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Slovakia

Health system review

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European Observatory on Health Systems and Policies
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Slovakia:

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Contents

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, 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. 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;
- to describe the institutional framework, the process, content and implementation of health reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- to 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
- to 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

the World Health Organization (WHO) Regional Office for Europe's European Health for All database, data from national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, data from 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 situation. 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 info@obs.euro.who.int.

HiTs and HiT summaries are available on the Observatory's web site http://www.healthobservatory.eu.

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The European Observatory on Health Systems and Policies is a partnership, hosted by the WHO Regional Office for Europe, which includes the Governments of Austria, Belgium, Finland, Ireland, Norway, Slovenia, Sweden, Switzerland, the United Kingdom and the Veneto Region of Italy; the European Commission; the World Bank; UNCAM (French National Union of Health Insurance Funds); the London School of Economics and Political Science (LSE); and the London School of Hygiene & Tropical Medicine (LSHTM). The European Observatory has a secretariat in Brussels and it has hubs in London (at LSE and LSHTM) and at the Berlin University of Technology.

The Observatory team working on HiTs is led by Josep Figueras, Director, Elias Mossialos, Martin McKee, Reinhard Busse, Ellen Nolte, Ewout van Ginneken and Suszy Lessof. The Country Monitoring Programme of the Observatory and the HiT series are coordinated by Gabriele Pastorino. The production and copy-editing process of this HiT was coordinated by Jonathan North, with the support of Caroline White, Sarah Cook (copy-editing), and Pat Hinsley (typesetting).

List of abbreviations

ADL	The Association of Suppliers of Drugs and Medical Devices
AIFP	the research-oriented Association of Innovative Pharmaceutical Industry
ALOS	Average length of stay (in hospitals)
BMI	Body Mass Index (weight divided by the square of the body height)
CAM	Complementary and alternative medicine
CARK	Central Asian Republics and Kazakhstan
CEE	Central and Eastern Europe
CINDI	Countrywide Integrated Noncommunicable Diseases Intervention study
COPD	chronic obstructive pulmonary disease
CT	Computed tomography
CVD	Cardiovascular diseases
DALE	Disability adjusted life expectancy
DALYs	Disability adjusted life years
DMFT	Decayed, missing or filled teeth
DRG	Diagnosis related group
EC	European Commission
EFTA	European Free Trade Association
EHES	European health examination survey
EHIC	European Health Insurance Card
EMA	European Medicines Agency
EPIS	epidemiological information system of communicable diseases
EU	European Union
EU-13	EU Member States joining the EU in 2004, 2007 and 2013
EU-15	EU Member States before 2004
EU-28	The 28 EU Member States as of 2015
EU-SILC	European Union Statistics on Income and Living Conditions
FTE	Full-time equivalent
GDP	Gross Domestic Product
GENAS	Association of Generic Producers
GHIC	General Health Insurance Company

GP	General practitioner
HCSA	Health Care Surveillance Authority
HIC	health insurance companies
HLY	Healthy life years
HTA	Health Technology Assessments
ICD-10	International Classification of Diseases 10th revision
ICT	Information and communication technology
LSPP	*Lekárska služba prvej pomoci* (points of emergency service provision)
LTC	Long-term care
MoH	Ministry of Health
MRI	Magnetic resonance imaging
NCDs	Non-communicable diseases
NCHI	National Centre for Health Information
NGO	Non-governmental Organizations
NHA	WHO National Health Accounts
NTO	National Transplant Organization
NTS	National Transfusion Service
OC-EMS	Operational Centres of Emergency Medical Services
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket (payments)
PCG	pharmaceutical cost groups
PH	Public Health
PHA	Public Health Authority
PHC	Primary Health Care
PHI	Public Health Institute
PP	Physical persons
PPO	Preferred Provider Organizations
PPP	Purchasing Power Parities
PROMs	patient-reported outcome measures
SDR	Standardized Death Rate
SEDMA	Slovak Association of producers and distributors of diagnostic medical devices “in vitro”
SGR	self-governing regions
SHI	Statutory health insurance
SIDC	State Institute for Drug Control
SK	Slovak crown (currency of Slovakia between 1993 and 2008)
SK-MED	Slovak Association of Medical Device Suppliers
SL	List of pharmaceutical specialties (prefabricated drugs)
SMER	*Smer–sociálna demokracia*, Social-democratic party in Slovakia
SNS	*Slovenská národná strana*, nationalist party in Slovakia
STI	Sexually transmitted infections
TB	Tuberculosis

THE	Total health expenditure
TPA	Therapeutic Products Act
UK	United Kingdom
US$ PPP	US$ Purchasing Power Parities
V4	Visegrád 4
VAT	Value Added Tax
VHI	Voluntary health insurance
VHIC	Voluntary health insurance companies
WHO	World Health Organization
YPLL	Years of potential life lost

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Abstract

This analysis of the Slovak health system reviews recent developments in organization and governance, health financing, health-care provision, health reforms and health system performance. The health care system in Slovakia is based on universal coverage, compulsory health insurance, a basic benefit package and a competitive insurance model with selective contracting of health care providers. Containment of health spending became a major policy goal after the 2008 financial crisis. Health spending stabilized after 2010 but remains well below European averages. Some health indicators, such as life expectancy, healthy life years and avoidable deaths are worrisome. Furthermore, weak hospital management, high numbers of unused acute beds, overprescribing pharmaceuticals, and poor gatekeeping of the system all lead to over-utilization of services and system inefficiency. This suggests substantial room for improvement in delivery of care, especially for primary and long-term care. Additionally, there is inequity in the distribution of health providers, resulting in lengthy travelling distances and waiting times for patients. Given the ageing workforce, this trend is likely to continue. Current strategic documents and reform efforts aim to address the lack of efficiency and accountability. There has been a strong will to tackle these challenges but this has often been hindered by a lack of political consensus over issues such as the role of the state, the appropriate role of market mechanisms and profits, as well as the extent of out-of-pocket payments. Successive governments have taken different positions on these issues since the establishment of the current health system in 2002, and major reforms remain to be implemented.

