especially among mental health patients, and is considered preferable to prolonged hospital stays.

In 2018, day care was piloted at the community level in the health centre in the city of Resen. This model is intended to ensure that patients no longer need to travel to the nearest hospital but can receive the necessary care in their own community.

5.4.3 *Inpatient care*

Inpatient care is provided in general, clinical and specialized hospitals, university clinics and private hospitals. Hospital services include specialized diagnostics and treatment of acute and complex cases, day care, and treatment of people with chronic conditions.

In 2021, the total number of inpatient hospital days was 957 941, marking a 23.6% increase from 2020. However, this figure remained below the pre-pandemic level of 2019 when it totalled 1 120 805 hospital days (Health Insurance Fund, 2022). The average length of stay in hospitals decreased to 5.6 days in 2021 (Health Insurance Fund, 2022). General and clinical hospitals treated the greatest number of patients in 2021 (88 421 patients), followed by university clinics (60 155), specialized hospitals (16 693) and private specialized hospitals (3464).

The most common reasons for hospitalization in 2021 were diseases of the respiratory system (35 100 cases, two thirds of which, i.e. 23 900 cases, were patients treated for COVID-19). Next were hospitalizations due to pregnancy, birth and puerperium (19 380 cases), followed by diseases of the circulatory system (19 200 cases).

In terms of the costs of inpatient services provided through the HIF in publicly owned hospitals, the highest costs in 2021 were related to inpatient treatment of respiratory diseases (34% of total inpatient costs, out of which 90% were for the treatment of COVID-19 cases), followed by diseases of the cardiovascular system (24%) and cancer care (12%) (Health Insurance Fund, 2022). Patient evaluations of the care they receive are not done routinely (Box 5.4).

BOX 5.4 What do patients think of the care they receive?

Patient satisfaction data are not systematically collected or integrated into health provider performance appraisals (WHO Regional Office for Europe, 2019b). Patient satisfaction with health services in North Macedonia has seen variations over time. Earlier surveys conducted after the initial phase of the primary care reform indicated satisfaction levels between 79% and 90% in 2008. However, a more recent survey conducted in 2016 suggests a decrease to 45%. Furthermore, another recent study documented that trust in health professionals was generally high, yet issues such as discrimination, lack of privacy, and gender norms affected access to health services (Koller et al., 2024).

5.5 Urgent and emergency care

Urgent and emergency care refers to the provision of diagnostic and therapeutic interventions to address imminent life-threatening health conditions. In North Macedonia, everyone is entitled to urgent and emergency care, regardless of health insurance status and without needing a referral from primary or any other level.

Emergency care is available in emergency care units at health centres and hospitals. Emergency dental care is also provided at health centres. The health centres cover emergency care during the night, weekends and holidays. For this service, health centres may contract primary care doctors if necessary, as they are obliged by the HIF contract to be available and provide emergency care at primary level (Box 5.5). However, in practice, 98% of patients prefer to call emergency services, and only 2% call their primary care doctor.

Challenges in the provision of emergency care relate to the lack of effective management of the system due to the limited availability of data on emergency services, retention of the health workforce in emergency care units, the lack of continuous professional development and career progression, outdated and unequally distributed emergency vehicles, and, in some regions, the persistent lack of affiliated staff (such as drivers).

BOX 5.5 What is the patient pathway in an emergency care episode?

Patients facing an emergency may choose to first visit their primary care doctor, contact emergency services directly (calling the free emergency number 112), or seek care at an emergency unit of a health centre or a hospital. If the emergency condition is not life-threatening, patients are required to visit their primary care doctor to obtain a referral for further care.

During the initial triage of a medical emergency, the Emergency Severity Index protocol is followed with standardized questions being asked by physicians or nurses to determine further treatment based on patient symptoms and condition. The fundamental emergency algorithm includes four questions, leading to five potential treatment scenarios, namely: 1) whether the patient requires immediate life-saving intervention, 2) if the patient can wait, 3) what and how many resources the patient requires, and 4) the patient's vital signs. The treatment pathway diverges based on the answers. Should the situation require more complex diagnostic procedures and care, the patient is referred to the nearest hospital (if they are not already at a hospital emergency department). The treatment continues in a secondary level hospital, unless otherwise indicated. The secondary hospital is able to refer the patient to tertiary care if the emergency is complex and beyond the scope of practice of the secondary level. Should the situation prove urgent and life-threatening, an ambulance may take the patient directly to a tertiary care hospital.

5.6 Pharmaceutical care

As stipulated in the Law on Medicines and Medical Devices, pharmaceuticals are dispensed through a network of pharmaceutical facilities at community level, including pharmacies, pharmaceutical stations and mobile pharmaceutical stations (Official Gazette of RM, 2016b). According to the law, apart from conditions related to space and equipment, a registered pharmacy must have a pharmaceutical team of graduate pharmacists and pharmaceutical technicians, whereas pharmaceutical stations and their mobile versions, introduced in 2015, can operate with only pharmaceutical technicians. Pharmaceutical stations can be established if a community pharmacy is not available in a particular area, provided there are at least 3500 residents; the same principle applies to mobile pharmaceutical stations, only for even smaller communities with fewer than 1000 inhabitants. This regulatory framework is designed to

improve the availability of essential medicines in geographically remote areas with a low population density (Official Gazette of RM, 2016b).

In North Macedonia, community pharmacies are privately owned and have contracts with the HIF to provide medicines covered by social health insurance. As of 2022, the HIF contracted a total of 948 community pharmacy units, including community pharmacies, pharmaceutical stations, mobile pharmaceutical stations and rural pharmacies. In addition, there were 33 in-hospital pharmacies. The distribution of community pharmacies varies geographically, with the highest number (223) in the capital region of Skopje, and the lowest (54) in the Northeast region. Considering the number of pharmacies in relation to population size, there were 44 pharmacies per 100 000 insured individuals across the whole country, with the Pelagonia region having the highest ratio (54 pharmacies per 100 000) and the Polog region the lowest (36 pharmacies per 100 000) (WHO Regional Office for Europe, 2018).

Each community pharmacy is connected to the HIF's digital information system. When a patient submits a prescription for a reimbursable medicine, the pharmacy's IT system calculates the OOP payment according to the HIF tariff and any applicable co-payments. Subsequently, the pharmacy is reimbursed by the HIF, including a dispensation fee for all reimbursable medicines. Although an electronic prescription system connects primary care practices and pharmacies, it lacks integration with the system linking pharmacies to the HIF, as these systems are operated by different entities.

While any community pharmacy can dispense prescribed medicines, only HIF-contracted pharmacies can dispense medicines covered by social health insurance. If the required medicines are not in stock but are dispensed with a valid prescription from an HIF-contracted provider, patients can claim reimbursement for the costs from the HIF.

Access to vaccines is organized through an immunization programme managed and funded by the Ministry of Health, ensuring that vaccines are available across the health system. The cold chain is maintained through a network of refrigerated transport and storage facilities, ensuring vaccine potency and safety.

The use of medicines from the positive list has seen a gradual increase in recent years. The number of prescribed medicines increased by approximately 66% between 2009 and 2021, with the largest increase seen between 2009 and 2015 (42% increase) (Health Insurance Fund, 2022). However,

the outdated positive list of medicines contributes to inefficiencies in pharmaceutical spending (Box 5.6).

BOX 5.6 Is there waste in pharmaceutical spending?