Executive summary

Introduction

Slovakia is a small country in the heart of Europe with a population of 5.4 million people, 46.2% of whom live in rural areas (nearly double the EU average of 24.2%). It shares common demographic developments with other central and eastern European countries, such as low birth and net immigration rates and an ageing society. Indeed, Slovakia has a very low fertility rate of 1.39 births per woman, which is far below the replacement level and the EU-28 average of 1.58 in 2014. The Slovak economy has consistently grown faster than the rest of the Eurozone, including a quick rebound after the 2008 financial crisis. Slovakia is a parliamentary democracy with three administrative levels: the state, the self-governing regions and the municipalities. A unicameral Parliament is responsible for final decision-making to approve new legislation and was elected in 2016 for a four-year period.

Despite some improvements, Slovakia lags behind its neighbouring countries as well as the EU average in some indicators. In 2014 life expectancy for Slovak men reached 73.3 years and 80.5 years for Slovak women (which is substantially lower than the EU average of 78.1 years for men and 83.6 years for women). Diseases of the circulatory system are the most frequent cause of deaths in Slovakia, accounting for half of all deaths in 2014. Additionally, there is a rise in incidence of cancer, diabetes mellitus and mental disorders. Compulsory vaccination schemes have succeeded in containing vaccine-preventable diseases, though vaccination rates have fallen in recent years linked to increasing refusals of vaccination. Risk factors for non-communicable diseases such as alcohol, tobacco consumption and overweight are comparable or below the EU average. Data suggest regional variation in risk factors and mortality within the country.

Organization and governance

The health care system in Slovakia is based on universal coverage, compulsory health insurance, a basic benefit package and a competitive insurance model with selective contracting of health care providers by health insurers, and flexible pricing of health services. After fulfilling certain explicit criteria, there are no barriers to entry to health care provision and health insurance markets. Health care is provided to insured free at the point of delivery (apart from some co-payments, described below) through benefits-in-kind and paid by health insurers.

The Ministry of Health defines the minimum benefit package, the provider network, minimum quality criteria for providers and maximum waiting lists for patients. Furthermore, the MoH owns and operates the largest health care providers, including four university hospitals, eight faculty hospitals, highly specialized institutions and almost all psychiatric hospitals and sanatoria, and the Ministry is the only shareholder in the largest health insurance company, the General Health Insurance Company (GHIC).

Three health insurance companies compete for clients based on the quality and variety of their contracted services. Health insurance companies are obliged to ensure accessible health care regulated by law, by contracting a sufficient network of providers as determined by the Ministry of Health. The Health Care Surveillance Authority (HCSA) is responsible for surveillance over the health insurance, health care provision and health care purchasing markets. Since 2005 all health insurance companies are joint stock companies, that is, they were transformed from (public) health insurance funds to health insurance companies. In 2016 there is one state-owned health insurer (with roughly 65% of the market share) and two privately owned health insurers.

Health care planning is now based on a strategic planning framework, first adopted by the Slovak government in July 2014. This framework aims to ensure integrated outpatient care (and contain overutilization), and restructure inpatient health care.

A lack of information sharing across the health system was intended to be tackled by legislation in 2013 establishing a national eHealth information system. However, the implementation of the system is still not in place; in practice, health insurers are developing their own information systems instead.

Financing

In 2014 total health expenditure in Slovakia was 8.1% of GDP, which was higher than the neighbouring Czech Republic, but still significantly lower than the EU average of 9.5%. Public resources accounted for 72.5% of total health expenditure in the Slovak health system in 2014; slightly lower than the EU average of 76.2% (and lower than the 84.5% of the Czech Republic). The main source of revenue is contributions from employees and employers, self-employed, voluntarily unemployed, publicly financed contributions on behalf of economically inactive persons (e.g. students and retired) and dividends. Compulsory health insurance contributions are collected by the health insurance companies, and are re-distributed according to a risk-adjustment scheme. This scheme adjusts for age, gender, economic activity and (since 2012) pharmaceutical cost groups, which classify insured people into one of 24 groups on the basis of their annual use of medicinal products. Regions are responsible for covering the investment costs of hospitals. However, hospitals have built up substantial debts (not included in the figures above, and equivalent to around 10% of total health expenditure), despite being last settled in 2011. A lack of investments in hospital infrastructure is only partly addressed by external financing from EU structural funds.

Private expenditure is primarily composed of out-of-pocket payments, mainly consisting of co-payments for prescribed pharmaceuticals and medical durables; user fees for various health services, stomatology care and spa treatment; and direct payments for over-the-counter pharmaceuticals.

The Ministry of Health defines a minimum number of clinical staff in ambulatory care and a minimum number of beds per specialty in acute care that each health insurance company has to cover in each region. Health providers are paid by health insurance companies according to individual contracts, which determine the quota, volume and price of services. For inpatient services, the introduction of a diagnosis-related group system is expected to bring significant changes, although its implementation is delayed. Outpatient primary health care is paid by a combination of capitation and fees for certain medical services not covered by the capitation but included in the statutory benefit package, such as preventive services. Specialists in outpatient care are paid on a capped fee-for-service basis.

Following massive strikes in 2011, the wages of doctors increased in several stages. The wages are defined as multipliers of the national wage average and range from factor 1.3 up to 2.3 according to the reached level of specialization.