In North Macedonia, pharmaceutical spending was the largest component of national health spending in 2021, constituting 24.6% of current health expenditure (see Chapter 3).

Price regulation of medicines is in place, but concerns arise from the use of a broad basket of reference countries which contains countries with higher income levels than North Macedonia, potentially impacting price comparability. Additionally, reimbursement tariffs are calculated based on these reference countries, and patients may bear the costs exceeding these tariffs, contributing to high OOP expenditures (WHO Regional Office for Europe, 2023). The outdated positive list of reimbursed medicines may include less effective or more expensive medications, potentially resulting in wasteful spending.

Although collaboration between hospitals for procurement of medicines is considered beneficial, it rarely occurs due to complex budget procedures. This lack of collaboration may result in missed opportunities for cost savings through bulk purchasing or negotiating better prices for medicines.

The positive list has only been minimally updated since 2012, despite continuous advocacy efforts from patient groups and professional societies. However, in 2023, initial steps were taken to streamline the expert committee system, merging 14 committees into a single one, making it easier to update the positive list. These changes also allow for pharmaceutical companies to submit proposals for medicines to be added to the list, which has the potential to conflict with the public interest. In addition, restrictions on medicine quotas in pharmacies have been removed, improving access to medicines covered by social health insurance and aiming for greater equity (see also Chapter 6). The Ministry of Health also provides funding through conditional funds to support these improvements, ensuring that essential medicines remain accessible and affordable for the population.

The Ministry of Health serves as the central agency overseeing the procurement and financing of essential medicines, specifically for HIV, tuberculosis and rare diseases, as well as insulin, vaccines and opioid substitution therapy. Hospitals, on the other hand, are tasked with procuring

medicines for their patients, with the HIF allocating the hospitals annual budgets via a DRG system. Hospital procurement adheres to general public procurement regulations, limiting acquisitions to medicines listed on positive list B. Collaborative procurement efforts among hospitals are rare, mainly because of intricate budgetary procedures (see Box 5.6).

5.7 Rehabilitation/intermediate care

Rehabilitation services are provided for post-hospitalization and post-surgical care and recovery. Rehabilitation services are offered in several specialized institutions and are covered by the HIF. These include physiotherapy treatments, such as supervised exercises, joint mobilization, massage, electrotherapy, hydrotherapy, phototherapy and ultrasound, as well as professional support and orthodontic aids. These services are intended to prevent or alleviate patients' reduced working or functional capabilities. Specialized medical rehabilitation is considered to be continued hospital treatment.

While medical rehabilitation is generally provided on an outpatient basis, patients may receive specialized medical rehabilitation during inpatient stay if they are hospitalized for over 10 days for treatment of an acute condition. To access medical rehabilitation, patients need a recommendation from a specialist and a referral from their primary care provider. People with disabilities have the right to 21 days of rehabilitation per year for extended traumatology and postoperative convalescence. Children with cerebral palsy are entitled to a total of 120 days of rehabilitation services if they are under 3 years old, in up to four groups of sessions per year. Similarly, children aged 3–14 years are entitled to a total of 60 days of rehabilitation services, in up to two groups of sessions per year.

In 2020, according to an analysis by the United Nations Development Programme (UNDP), the HIF granted the right to specialized medical rehabilitation to 2068 insured persons, a decline of 62% from 2019 (UNDP, 2022). Additionally, HIF provided payments of MKD 83 million (approximately €1.3 million) to private health care institutions providing medical rehabilitation (spa services) as extended hospital treatment (UNDP, 2022). Some patients, such as those with multiple sclerosis, cerebral palsy, rheumatoid arthritis and children with cancer, are eligible for rehabilitation services without previous hospitalization. Additionally, home visit teams from the

34 health centres provide intermediate care after hospital discharge. These teams aim to provide follow-up medical assistance, which helps facilitate earlier discharge or prevent readmission to the hospital by offering support at an intermediate level between primary and secondary care.

Medical rehabilitation institutions in the public sector include the Centre for Physiotherapy and Rehabilitation in Skopje, the Centre for Rehabilitation from Cardiovascular Diseases in Ohrid, the Centre for Rehabilitation in Katlanovo (spa services), and four natural springs and healing spas. The list of natural springs and healing spas was revised in 2014 by the HIF, and the services are covered by social health insurance.

The COVID-19 pandemic had a significant effect on people with disabilities, whose well-being hinges on physical therapy and rehabilitation services. In a recent study, 47.5% of respondents with disabilities reported difficulties in accessing the rehabilitation services they had access to before the onset of the pandemic (UNDP, 2022).

5.8 Long-term care

In North Macedonia, formal long-term care for people with loss of independence (caused by either frailty or impairment) is still underdeveloped. Residential and semi-residential providers of long-term care include hospitals and other public and private institutions. There are five public residential facilities for older people, with a total of 624 beds, and 28 licensed private residential facilities with a total of 1051 beds. The share of people aged over 65 years in residential facilities is 0.4%, which is low compared to the EU average (roughly 2%) and neighbouring countries. Approximately 49 626 individuals, constituting 17% of the population over 65 years, were estimated to require this kind of support and services (Gjorgjev, 2021).

The Specialized Hospital for Geriatric and Palliative Care has 350 residents receiving residential geriatric or palliative care in two hospices in Skopje and Bitola, but also provides day care to non-residents. The hospital's health services are covered by the HIF, while accommodation, nursing care and food have to be paid for privately by patients or their family members. Public residential facilities for older people receive 40% of their budget from the state, while the remaining 60% is paid by users. Only eight of the country's 61 daycare centres are dedicated to older people. The Pension

Fund operates 28 residential facilities for retired individuals facing housing challenges (Gjorgjev, 2021).

Although North Macedonia has embarked on efforts to improve long-term care for older people, for example by introducing a new sub-specialization in geriatric care for doctors in 2021 to respond to the shortage of qualified staff and meet the rising demand for geriatric and palliative care, more efforts are needed. So far, the quality of long-term care is neither measured nor ensured. Moreover, there is a need to enhance the capacity of publicly owned social care centres and improve the integration of residential and non-residential services (WHO Regional Office for Europe, 2021b).

5.9 Services for informal carers

Informal care, mainly from family members, plays a key role in care and care assistance in North Macedonia. However, services for informal carers are still underdeveloped. In 2016, 35.6% of those providing informal care were dedicating more than 20 hours per week to care provision. Informal care may thus reduce opportunities for labour force participation, particularly for women in middle age who may opt for part-time work or early retirement (Gjorgjev, 2021).

To support informal carers, the Ministry of Labour and Social Policy has a care allowance benefit for people with long-term disabilities, blindness or assisted living needs. However, the benefits primarily target the dependent person, with little specific support provided to the carer, such as paid care leave or in-kind benefits. The needs-based and means-tested care allowance ranges between €60 and €70 per month. However, this amount is insufficient to cover the actual costs of care and/or support.

5.10 Palliative care

Palliative care is offered in two centres, Sue Ryder Skopje and Sue Ryder Bitola, both under the Specialized Hospital for Geriatric and Palliative Care "13 Noemvri". Palliative care was initially addressed in the National Strategy for Poverty Reduction and Social Inclusion 2010–2020, with a focus on long-term care. Given the under-provision of palliative care and challenges

regarding quality and accessibility, the Ministry of Health plans to develop a national palliative care strategy.