Physical and human resources

The number of acute care beds in Slovakia's health sector has decreased by roughly 30% since the 1990s, reaching an average of 4.2 beds per 1000 inhabitants in 2014 (though still higher than the EU average of 3.6). Despite the decrease in acute care beds, occupancy rates have also fallen, due to reductions in average length of stay and a shift to day surgeries. This suggests a persistent surplus of beds and facilities; the strategic planning framework envisages removing around half of existing acute care beds by 2030. Outdated hospital infrastructure remains a challenge; improving current infrastructure to align with EU standards is estimated with costs between 3.9 and 8.3 billion EUR.

Slovakia has a relatively low number of physicians, with 3 physicians per 100 000 people in comparison to 3.5 for the EU (and 3.7 for the Czech Republic), though the number is slowly rising. There remains a substantial number of vacant physician job openings in the system, although estimates vary. Ageing poses a further challenge; roughly 45% of doctors are 50 years of age or older. The effects of this imminent staffing shortage remain to be seen, but it is likely to exacerbate existing disparities; the capital Bratislava already has twice as many physicians per head than most other regions in Slovakia. Whether the recently increased salaries for medical doctors will slow down this staffing shortage is uncertain.

Numbers of nurses are not only low but also decreasing; 6.1 nurses per 100 000 in 2015, compared to the EU average of 8.5 (and 8.4 for the Czech Republic). The current trend for providers to substitute nurses with auxiliary staff is expected to continue. Ageing is again a challenge, with only 16.2% of all nurses aged 35 years or younger in 2013. The proportion of nurses older than 50 years of age increased from 5.1% in 2003 to 33.6% in 2014.

There is an increasing outflow of (young) health personnel out of the Slovak health system due to migration, although exact data are lacking. The increase in recent enrolments in Slovak medical faculties is only partially able to compensate for the lack of medical personnel, due to the high share of foreign students that are likely not to work in the Slovak health system after graduation.

Provision of services

Historically, the Slovak Public Health Authority has been responsible for hygiene and sanitation, surveillance of communicable diseases, and environmental and occupational health. From 2007, with the rising prevalence of non-communicable diseases, the Slovak Public Health Authority also took on responsibility for health prevention and promotion.

Primary care services are provided by general practitioners (GPs) predominantly working in private practices. Patients register with a GP of their choice. Health insurance companies are required by law to contract with each GP and paediatrician licensed by their region. Since 2013 patients need a referral from a GP to see a specialist.

Slovakia has a high number of outpatient contacts despite decreases over the years (11.0 contacts per capita in 2013 vs. 13.6 in 2008, and an EU average of 7.6). Ambulatory care is frequently provided in hospitals with attached polyclinics. Legislation defines a minimum number of doctors in each speciality, but ultimately health insurance companies determine the quantity of specialized health services by individually contracting with them. The many sub-specializations in secondary care have led to a fragmented system with prolonged length of care for patients with multiple morbidities.

Inpatient care is provided in general and in specialized hospitals, which are owned and managed by a range of actors, including ministries, regions, municipalities, private entities and non-governmental organizations. Providers included in the minimum network of providers defined by the Ministry of Health are automatically contracted by the health insurance companies. All other inpatient providers need to fulfil criteria set individually by all health insurance companies and agree on a contract.

Despite a series of reform efforts, drug expenditure containment remains unrealized and pharmaceutical expenditure accounts for a high share of total health expenditure (27% in 2011, in comparison to an EU average of 17%). The demand for long-term and palliative care has substantially grown, but the system still relies on informal care to provide it, and there is fragmentation of long-term care between the social and health care systems. The number of psychiatric beds is rising but remains insufficient to cope with the increase in incidence of mental health disorders. Only some dental care procedures are fully covered by health insurance, and most dental procedures have to be partially or fully paid for by the patient. Some special programmes exist for the 10% Roma minority, who experience poorer health and living conditions.

Principal health reforms

From 2002 to 2006 a comprehensive reform restructured the health system around the principle of managed competition. Health insurance funds were transformed into joint stock companies, and were set to operate under strict budgetary constraints while working in a liberalized market with selective contracting and flexible payment mechanisms. However, the basic benefit package remained tightly regulated. Health insurance funds were put under surveillance by an independent HCSA. On the provider side, hospitals should have transformed into joint stock companies operating under the same principles as health insurance funds. User fees were introduced with the aim of making consumers aware of their health service consumption.

However, though this basic structure has remained in place, tensions persist over the role of the state, the desirability of privatizing health care providers, the extent of out-of-pocket payments for receiving health care services, and the ability of health care insurers to make profits, and successive governments have taken different positions on these issues since 2002.

With the 2008 financial crisis, cost containment became the main focus of the Slovak health reforms. First, reference pricing and generic prescribing have helped to manage high pharmaceutical spending. Second, the risk-adjustment system used to allocate funding between health insurance companies was improved by the introduction of pharmaceutical cost groups to the redistribution formula in 2012. Third, a DRG-based system is planned to finance inpatient care by 2016. However, the recently agreed increases in wages for health care professionals will increase health expenditures.

On-going reform efforts aim to overhaul long-known inefficiencies of primary care. These include unequal access, late treatment of non-communicable diseases, poor coordination, and overburdened GPs offloading patients to specialists. Projects such as incentivizing young medical doctors to work in rural areas are promising. However, most work in primary care reforms (i.e. broadening GP responsibilities, transforming medical education, establishing Integrated Care Centres) have yet to be fully implemented.

Assessment of the health system

The Slovakian health care system is characterized by a relatively low level of health care expenditure as a share of GDP; whilst out-of-pocket payments are relatively large, they are distributed evenly over income quintiles, and there are some favourable epidemiological indicators for health outcomes. However, Slovakia has a high incidence of avoidable deaths in EU terms, driven in particular by inequity in the distribution of health providers resulting in lengthy travelling distances, underfinanced primary and inpatient care, and limited competencies of GPs. Specifically, cardiovascular diseases comprise a large share of avoidable deaths for Slovaks, followed by cancer. Additionally, Slovak levels of life expectancy and HLY levels are worrisome. The few available data on quality of care show good outcomes in inpatient care and room for improvement in primary care.

Allocative efficiency remains a challenge, but the implementation of price controls for pharmaceuticals achieved several cost savings. Weak hospital management, high numbers of unused acute beds, overprescribing pharmaceuticals and poor gatekeeping of the system all lead to over-utilization of services and system inefficiency. Additionally, the parallel systems of health insurance companies and the lack of data sharing capacity promote duplication in testing, which has led to the second highest spending on ancillary services in the EU.

Health system accountability is regarded as low, since there are very few outcomes that are measured. According to a 2015 FOCUS research group study, corruption is regarded as the third most important issue in Slovakia, with health care the sector where corruption was seen as most prevalent. Centrally organized public procurement, i.e. for emergency services, is seen as highly inefficient and not based on actual health needs.

Conclusion

With the key health status indicators lacking behind neighbouring countries and overall EU averages, the main goal of the government should be to improve efficiency and accountability of the system. There are two major challenges. Firstly, to harmonize the different legislation and processes left by a variety of unfinished reform periods. Secondly, to start proper monitoring of population health and develop health policies based on actual population needs. This would

also require establishing information systems that collect meaningful data and holding health actors accountable. Success of these two steps depends on the stability of the political situation and the ability to unite the strong interests of the variety of stakeholders involved.

1. Introduction

Slovakia is a small country in the heart of Europe with a population of 5.4 million people, 46.2% of whom live in rural areas. It shares common demographic developments with other CEE countries, such as low birth and net immigration rates and an ageing society. Indeed, Slovakia has a very low fertility rate of 1.39 births per woman, which is far below the replacement level and the EU-28 average of 1.58 in 2014. The Slovak economy has recorded above average rates of growth and a quick rebound after the financial crisis starting from 2008. Slovakia is a parliamentary democracy with three administrative levels: the state, the self-governing regions and the municipalities. A unicameral Parliament is responsible for final decision-making to approve new legislation and was elected in 2016 for a four-year period.

Although indicators of population health status of the population are improving, Slovakia is lagging behind neighbouring countries and the EU-28 average. In 2014 life expectancy reached 73.3 years for Slovak men and 80.5 years for Slovak women (lower than the EU-28 averages of 78.1 years for men and 83.6 years for women). Diseases of the circulatory system are the most frequent cause of death in Slovakia, accounting for half of all deaths in Slovakia in 2014. Additionally, there is a rise of incidence of cancer, diabetes mellitus and mental disorders in Slovakia. Compulsory vaccination schemes succeeded in containing or eradicating communicable diseases. Risk factors for non-communicable diseases, such as alcohol and tobacco consumption and overweight, are comparable or below the EU-28 average. Data hint also to regional variation of risk factors and mortality within the country.

1.1 Geography and sociodemography

Slovakia is a landlocked state in Central Eastern Europe, which was peacefully dissolved from Czechoslovakia on 1 January 1993. It has a total area of 49,035 km^2 and shares borders with Hungary (654.9 km), Poland (541.1 km), the Czech Republic (251.8 km), Austria (107.1 km) and Ukraine (97.9 km), as shown in Fig. 1.1.

Fig. 1.1
Map of Slovakia

Source: United Nations Cartographic Section, 2004.

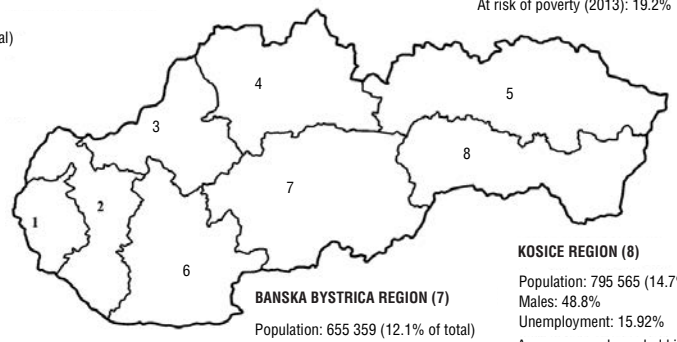
According to the Statistical Office of the Slovak Republic (2015), Slovakia had 5.42 million inhabitants in 2014, 51.3% of whom were women, and a close to EU-28 average population density, averaging 110 inhabitants per km^2 (compared to 116 inhabitants per km^2 in the EU-28). The terrain is primarily mountainous, with the Carpathian Mountains extending across most of the northern half of the country. This contrasts with the fertile lowland areas in

the southwest (Danube plain) and southeast (Eastern Slovak plain) parts of the country. The climate of Slovakia lies on the boundary between continental and temperate, with warm, dry summers and cold, wet winters.

The territory of Slovakia is administratively divided into eight self-governing regions and 79 districts. Although the eight regions are similar in terms of total numbers of inhabitants, age structure and gender distribution, they differ in terms of unemployment rates, poverty risk, gross household income and ethnical structure, as shown in Fig. 1.2. According to Soltes et al. (2014b), regions also differ in health status and health outcomes of the population. These regional inequalities are discussed in detail in Section 7.3.