Local initiatives have emerged, including the first municipal palliative service in Sveti Nikole, a cooperation between the National Employment Agency and local government authorities. This service operates with an interdisciplinary team of social workers, psychologists and physiotherapists, providing services to improve quality of life, relieve pain and suffering, and offer psychological and social support to patients and family members.

5.11 Mental health care

Mental health care is funded by social health insurance and provided in both inpatient and outpatient settings. Primary care physicians provide basic triage, and advice on and diagnosis of mental health conditions. Inpatient facilities include three public psychiatric health facilities located in Skopje, Demir Hisar and Gevgelija/Negorci, as well as psychiatric or neuropsychiatric wards in general and clinical hospitals across the country. Tertiary care is offered in the University Clinic of Psychiatry in Skopje, including not only medical services but also educational and scientific resources. Public facilities, such as the Specialized Psychiatric Hospital "Skopje" and the University Clinic of Psychiatry provide inpatient, outpatient and day care services in Skopje, and operate several day care centres for mental health care, prevention and treatment of depression within health centres. Independently practising psychiatrists also provide mental health services for patients.

The country is pursuing the deinstitutionalization of mental health services with the aim of establishing more community-oriented mental health centres, in line with the EU mental health strategy and the WHO European Framework for Action on Mental Health. A World Bank loan was used to refurbish the psychiatric hospitals in Skopje and Gevgelija/Negorci. The latest National Strategy for the Promotion of Mental Health 2018–2025 sets out the priorities of decentralizing mental health care, reducing the number of psychiatric hospitals, enhancing capacity of medical staff at primary care level and community mental health centres, creating sustainable financing, and establishing a standardized monitoring and evaluation system (MoH, 2018b).

5.12 Dental care

Dental care services are provided in preventive, primary, secondary and tertiary care settings. The Ministry of Health has prioritized the strengthening of preventive dental care for children and adolescents, which includes providing dental check-ups for all school children and uninsured children who are not enrolled in school.

Paediatric and preventive dentistry, as well as emergency dental care, are provided in public facilities: 149 preventive teams operate in the 34 health centres, funded through a programme that offers systematic check-ups for primary, secondary and higher education students. Dental services are also provided by primary care dentists registered as private practices and contracted by the HIF. Secondary and tertiary dental care are provided in the public sector at the maxillofacial departments of hospitals in Bitola and Shtip, the hospital in Prilep, the University Clinic for Maxillofacial Surgery and the University Dental Centre in Skopje. Most private dental practices have contracts with the HIF for service delivery, but patients can also access private dental practices without a HIF contract and pay out of pocket.

Building upon the 2008–2018 National Strategy for Prevention of Oral Diseases for Children up to 14 years old, a revised strategy for 2018–2028 has been adopted, which is aligned with the preventive dentistry recommendations of WHO.

6

Principal health reforms

Chapter summary

- The COVID-19 pandemic served as a catalyst for some changes to improve the health system's performance, mostly related to primary care, access to medicines, and emergency preparedness and response.
- The already advanced digitalization of the health system has been used to springboard better access to essential services, such as through tele-consultations and e-prescriptions, especially during the pandemic.
- Primary care reform has continued through expanded competences of primary care doctors, accompanied by a standardization of practice through primary care guidelines and training both doctors and nurses to address specific population needs.
- Further improvements of the health system are needed in terms of human resource planning, recruitment and retention; better utilization of e-health solutions for improving health outcomes; as well as strengthening capacities to respond to population ageing.

6.1 Analysis of recent reforms

The Macedonian health system has not undergone any major structural reforms since 2018, but rather implemented several pilots to identify the most efficient and effective models for the full implementation of planned reforms. These, however, were largely hindered by the COVID-19 pandemic and its unprecedented pressure on the economy (Srbinoski et al., 2022) and the functioning of the health system (Eftimov & Bozhinovska, 2021). The pandemic initially diverted resources and attention away from the planned reforms towards the response to the pandemic and its immediate consequences. However, the government was still able to introduce some policy changes related to health system efficiency, quality improvement, primary care, access to medicines and digitalization. A brief overview of reforms during the period 2018–2024 is provided in Table 6.1. The implementation of most of these reforms is still ongoing. This section describes the objectives and content of these initiatives. Earlier reforms, covering the period 1991 to 2017, are described in detail in the previous edition of the Health System Review (Milevska Kostova et al., 2017).

Under the government elected in 2017, several important strategic documents were adopted, including the National Health Strategy 2021–2030 (MoH, 2021), the Strategy for Promotion of Mental Health 2018–2025 (MoH, 2018b), the Strategy for Control and Prevention of Antimicrobial Resistance 2019–2023 (MoH, 2019), and the Strategy for Oral Health of Children 2018–2028 (MoH, 2018a).

TABLE 6.1 Major health reforms, 2018–2024

YEAR STARTED	REFORM FOCUS	IMPLEMENTATION STATUS
2018	Integration of social and health services at community level	Partial and ongoing implementation
2018	Advancing the second phase of the primary care reform	Partially implemented
2019	Regionalization of hospital services with pilots in perinatal care	Ongoing implementation
2019	Reintroducing comprehensive access to prescription medicines	Implemented
2020	Continued digitalization of health care	Implemented

Source: Authors' compilation.

6.1.1 *Integrating social and health services at community level*

Low hospital utilization rates in some general hospitals, high referral rates from primary care, and high rates of avoidable hospital admissions led to a realization that the integration of services was suboptimal. In 2018, the Ministry of Health initiated two models to improve the integration of health and social services at the community level and better address population needs, especially in rural and remote areas (UNDP, unpublished report, 2020). The first model piloted integration of community (health and social) outreach services with health services in the Resen Health Centre to test the possibility of a "one-stop shop" at community level. The second model piloted the integration of general hospital and health centre services into a so-called "local hospital", aimed at providing services to the local community, focusing on long-term care, rehabilitation and palliative care services, and provision of acute and day care in collaboration with the regional general hospitals (MoH, 2021). This model was piloted in five general hospitals (Kochani, Gevgelija, Debar, Kavadarci and Prilep). An initial assessment of both models showed increased equity in access to care and more efficient use of resources. In 2024 and 2025, the reform will continue for the three remaining general hospitals to undergo the integration process: Struga, Kichevo and Gostivar.

6.1.2 *Advancing the second phase of the primary care reform*

Following the first phase of the primary care reform in 2004–2007 (Milevska Kostova et al., 2017) which introduced the privatization of primary care providers and capitation-based payment, the Ministry of Health started the second reform phase in 2019, based on the Primary Health Care Roadmap 2020–2030 and envisaging an integrated, patient-centred and multidisciplinary model of primary health care (WHO Regional Office for Europe, 2019b).

In 2020, e-prescriptions were introduced and the validity of prescriptions extended, which enabled improved access to medicines at the primary care level. In 2020 and 2021, the Ministry of Health continued strengthening human resources in primary care through training nurses in communication, COVID-19, public health, health education and leadership (see Section 4.2.4) (WHO Regional Office for Europe, 2021a). In 2022 and 2023, activities for

standardization of care were initiated, including the development of clinical guidelines and protocols for patient transitions, referrals and discharge, accompanied by information technology solutions. The introduction of five clinical protocols and pathways for the most prevalent ambulatory care-sensitive conditions (diabetes, hypertension, COPD, asthma and hypothyroidism) took place in mid-2023. This initiative was accompanied by the development of quality indicators and a dashboard within the e-health system. As a result, the HIF has made changes in the by-laws to enable primary care providers to diagnose, prescribe medication and manage these health conditions according to the clinical guidelines. This means that patients no longer need to travel to specialists for the diagnosis and treatment of these conditions.