Fig. 1.2

Key sociodemographic indicators of Slovak regions as of 31 December 2014



TRENCIN REGION (3)

Population: 591 233 (10.9% of total)
Males: 49.1%
Unemployment: 9.56%
Average gross household income (2013): 723.5 EUR
At risk of poverty (2013): 8.2%

ZILINA REGION (4)

Population: 690 449 (12.7% of total)
Males: 49.1%
Unemployment: 10.91%
Average gross household income (2013): 711.02 EUR
At risk of poverty (2013): 11.1%

PRESOV REGION (5)

Population: 819 977 (15.2% of total)
Males: 49.4%
Unemployment: 17.45%
Average gross household income (2013): 592.6 EUR
At risk of poverty (2013): 19.2%

TRNAVA REGION (2)

Population: 558 677 (10.3% of total)
Males: 48.9%
Unemployment: 8.03%
Average gross household income (2013): 666.6 EUR
At risk of poverty (2013): 9.2%

BRATISLAVA REGION (1)

Population: 625 167 (11.5% of total)
Males: 47.4%
Unemployment: 6.13%
Average gross household income (2013): 785.6 EUR
At risk of poverty (2013): 8.0%

KOSICE REGION (8)

Population: 795 565 (14.7% of total)
Males: 48.8%
Unemployment: 15.92%
Average gross household income (2013): 635.9 EUR
At risk of poverty (2013): 12.3%

BANSKA BYSTRICA REGION (7)

Population: 655 359 (12.1% of total)
Males: 48.5%
Unemployment: 17.22%
Average gross household income (2013): 644.6 EUR
At risk of poverty (2013): 15.6%

NITRA REGION (6)

Population: 684 922 (12.6% of total)
Males: 48.6%
Unemployment: 11.2%
Average gross household income (2013): 632.9 EUR
At risk of poverty (2013): 16.3%

Source: Infostat, 2015b.

The crude birth rate in Slovakia declined in total by 26% since 1993 to 10.18 births per 1000 inhabitants in 2014. This translates to a very low fertility rate of 1.39 births per woman, well below the replacement rate of 2.1 and below the EU-28 average (Kohler, Francesco & Ortega, 2004; Eurostat, 2016b). According to Katuša et al. (2014), the fertility rates stabilized in 2006 and

have increased again. There are two societal developments driving this change: (i) an increase in deferred births, as the share of women aged 35 years or older giving birth is rising; (ii) women deciding to have children earlier, which halted the growth in the average age of women in childbirth.

Despite the decline in fertility rates, Slovakia had a population increase of 1.6% (84 894 inhabitants) from 1993 to 2014 since crude death rates are still exceeded by birth rates. Net migration has had, compared to the EU-28 average, a minor effect on population growth (net growth 0.31 per 1000 population in 2014 compared to 3.2 per 1000 for the EU-28 average in 2013). Compared to the Visegrád 4 (V4) countries, net migration is somewhat below Hungary (0.8 per 1000 in 2013) and the Czech Republic (0.98 per 1000 in 2012) but above the negative migration growth of –0.52 observed in Poland (OECD, 2015). The key reason for immigration into Slovakia was "family reasons" and the top three countries of origin were the Czech Republic (22.1%), the UK (11.9%) and Hungary (7.5%) (Statistical Office of the Slovak Republic, 2015). In 2014 migration comprised only 3.1% of the total crude increase in Slovak population (see Table 1.1).

Table 1.1

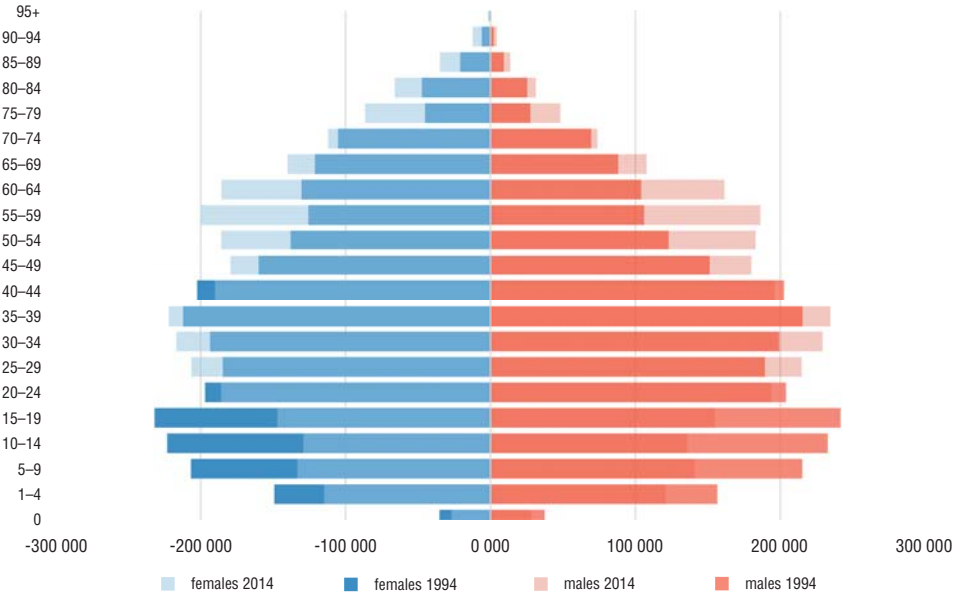
Key demographic indicators of Slovakia, 1993–2014