A remaining part of the primary care reform that has not yet been completed is promoting the use of group practices, enabling better coverage by larger and multidisciplinary teams, as well as implementation of the family medicine model (see also Chapter 5), mainly due to appropriate incentives not being implemented.

6.1.3 *Regionalization of hospital services with pilots in perinatal care*

The Ministry of Health piloted different models for hospital and inpatient care reform, focusing on perinatal care after an upsurge of neonatal mortality in 2015 (see Chapter 5) (MoH, 2021). In 2020, under technical guidance from WHO, the national Safe Motherhood Committee mandated the Perinatal Mortality Audit Working Group to conduct a perinatal mortality audit, revealing the drivers and barriers for improved perinatal care and leading to the development of a Master Plan for Improving Perinatal Health Care 2020–2030. Based on the master plan, perinatal care was stratified into six Perinatal Care Networks which implemented the model in six administrative and geographical regions across the country (Skopje, Bitola, Tetovo, Shtip, Strumica and Kumanovo). The aim is to improve coordination at the regional level, integrating antenatal, intrapartum, postpartum and neonatal services and ensuring all women and neonates have access to high-quality maternal and child care.

The master plan for perinatal care also serves as a model for the regionalization part of the hospital and inpatient care reform, which is one of the key priorities of the government up to 2030 (see Section 6.2).

6.1.4 *Reintroducing comprehensive access to prescription medicines*

Pharmaceuticals accounted for 24.6% of current health expenditure in 2021, more than any other health care function, and 73.8% of spending on pharmaceuticals was borne by households (see Sections 3.4 and 7.3) (WHO Regional Office for Europe, 2023). In order to curtail pharmaceutical spending, in the early 2010s the HIF introduced sales quotas for community pharmacies on prescription medicines covered by social health insurance, limiting the volume of publicly paid pharmaceuticals they could dispense (also Section 3.7.1). As the quota system proved inefficient in terms of fund allocation and became an access barrier to prescription medicines, in 2019 the HIF reintroduced comprehensive access to prescription medicines. This significantly improved equity in access to publicly covered prescription medicines.

However, limited access to new medicines and innovative therapies due to the largely unrevised positive list of medicines continues to be a barrier to optimal care and remains one of the biggest drivers of high OOP payments in the country (see Sections 3.4. and 7.2).

6.1.5 *Continued digitalization of health care*

The COVID-19 pandemic accelerated the utilization of digital solutions in health care, building on the already very elaborate and reliable IT system the country established in 2012 (Milevska Kostova et al., 2017), which became a success story in the region, as it contributed to a better response to patient needs, reducing providers' administrative burden and improving the monitoring of health system performance prior to the COVID-19 pandemic (IPCHS, 2016; WHO Regional Office for Europe, 2016).

Over the last few years, the main updates of the system in which the country invested pertain to data integration between civil registries and health data, the building of real-time registries (especially for patients with diabetes or chronic kidney disease), and the establishment of a registry of the available and active health workforce, implemented during 2020 and 2021. In 2021 and 2022, modules for monitoring vaccination uptake and preventive screening were introduced, establishing a better linkage between curative and preventive services, and thus enabling continuity of public health surveillance. In addition to new modules, digitalization enabled the

modernization of the home visits reporting system away from a paper-based one, allowing connection with other modules such as maternity wards and immunization services.

Digitalization was also instrumental in ensuring equitable access to essential services during the COVID-19 pandemic restrictions. In 2021, the e-prescription module was extended to fully digitalized prescribing and dispensing for chronic conditions for up to 1 year or until the recommended medical re-evaluation. In the second half of 2020, telemedicine consultations were added to the standard service provision portfolio, especially in primary care and for the monitoring of patients at home, and for some specialist services such as psychiatric assessments and follow-up. In 2022, telemedicine services were expanded with a pilot programme supported by UNICEF and USAID, using remote health monitoring devices distributed to families for monitoring and health check-ups at a distance (UNICEF, 2022c), provided by over 150 family doctors trained in telemedicine principles and services (UNICEF, 2022a).

In 2022, an online web portal (https://skrining.zdravstvo.gov.mk/home) was established to enable women to schedule their cervical and breast cancer screening appointments. The platform is integrated with the My Appointment (*Moj Termin*) e-health records platform. Upon registration, obstetricians and gynaecologists at the primary care level immediately receive information about the patient and can offer an appointment accordingly. The target group for cervical cancer screening in 2022 were women aged 36–45 who had not undergone a Pap test in the previous 3 years. The screening for this specific age group is provided free of charge.

In 2023, to ensure patients have sufficient information, the My Health (*Moe Zdravje*) portal (https://e-zdravstvo.mk/mk/moe-zdravje) was developed, providing patients with access to their electronic health records, including appointments for specialist referrals, prescriptions and vaccination records.

6.2 Future developments

The process of drafting the National Health Strategy 2021–2030 began in 2020. Through a comprehensive multisectoral approach involving multiple stakeholders, the strategy defined 17 goals mainly aimed at first, improving the health of citizens throughout their life course; and second, improving

access to and quality of health services and creating an efficient health system. The main directions that the strategy takes are:

1. improving the structure of the health system and the efficient use of resources;
2. improving human resources in health care; and
3. strengthening the provision of high-quality and safe health services.

Some key initiatives included in the National Health Strategy are briefly outlined below.

6.2.1 *Advancing the governance of the health system*

In order to achieve effective reforms, reinforcing the Ministry of Health as a steward of the health system is identified as central to ensuring continued improvements in health system performance, in particular with regard to equitable access to health care, health outcomes and financial protection. The primary focus of this initiative is on developing sustainable institutional capacity within the Ministry of Health. One of the anticipated measures for achieving this is the establishment of a Department for Strategic Planning.

6.2.2 *Restructuring hospital and inpatient care*

One of the key priorities in the National Health Strategy 2021–2030 is the reconfiguration of the current setup of inpatient care and the reclassification of hospitals, in view of the current duplication of services, resource inefficiency and lack of adequate professional capacity in the majority of hospitals (MoH, 2021). The proposed new model involves four levels of inpatient care, stratified by the type and complexity of services each level can provide. At the national level, the strategy envisages the reconstitution of the 30 independent university clinics into a National University Clinical Centre (that existed before 2009), to provide tertiary and quaternary care for the entire population. The supra-regional level, which is planned to be assigned to the current clinical hospitals in Bitola, Tetovo and Shtip, will provide secondary care and defined services in tertiary care. The main novelty in the new classification is the division of

general hospitals into regional and local levels, based on population coverage and vicinity to either the capital city of Skopje or a supra-regional hospital. The regional level is planned to be assigned to five general hospitals in Ohrid, Strumica, Kumanovo, Veles and Skopje, as well as the specialized hospital for obstetrics and gynaecology "Chair" in Skopje, whereas the supra-regional level hospitals (Bitola, Shtip and Tetovo) will cover their respective regions. Hospitals at the local level are envisaged to be more community-oriented and to mainly provide rehabilitative, long-term and palliative care, in addition to a limited list of acute care services. Local hospital status is expected to be assigned to Debar, Struga, Kichevo, Gostivar, Gevgelija, Kavadarci, Kochani and Prilep, as well as to the Specialized Hospital for Geriatric and Palliative Care "13 Noemvri". For the Northeast region, the strategy considers integrating the hospital with the health centre in Kriva Palanka, as both currently have very low utilization rates due to low population density in the region.

6.2.3 *Human resources for health*

The Ministry of Health commissioned a comprehensive assessment of health workforce planning, recruitment and retention in 2022. The main aim of this assessment, conducted with WHO technical support, was to serve as a blueprint for the development of a national health workforce strategy, that will focus on reforming undergraduate and postgraduate education, improving the skill mix of nurses and other allied health professions, creating a registry of human resources for health, and improving working conditions, advancement and remuneration systems.

The professionalization of nurses and midwives remains a major policy priority. Prioritized interventions include legal recognition of the nursing and midwifery profession; establishment of a chamber or independent body for regulating and licensing nurses and midwives; establishment of a faculty of nursing with undergraduate and postgraduate programmes; establishment of advanced specialized nursing degrees; better renumeration linked to experience, competencies and responsibilities; greater autonomy; and professional development opportunities.

6.2.4 *Noncommunicable diseases and premature mortality*

Behavioural risk factors remain an important challenge that needs to be addressed. North Macedonia struggles with high premature mortality from noncommunicable diseases, including cancer and cardiovascular diseases (see Chapter 1). However, targeted strategies for any of the major noncommunicable diseases have not been developed or implemented. Investing in primary prevention policies was discussed, but efforts were of limited scope and effect. Legally binding standards for nutrition of school children were enforced in 2018 and programmes for promotion of physical activity and salt reduction were enacted in 2022. The National Health Strategy 2021–2030 notes the importance of addressing other risk factors (such as obesity, especially in children, unhealthy lifestyles and diets, sugar consumption, and tobacco and alcohol use), but concrete proposals and actions are missing, including any plans for shifting resources from curative to preventive care.

7

Assessment of the health system

Chapter summary

- Health strategies and policies are developed using a multistakeholder and multisectoral approach, but the lack of financial commitment for most of them and the rapid turnover of Ministers of Health (four between 2019 and 2024) impedes timely and effective implementation.
- The universal health coverage (UHC) service coverage index increased by 16 points out of 100, from 58 in 2000 to 74 in 2021, compared to an average of 81 in the WHO European Region. Despite this progress, geographical accessibility of services varies, with better access in the capital and major cities compared to smaller towns and rural areas.
- The long waiting lists for specialist outpatient services have been significantly shortened with the introduction and upgrades of the My Appointment (*Moj Termin*) electronic system.
- High levels of OOP spending and instances of catastrophic health expenditure indicate challenges in financial protection. Most catastrophic health spending (80%) is on outpatient medicines.

- Improving health care quality is one of the key priorities; however, a comprehensive quality of care improvement plan is missing. In addition, there is no system in place for monitoring any health system outcomes other than mortality.
- Similar shares of health expenditure are spent on pharmaceuticals, outpatient care and inpatient care. Public health services and long-term care only made up 4.4% and 0.1% of current health expenditure in 2021 respectively, which was far below the EU averages (6.0% and 16.0%).
- Challenges to improving the allocation of resources are addressed in the National Health Strategy 2021–2030, envisaging efficiency improvements for inpatient and hospital care and a reallocation of resources to primary and long-term care.

7.1 Health system governance

The Ministry of Health has a central role in health system governance, with regard to both policy- and decision-making. Both the former National Health Strategy and the current National Health Strategy 2021–2030 were developed in a process involving relevant stakeholders from the health and other sectors. However, adopted strategies often lack financial and institutional commitment, impeding their timely and effective implementation.

Moreover, the frequent turnover of Ministers of Health, evident with four changes in the five years to 2024, exacerbates the issue. The ministry's stewardship and governance functions, including strategic planning, policy development and resource generation, are underdeveloped, impeding continuous evaluation and improvement processes. In addition, the ministry faces challenges in monitoring and analysing health system performance and lacks mechanisms to enact corrective actions promptly. These limitations underscore the need for sustained commitment, stable leadership and strengthened governance structures to ensure effective policy implementation and performance management within the health sector.

The health system of North Macedonia is based on the values of solidarity, equity and participation of all citizens in the country. Although the results from the 2021 census indicate that almost the entire population is covered by social health insurance and vulnerable population groups are

entitled to a broad benefits package, OOP spending amounted to 41.7% of current health expenditure in 2021, leading to a high level of inequality across income groups in terms of unmet needs for health services.

In terms of transparency, informal payments exist in both the public and private health care sectors (Dimkovski & Mosca, 2021). They are most commonly offered to express gratitude, secure better (perceived) quality of services or gain quicker access to services with long waiting lists (Crvenkovski, 2020). Informal payments are prevalent in obstetric and gynaecological services within primary care settings, often perceived as customary by the majority of service users (Dimkovski & Mosca, 2021). The level of corruption in North Macedonia is far above the EU average, but similar to that of most Balkan countries (Crvenkovski, 2020). According to Transparency International, in 2023 the Corruption Perceptions Index (CPI) of North Macedonia was 42 out of 100, ranking the country 76th of 180 participating countries (Transparency International, 2023).

7.2 Accessibility

While the population is entitled to a comprehensive basic benefits package, gaps are still present, especially regarding access to innovative and newer generation medicines and services for which there is limited capacity in the public domain, such as mammography and obstetric/gynaecological care. These gaps contribute to high OOP expenditure for medicines and for receiving timely care and avoiding long waiting times. The population in major cities and towns has access to primary care and secondary outpatient specialist and inpatient care, although with varying quality and levels of services.

In 2020, 1.7% of the population reported unmet needs for medical examination due to cost, waiting time or travel distance, which was slightly lower than the EU27 average of 1.9%. The poorest quintile of the population was most affected, with 3.9% reporting unmet needs (Fig. 7.1). One reason might be that, due to the geography of the country and its population size, some specialized services and tertiary level care can only be accessed in the capital Skopje, where most hospital beds are also located (see Chapter 4).

While primary care providers are relatively well distributed across the country, access to primary care services is more limited in smaller municipalities and rural areas. There is no defined scope of services and relatively