Indicators	1993	1995	2000	2005	2010	2014
Total population (million)	5 336 455	5 367 790	5 378 783	5 389 180	5 392 446	5 421 349
Population, female (% of total)	51.3	51.3	51.4	51.5	51.4	51.3
Population aged <15 (% of total)	23.5	22.3	19.4	16.6	15.4	15.3
Population aged > 65 (% of total)	10.5	10.9	11.3	11.7	13.1	13.9
Population aged > 80 (% of total)	2.1	2.1	1.8	2.4	3.0	3.1
Fertility rate (births per woman)	1.93	1.52	1.29	1.25	1.40	1.39*
Population growth (rate per 1 000)	4.19	2.16	0.72	0.81	1.91	0.99
Crude birth rate per 1 000 people	13.76	11.45	10.21	10.10	11.16	10.18
Crude death rate per 1 000 people	9.9	9.82	9.76	9.93	9.84	9.5
Net migration rate (per 1 000)	0.33	0.53	0.27	0.63	0.62	0.31
Old-age dependency ratio[b]	16.1	16.3	16.6	16.4	17.3	19.0
Distribution of population (rural population as a share of total population)	43.3	43.5	43.8	44.4	45.3	46.2
Proportion of single-person households	–	–	–	23.6	23.1	25.7
School enrolment at tertiary level as % of total who finished secondary[c]	15.9%	18.6%	28.4%	40.4%	55.9%	–

Sources: Infostat, 2015b unless stated otherwise; [b]Eurostat, 2016b; [c]World Bank, 2015.
Note: *2014 values are an estimate. Furthermore, there was a change in methodology used to report births per woman in 2012. According to the old methodology, 2014 would record up to + 0.12 births per woman.

Changes in the Slovak age dependency ratio are hinting towards a worrying trend among productive age cohorts, even if, on an aggregated level, ageing is not yet posing a major economic problem. Currently (in 2014) there are 19 persons older than 65 to 100 persons of working age (between 15 and 64 years old). However, Slovakia has some irregularities in ageing, with a significant decrease in the proportion of the population in pre-productive age by 34% from 1994 to 2014, as illustrated in Fig. 1.3.

Fig. 1.3
Population pyramid of Slovakia, 1994–2014



Source: Infostat, 2015b.

In fact, by 2050 the age structure will have changed significantly, according to demographic prognosis by Vaňo et al. (2002). Whereas in 2002 there were two persons of age 17 for each person aged 65+, in 2050 this will be reversed. Furthermore, there will be significant regional disparities as regions in northern and eastern parts of Slovakia have higher marriage and fertility rates (Šprocha et al., 2013). These changes will cause a wave of socio-economic challenges across the country. One key challenge is how to sustain the social-insurance based healthcare system (Kovalčík & Tunega, 2015).

In 2014, 81% of the population declared their nationality as Slovak, 8.4% as Hungarian, and 2% as Roma; other nationalities accounted for 8.5%. According to the most recent Population and Household Census in 2011, 62% of the population were Roman Catholics, 5.9% were members of the Evangelical Church of the Augsburg Confession (i.e. Protestants), 3.8% Greek Orthodox, 4.8% belonged to other religions and 13.4% had no religious affiliation (Statistical Office of the Slovak Republic, 2015).

1.2 Economic context

Slovakia has experienced a transformation from a centrally planned economy into a market-based economy with a gradually changing role for the state. The main driver of this transformation has been, as in other Eastern European countries, the expanding private sector. However, the role of the state remains pivotal and has changed significantly since the early 1990s according to political priorities.

The Slovak economy had experienced an impressive period of economic growth before the financial crisis of 2007–2009 took effect. The global financial crisis had a strong impact on the GDP of Slovakia, with a decrease of 4.7% of GDP in 2009. The response to the crisis was rather slow, and a continued high level of public spending resulted in an excessive deficit in public finances of 7.7% GDP in 2010. On the other hand, the high public spending, along with a variety of "anti-cyclical crisis" measures, including amendments in taxation and job creation policies, facilitated a quick recovery. This helped the Slovak economy to recover, starting as early as 2010 with an increase of the GDP base by 4.4%. Even though the GDP growth rates stabilized around 1.5–2% between 2011 and 2014, it is one of the highest GDP growth rates in the Eurozone (see Table 1.2). Moreover, GDP growth is expected to continue in 2016 and 2017, driven primarily by domestic consumption (Pravda, 2015). Since 2011 there has been a persistent drive towards fiscal sustainability and the deficit of public finances was kept below the 3% Maastricht Treaty criterion. Economic performance in terms of GDP per capita (according to purchasing power parity (PPP)) in 2015 has reached approximately 68% of the average performance of OECD countries.

Since the transition years in the early 1990s, the structure of production changed markedly. The traditional branches of heavy industry collapsed. Foreign direct investments helped the expansion of the automotive industry, electronics industry and financial services sector. Three large automobile

Table 1.2
Macroeconomic indicators of Slovakia, selected years, 2005–2015

Indicator	2005	2008	2013	2014	2015
GDP (in billion EUR, current prices)[a]	38.5	64.7	73.84	75.56	78.1
GDP (in billion US$ PPP)[b]	88.8	128.3	148.4	153.5	160.1
GDP annual growth rate (%, constant prices)[a]	6.4	5.7	1.4	2.5	3.6
GDP per capita (in thousand US$ PPP)[b]	16.5	23.7	26.6	28.3	29.5
GDP per capita (in thousand EUR, current prices)[c]	7.3	12.2	13.6	13.9	14.4
Value added in agriculture (% of GDP, current prices)[d]	3.2	2.8	4.0	4.4	n/a
Value added in industry and construction (% of GDP, current prices)[d]	32.4	37.9	32.9	33.6	n/a
Value added in services (% of GDP, current prices)[d]	53.2	57.9	63.1	61.9	n/a
Unemployment, total (% of labour force)[a]	16.2	9.6	14.2	13.2	11.5
Growth of average nominal wage (%)[a]	9.2	8.1	2.4	4.1	2.9
Year-on-year change in the real wage (%)[a]	6.3	3.3	0.9	4.4	n/a
Labour force (thousand persons)[a]	2 644	2 691	2 329	2 363	2 424
Income or wealth inequality (Gini coefficient)[c]	26.0	24.0	24.2	26.1	n/a
At-risk-of-poverty rate (% of population below 60% of median income)[c]	13.0	11.0	12.8	12.5	n/a

Sources: Statistical Office of the Slovak Republic, 2015; [b]OECD, 2015a; [c]Eurostat, 2016a; [d]World Bank, 2016.

companies and their supplier-network formed the basis of the economy. The dependence on the car industry and the lack of diversification turned out to be a burden for the economy when the global economic crisis led to a recession in 2008. The competitiveness of the economy is still, to a large extent, determined by low labour costs (Szalay et al., 2011).