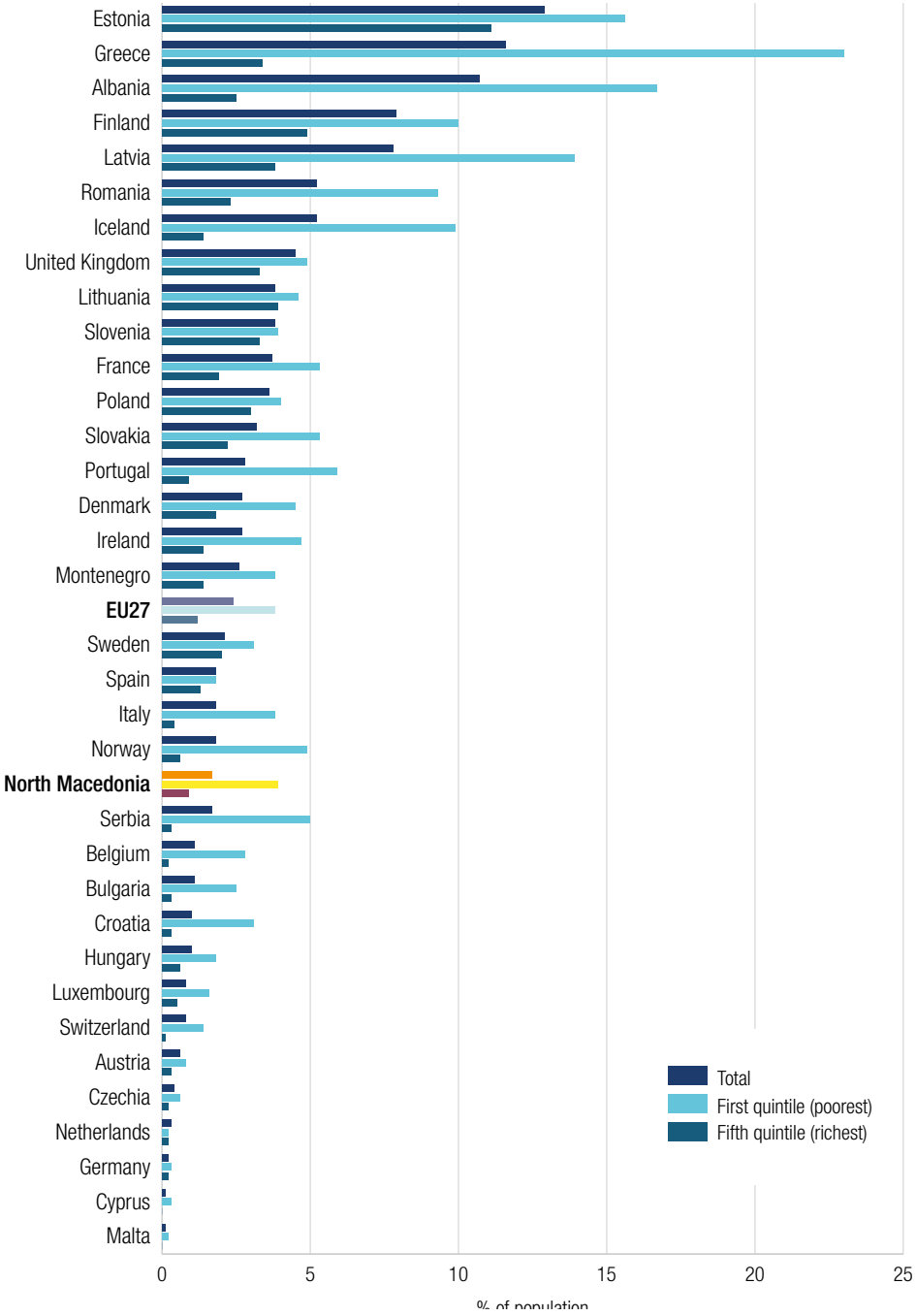
low usage of equipment, which impacts its scope and quality. The uneven regional distribution of persistently low number of obstetricians/gynaecologists in primary care and of community (patronage) nurses in preventive care remains a challenge (see Chapter 4).

A recent WHO study on barriers to accessing health services explored financial, geographical, cultural and supply-related factors. The study found disparities in the population coverage of social health insurance, with groups such as farmers, unemployed people and ethnic minorities experiencing higher rates of not being covered by social health insurance despite it being mandatory. Geographical disparities exacerbate accessibility issues, particularly in rural areas where limited public transport, poor road conditions and longer distances to facilities pose significant challenges for inhabitants compared to their urban counterparts. The study also found deficiencies in the benefits package, such as the lack of outpatient medicines covered by the HIF and the insufficient competencies allocated to general practitioners, further limiting access to essential health care services. Organizational barriers such as lengthy waiting times, limited facility opening hours, and challenges related to caretaking responsibilities also exacerbate accessibility issues, underscoring the need for comprehensive reforms to address these multifaceted challenges and enhance accessibility and availability of health services across the country (WHO Regional Office for Europe, 2024b). Despite these challenges, important progress has been made in recent years and the UHC service coverage index increased by 16 points out of 100, from 58 in 2000 to 74 in 2021, compared to an average of 81 in the WHO European Region.

7.3 Financial protection

High levels of OOP spending and instances of catastrophic health expenditure indicate shortcomings in financial protection. In 2021, the OOP share of current spending on health was 41.7%, which was far above the EU average of 15.0%. Of overall private spending on health, about half (19.6% of overall current health expenditure) was used for pharmaceuticals. Private spending on inpatient care accounted for 10.5% of current health expenditure, private spending on outpatient care accounted for 8.1%, and private spending on preventive care accounted for 1.4%.

FIGURE 7.1 Unmet needs for a medical examination (due to cost, waiting time or travel distance) by income quintile, EU/EEA and selected countries, 2023 (or latest available year)



Note: EEA: European Economic Area.

Source: Eurostat, 2024.

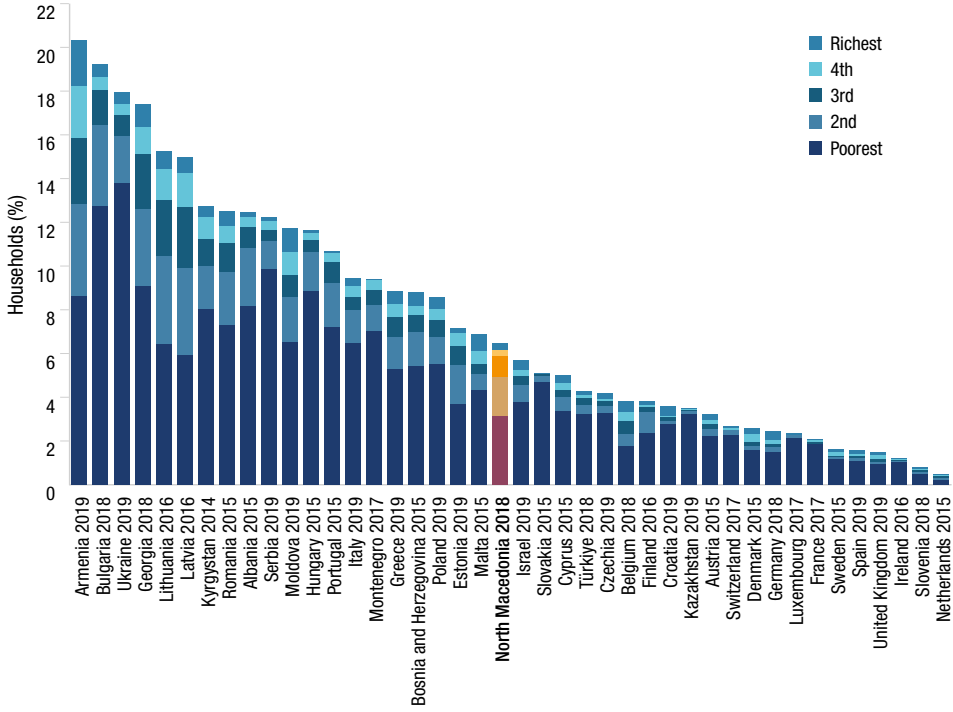
Although financial protection has improved over the past decade, it is weaker than in many EU countries, but still stronger than in countries such as Greece, Hungary, Latvia and Lithuania (Fig. 7.2). In 2018, nearly 7% of households in North Macedonia were impoverished, further impoverished or at risk of impoverishment after OOP payments for health, which was an improvement from 10% in 2006. In the same year, 6.5% of households experienced catastrophic OOP payments, a decline from 9.6% in 2006. Financial hardship is heavily concentrated among the poorest households, and largely driven by OOP payments for outpatient medicines (Dimkovski & Mosca, 2021) (see Section 3.4).

The insufficient scope of outpatient medicines covered by the HIF poses a major obstacle to accessing medications. Out-of-pocket payments are predominantly spent on outpatient medicines, followed by outpatient care. People with chronic conditions are disproportionately affected, with the cost of medicines and health products posing a serious problem for nearly two thirds of them. Those living on the margins of poverty, older individuals, rural residents and people with disabilities also face heightened challenges in accessing health care due to medication costs. Among households in the poorest quintile experiencing catastrophic spending in 2018, OOP spending on medicines constituted 96% of their OOP payments on health, compared to only 31% in the richest quintile.

In addition to OOP payments for medicines, OOP spending is common for diagnostic tests, dentistry and obstetric/gynaecological services, and there are often requests for informal payments. The WHO study on barriers to accessing health services indicates that women are charged by registered obstetricians/gynaecologists in primary care settings, creating uncertainty about examination costs (WHO Regional Office for Europe, 2024b). Moreover, OOP expenses for diagnostic tests, non-covered services or co-payments remain prevalent, affecting one fifth of respondents to the survey. Informal payments are reported as a serious barrier by four out of 10 respondents, exacerbating financial strain and driving individuals towards private health care providers.

Indirect costs, including transportation, accommodation and missed work, further impede access to health care services, particularly for rural and disadvantaged populations. In the WHO study, nearly half of rural respondents identified indirect costs as serious barriers, compared to a quarter of urban respondents.

FIGURE 7.2 Share of households with catastrophic health spending by consumption quintile, latest available pre-COVID-19 year



Source: WHO Barcelona Office for Health Systems Financing, personal communication, 2024.

7.4 Health care quality

Improving health care quality through standardizing care has been one of the key priorities of the country since independence, and has been part of the strategic objectives of all previous and current health strategies (MoH, 2021). Over the years, a number of activities have been undertaken, including introduction of clinical guidelines and a system of accreditation, transformation of primary care and, more recently, reorganization of inpatient and hospital care. However, the issue of quality of care improvement has not been addressed appropriately across the entire care continuum. Many stakeholders, including the HIF, the Agency for Quality and Accreditation of Health Care Institutions (AKAZUM) and patients, are interested in

the establishment of a system for quality control and assurance, but no systemic approach has so far been taken to quality management in health care. Although established in 2014, AKAZUM is underfunded and only has a very weak role in the system.

The HIF undertakes a minimal role in ensuring quality of care through its payments for primary care, and to some extent, for secondary specialist and inpatient care. However, the HIF is not mandated to perform this role and its efforts do not contribute greatly to quality improvement. No processes have been established for the systematic collection and analysis of data regarding quality of care and health system effectiveness. Despite the existence of a wealth of patient-level data in the system, many quality indicators are not easily available to policy- and decision-making processes.

Overall, evidence on the quality of health services in North Macedonia remains limited. Key indicators on the quality of care that are available for many EU countries are lacking. These include avoidable hospital admissions for chronic conditions, in-hospital mortality rates and cancer survival rates.

Patient satisfaction has not been much in focus and there are no regularly conducted surveys to monitor what patients think and need in terms of specific and integrated care (WHO Regional Office for Europe, 2019b).

7.5 Health system outcomes

Important health indicators have shown increasing improvement, in particular mortality due to noncommunicable diseases. Since 2000, the mortality rate for ischaemic heart disease has decreased threefold and there has been a nearly twofold decrease for stroke, but trends for cancer and diabetes are a concern. Life expectancy and infant mortality rates have improved thanks to improved living conditions and continuous policy efforts. However, the country still lags behind EU averages, partly due to persisting unhealthy lifestyles with risk factors such as high blood pressure, tobacco use and unhealthy diets accounting for nearly three quarters of deaths. Premature mortality among those aged 30–69 years from four major noncommunicable diseases (cardiovascular diseases, cancers, diabetes mellitus and chronic respiratory diseases) declined from 556 deaths per 100 000 population in 2000 to 409 deaths per 100 000 in 2021, but this was still far above the EU average of 250 in 2020 (WHO Regional

Office for Europe, 2024a). Internationally comparable data on treatable and preventable mortality[1] are not available.

There is no national cancer plan, and current policies and programmes are mainly focused on measures such as screening and public awareness, while diagnosis tends to be late. There is a lack of high-quality primary prevention programmes and of a multidisciplinary approach towards cancer prevention, detection and care. Similarly, there is no national strategy addressing diabetes or cardiovascular diseases, related risk factors or unhealthy lifestyles, and opportunistic screening for these conditions or behaviours is undertaken at primary care level, as part of the preventive goals.

Despite some efforts in the past, there is no mechanism for monitoring health system outcomes. Instead, health system performance is mainly evaluated based on general morbidity and mortality data. Internationally comparable data are lacking, and there is no system for data quality control. The My Appointment system collects robust data on a number of indicators, including financial protection, and National Health Accounts were successfully introduced in 2019, but their potential to inform policies is still underutilized. There is no systematic assessment of patients' and providers' satisfaction.

7.6 Health system efficiency

7.6.1 *Allocative efficiency*

The breakdown of health expenditure by functions shows that in 2021, outpatient care and inpatient care accounted for 24.1% and 24.5% respectively, which compares to the EU averages of 28.8% and 27.6%. Pharmaceuticals accounted for 24.6% of current health expenditure in 2021, a much higher share than the EU average of 17.8%. In 2019, the country had started to address this issue by beginning the process of revising the positive list of medicines, but the process stalled as a result of the pandemic (see Chapter 6.1). Public health services accounted for 4.4%, which was below the EU average

1 Treatable (or amenable) mortality are deaths that can be mainly avoided through health care interventions, including screening and treatment. Preventable mortality are deaths that can be mainly avoided through public health and primary prevention interventions.

of 6.0%, whereas spending on long-term care in the country was 0.1% in 2021, far below the EU average of 16.0%. Long-term care is mainly provided in private residential homes and two palliative care centres and there are significant levels of unmet need for this kind of service (see also Chapter 5).

Challenges to improved allocative efficiency include a continued emphasis on hospital care and deficiencies in primary care. The reform of the hospital sector, namely its consolidation and rationalization, is one of the key priorities in the National Health Strategy 2021–2030, with a proposed new model that involves four levels of inpatient care, stratified by the type and complexity of services each level can provide (see Chapter 6). Allocative efficiency is further limited by the organization, management and governance of the system, due to the absence of nationwide planning, which leads to resource allocation based on historical data rather than evidence and population needs. Alternatively, resources may be allocated based on the interests of individual providers, indicating substantial potential for achieving greater efficiency.

7.6.2 *Technical efficiency*

Although there is no systematic monitoring of measures to improve efficiency, some improvements in technical efficiency can be noted. For example, the average length of hospital stay decreased to 5.6 days in 2021. The increasing use of IT and digitalization in the health sector enabled easier access to care and information for both patients and health care providers. E-prescriptions and telemedicine modules have been successfully introduced, and the My Health (*Moe Zdravje*) portal was developed to give patients access to their personal medical records.