The economic success has resulted in a growth in purchasing power, and a comparatively low at-risk-of-poverty rate of 12.5% in 2014. Unemployment rates increased during the financial crisis and have been recovering slowly from 2014 onwards, but are still higher than in neighbouring countries (5.1 in the Czech Republic, 6.8 in Hungary, 7.5 in Poland) and the EU-28 average of 9.4.

1.3 Political context

Slovakia is a parliamentary democracy divided into three administrative levels: the state, the self-governing regions and the municipalities. The President is the highest formal authority by constitution, although in practice he has limited legislative powers and a more representative role. The cabinet and the prime minister hold the main executive powers in Slovakia, while legislative power rests with the unicameral parliament (or National Council, in Slovak: *Národná*

rada) consisting of 150 members who are elected by proportional representation for a four-year period. A party, or a collation of parties, can create a government if they receive the majority of 76 or more seats in the Parliament.

The current ruling coalition was formed after the elections in March 2016 and comprises four parties: the social democrats of SMER (holding the single party majority during the administration from 2012–2016), the social national democrats of the Slovak national party (SNS) and the centre right parties *Most-híd* and *Sieť*. SMER has 49 (83 seats from 2012–2014), SNS 15, *Most-Híd* 11 and *Sieť* 10 seats in the parliament. The remaining seats were allocated among the established liberal parties of *Sloboda a Solidarita* (21), a centre-right party *Obyčajní ľudia a nezávislé osobnosti* (19) and a newly elected party *Sme Rodina* (11) and a national party *ĽS Naše Slovensko.*

Compared to the previous election in 2012, SMER lost 34 seats in the parliament; despite its previously stable share of 34–38% in polls since 2006. A variety of corruption allegations and the rise of anti-migrant national parties are deemed to have contributed to the decline in SMER's election results.

During the reform period of 2002–2006 some competences of the central government were shifted to regional and local government level. The eight self-governing regions enjoy a high degree of autonomy and are responsible for regional social, economic and cultural development, although competences in legislation and taxes remain more or less centralized. Each region has its own administrative organs and functions, and its representatives are elected in separate elections. The elections took place in 2013 and to a large extent the results mimicked national level preferences for individual parties. The regions are also entrusted by the constitution with organizing and financing social care services, regulating certain aspects of providing care (such as the establishment of ethics healthcare committees, issuing authorizations for the establishment of practices, etc.) and providing care in delimitated polyclinics and hospitals.

Furthermore, self-governing regions can delegate competences to the 2933 municipalities, such as surveillance of local road networks, environmental issues, water management, landscape planning, local development, housing, schools, social institutions, emergency rooms, some hospitals and local taxes. Local government elections took place in November 2014 and surprisingly SMER nominees ended up as the second largest elected group, after independent candidates.

The state is officially represented by the president, who has restricted legislative power. A president is elected in direct two-round elections by the people. Presidential elections took place in 2014, and were won by the independent candidate Andrej Kiska. The next regular elections are scheduled in 2018.

Important interest groups in Slovakia include the Federation of Employers' Associations of Slovakia, the National Union of Employers, the Association of Towns and Municipalities of Slovakia, and the Confederation of Trade Unions. Slovakia has been a member of the United Nations since 1993, a member of the OECD since 2000 and a member of NATO and the EU since 2004. Slovakia became part of the Schengen Area on 21 December 2007. Furthermore, on 1 January 2009 Slovakia joined the Euro. In addition, Slovakia is a member of various other global and regional organizations (including WTO, WHO, IMF, and the Council of Europe).

According to the 2015 Freedom House report, Slovakia is a free country (listed in the "free" category) (Freedom House, 2015). Corruption has been a long-term problem in Slovakia. According to Transparency International, Slovakia ranked 54th among 175 countries in the 2014 Corruption Perception Index (CPI), with a CPI of 54 (where 0 is highly corrupt and 100 very clean). However, this figure had improved from 46 in 2012 (Transparency International, 2015).

1.4 Health status

Life expectancy at birth for the Slovak population is increasing, although at a slow pace. In 2014 life expectancy at birth was 80.5 years for females and 73.3 years for males, i.e. an increase from 1995 of 5.5% and 7.2% respectively (see Table 1.3). This is still below the EU-28 average in the same year (78.1 for males and 83.6 for females) and neighbouring countries, most notably the Czech Republic, which recorded a 2.6 year higher life expectancy for men and 2.0 years for women (Eurostat, 2016b). In contrast, mortality rates of children under 5 years improved significantly, as the rate fell from 13.2 deaths per 1000 live births in 1995 to 6.9 in 2014.

Slovakia is lagging internationally in terms of healthy life years at birth (HLYs) in both sexes, as depicted in Table 1.4. In fact, the Slovak population recorded in 2014 the third worst HLYs for males and the worst HLYs for females among all EU-28 countries.[1] Yet, compared to 2010, Slovakia has achieved

[1] However, there was a data-collection issue that renders HLYs for Slovakia not directly comparable to the rest of the V4 and EU-28; see Section 7.4.1 for more information.