At the same time, the very low utilization rates of hospital beds (49.3% on average for curative care in 2019) suggest that there is room for significant improvements (see Chapter 5). In 2021, due to the COVID-19 pandemic, the highest number of hospital admissions was for respiratory diseases. Yet there was also a high number of admissions for cardiovascular episodes which might indicate the need to reallocate resources and put more effort into primary and secondary prevention. Technical efficiency in primary care is undermined by an overutilization of emergency services. Patients prefer to call emergency services for urgent health issues (accounting for 98% of all such calls) rather than their primary care provider. Similarly, many of the

procedures available at primary and secondary level, including diagnostics and surgery, are referred to and performed at tertiary level, reducing the possibility for university hospitals to treat more complex and complicated cases. There is also considerable room for efficiency improvements in the use of pharmaceuticals, such as through the introduction of HTA.

8

Conclusion

The Macedonian health system has made progress towards improving the health of the population, but challenges remain in policy development and implementation efforts.

The health system continues to face high levels of premature mortality, which was further aggravated during the COVID-19 pandemic. Mortality rates of some causes of death, including cancer, cardiovascular diseases, behaviour-related causes (tobacco and alcohol use) and air pollution, are much higher than in most EU countries. Health promotion and disease prevention are underdeveloped and there has been a reversal of anti-tobacco measures, allowing some smoking on commercial premises.

The National Health Strategy 2021–2030 was developed and adopted as a continuation of previous strategies and policies. However, due to frequent changes in leadership and the disruptions resulting from the pandemic, reform processes are quite slow and fragmented, often relying on external support from international agencies such as WHO, UNICEF and other UN organizations.

Almost the entire population has access to a broad range of publicly paid services. However, private OOP payments remain very high, undermining financial protection. In addition, there are geographical barriers to accessing health services. The government has taken steps towards addressing these barriers, including feasibility assessments of the regionalization of inpatient care and reforms aimed at improving the integration of health and social services.

Challenges to an improved allocation of resources include a continued emphasis on hospital care and deficiencies in primary care, while technical inefficiencies exist in both inpatient and outpatient care. Primary care is somewhat disconnected from the rest of the public system, especially from preventive and rehabilitative care, and seems to be underutilized compared to inpatient and specialist outpatient care. Efforts have been made to improve the skills of primary care doctors and nurses in telemedicine and to better address the needs of an ageing population. The provision of primary care in rural areas and sufficient access to obstetric/gynaecological services at primary care level remain a challenge, mainly due to staff shortages.

The health information system My Appointment has contributed significantly to reducing long waiting times, and is being continuously upgraded with different modules, moving towards a full digitalization of the health system. This process, and its positive impact on accessibility, was further accelerated in the response to the COVID-19 pandemic, leading to the inclusion of e-prescriptions, telemedicine and other modules.

Improving equitable access to high-quality care is one of the main priorities of the National Health Strategy 2021–2030, which explores several scenarios for achieving this goal. However, while quality of care is listed among the reform priorities, a comprehensive quality improvement plan that defines priorities, performance indicators and responsibilities is not yet in place.

Summing up, further policy efforts will need to focus on enhancing width, depth and continuity across the entire continuum of care, in order to achieve better prevention, more equitable access to high-quality care and improved financial protection.

9

Appendices

9.1 References

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9.2 Useful websites

National Assembly
https://www.sobranie.mk/

National Assembly Committee on Health Care
https://www.sobranie.mk/committee-details.nspx?param=27790e25-3b46-49a0-9eae-b4b07d8049d0

Ministry of Health
https://zdravstvo.gov.mk/

Health Insurance Fund
https://fzo.org.mk

Agency for Medicines and Medical Devices
https://malmed.gov.mk

State Statistical Office
https://www.stat.gov.mk/Default_en.aspx

Agency for Quality and Accreditation of Healthcare Institutions:
https://akazum.gov.mk

State Sanitary and Health Inspectorate
https://dszi.gov.mk

Institute of Public Health
https://www.iph.mk/en/

Doctor's Chamber
https://www.lkm.org.mk/en/index

Pharmacists' Chamber
https://www.fk.mk

Macedonian Medical Association
https://mld.mk

WHO Country Office, North Macedonia
https://www.who.int/north-macedonia

European Observatory on Health Systems and Policies, North Macedonia
https://eurohealthobservatory.who.int/countries/north-macedonia/

Institute of Health Metrics and Evaluation: North Macedonia
https://www.healthdata.org/research-analysis/health-by-location/profiles/macedonia

UNICEF, North Macedonia
https://www.unicef.org/northmacedonia/

UNDP, North Macedonia
https://www.undp.org/north-macedonia

WHO data: North Macedonia
https://data.who.int/countries/807

9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with the Observatory's research directors and staff. They are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile reviews. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The latest version of the template (2019) is available on the Observatory website https://eurohealthobservatory.who.int/publications/i/health-systems-in-transition-template-for-authors.

Authors draw on multiple data sources for the compilation of HiTs, ranging from national statistics, national and regional policy documents to published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. The OECD Health Data contain over 1200 indicators for the 34 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health in All policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard Health for All data have been officially approved by national governments.

HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT consists of nine chapters.

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.

2. Organization and governance: provides an overview of how the health system in the country is organized, governed, planned and regulated, as well as the historical background of the system; outlines the main actors and their decision-making powers; and describes the level of patient empowerment in the areas of information, choice, rights and cross-border health care.
3. Financing: provides information on the level of expenditure and the distribution of health spending across different service areas, sources of revenue, how resources are pooled and allocated, who is covered, what benefits are covered, the extent of user charges and other OOP payments, voluntary health insurance and how providers and health workers are paid.
4. Physical and human resources: deals with the planning and distribution of capital stock and investments, infrastructure and medical equipment; the context in which IT systems operate; and human resource input into the health system, including information on workforce trends, professional mobility, training and career paths.
5. Provision of services: concentrates on the organization and delivery of services and patient flows, addressing public health, primary care, secondary and tertiary care, day care, emergency care, pharmaceutical care, rehabilitation, long-term care, services for informal carers, palliative care, mental health care and dental care.
6. Principal health reforms: reviews reforms, policies and organizational changes; and provides an overview of future developments.
7. Assessment of the health system: provides an assessment of systems for monitoring health system performance, the impact of the health system on population health, access to health services, financial protection, health system efficiency, health care quality and safety, and transparency and accountability.
8. Conclusions: identifies key findings, highlights the lessons learned from health system changes; and summarizes remaining challenges and future prospects.
9. Appendices: includes references and useful websites.

The quality of HiTs is of real importance since they inform policy-making and meta-analysis. HiTs are the subject of wide consultation throughout the

writing and editing process, which involves multiple iterations. They are then subject to the following.

- A rigorous review process.
- There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.
- HiTs are disseminated (hard copies, electronic publication, translations and launches).

The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

One of the authors is also a member of the Observatory staff team and they are responsible for supporting the other authors throughout the writing and production process. They consult closely with each other to ensure that all stages of the process are as effective as possible and that HiTs meet the series standard and can support both national decision-making and comparisons across countries.

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The Health Systems in Transition (HiT) country reports provide an analytical description of each health system and of reform initiatives in progress or under development. They aim to provide relevant comparative information to support policy-makers and analysts in the development of health systems and reforms in the countries of the WHO European Region and beyond.

The HiTs are building blocks that can be used:

- to learn in detail about different approaches to the financing, organization and delivery of health services;
- to describe accurately the process, content and implementation of health reform programmes;
- to highlight common challenges and areas that require more in-depth analysis; and
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policymakers and analysts in countries of the WHO European Region.

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HiTs are in-depth profiles of health systems and policies, produced using a standardized approach that allows comparison across countries. They provide facts, figures and analysis and highlight reform initiatives in progress.

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