Table 1.3

Key mortality and health indicators in Slovakia, selected years

Indicator	1995	2000	2005	2010	2013	2014
Life expectancy at birth, female[b]	76.3	77.2	78.1	79.3	80.1	80.5
Life expectancy at birth, male[b]	68.4	69.1	70.2	71.8	72.9	73.3
Mortality rate, adult, female (per 1 000 females)[a]	8.9	8.9	9.1	9.2	9.1	8.9
Mortality rate, adult, male (per 1 000 male adults)[a]	10.8	10.7	10.8	10.5	10.2	10.0
Mortality rate, children under 5 (per 1 000 live births)[a]	13.2	10.2	8.5	6.7	6.6	6.9
	2009	**2010**	**2011**	**2012**	**2013**	**2014**
HLYs, female[b]	52.6	52.1	52.3	53.1	54.3	54.6
HLYs, male[b]	52.4	52.4	52.1	53.4	54.5	55.5

Sources: [a]Statistical Office of the Slovak Republic, 2015; [b]Eurostat, 2016b.

Table 1.4

Overview of key health-related indicators of selected countries

Indicator	Czech Republic	Hungary	Poland	Slovakia	EU-28
HLY, females (2014)[a]	65.0	60.8	62.7	54.6	61.8
HLY, males (2014)[a]	63.4	58.9	59.8	55.5	61.4
LE at birth, males (2014)[a]	75.2	72.2	73.7	73.3	78.1
LE at birth, females (2014)[a]	82.0	79.4	81.7	80.5	83.6
DALE (2007)[b]	70.0	66.0	67.0	67.0	71.6

Sources: [a]Eurostat, 2016b; [b]WHO HFA, 2015.

the greatest improvement in HLYs among V4 countries, improving by 5% for females and 5.9% for males, compared to 1.7% and 2.9% average improvement respectively for males and females in V4 countries. Additionally, inequalities in access to health services and health outcomes are a concern. The causes of the comparatively poor health of the Slovak population will be discussed in further detail in Sections 7.3 and 7.5.

Diseases of the circulatory system are the most frequent cause of deaths in Slovakia, causing half of all deaths in Slovakia in 2014. Although this is high, mortality related to diseases of the circulatory system has been reduced since 1995. Nevertheless, at 440.2 deaths per 100 000, it is double the EU-28 average of 218.36 and higher than the EU-13 average of 415.17 in 2010 (WHO HFA, 2015). Mortality due to malignant neoplasms is the second leading cause of deaths in Slovakia (see Table 1.5). Diseases of the respiratory system caused the third highest mortality in 2014.

Table 1.5

Main causes of deaths, Slovakia, by number of deaths, selected years

Cause of death (ICD-10 classification)	1996	2000	2005	2010*	2013	2014
Communicable diseases						
All infections and parasitic diseases (A00-B99)	**187**	**155**	**223**	**366**	**487**	**505**
Tuberculosis (A15-A19)	**77**	**54**	**47**	**34**	**16**	**24**
HIV/AIDS (B20-B24)	**2**	**1**	**0**	**2**	**1**	**1**
Non-communicable diseases						
Malignant neoplasms (C00-C97)	**11 049**	**11 871**	**11 794**	**12 072**	**13 183**	**13 278**
Stomach cancer (C17)	842	835	737	686	686	n/a
Colon cancer (C18)	727	859	937	964	1 151	1 101
Rectum cancer (C20)	459	534	530	496	583	585
Pancreas cancer (C25)	481	576	667	736	701	788
Cancer of larynx, trachea, bronchus and lung (C32-34)	2 327	2 451	2 287	2 269	2 382	2 296
Breast cancer (C50)	699	811	715	799	984	630
Cervical cancer (C53)	192	220	209	206	238	231
Prostate cancer (C61)	447	537	541	533	632	737
Endocrine, nutritional and metabolic diseases (E00-E89)	**647**	**794**	**759**	**714**	**766**	**721**
Diabetes (E10-E14)	590	758	722	651	632	589
Mental and behavioural disorders (F00-F99)	**21**	**12**	**10**		**11**	**128**
Diseases of the nervous system (G00-G98)	**213**	**468**	**651**	**694**	**723**	**786**
Alzheimer's disease (G30)	5	49	173	225	245	279
Epilepsy (G40)	72	103	125	91	81	92
Circulatory diseases (I00-I99)	**27 898**	**28 967**	**29 111**	**28 519**	**26 173**	**25 198**
Ischemic heart disease (I20-I25)	14 107	15 688	15 265	16 944	15 447	15 122
Cerebrovascular diseases (I60-I69)	4 949	4 677	4 321	5 856	4 888	5 062
Atherosclerosis (I70)	4 859	2 402	3 493	841	593	597
Diseases of the respiratory system (J00-J98)	**3 785**	**2 904**	**3 106**	**3 300**	**3 455**	**3 279**
Pneumonia caused by unspecified microorganisms (J18)	1 886	1 003	1 278	1 577	1 867	1 796
Diseases of the digestive system (K12-K98)	**2 155**	**2 622**	**2 782**	**2 844**	**2 588**	**2 636**
Diseases of the genitourinary system (N00-N80)	**753**	**668**	**687**	**754**	**679**	**739**
External causes						
Transport accidents (V01-V99)	**841**	**839**	**754**	**511**	**369**	**427**
Suicide (X60-X84)	**668**	**726**	**677**	**628**	**513**	**546**
Total number of deaths	**51 236**	**52 724**	**53 475**	**53 445**	**52 089**	**51 346**

Source: Infostat, 2015a.
Note: *Note that in 2011 the NCHI reclassified a proportion of causes of deaths, which led to a reduction primarily in diseases of the circulatory system at the expense of other groups (NCHI, 2012).

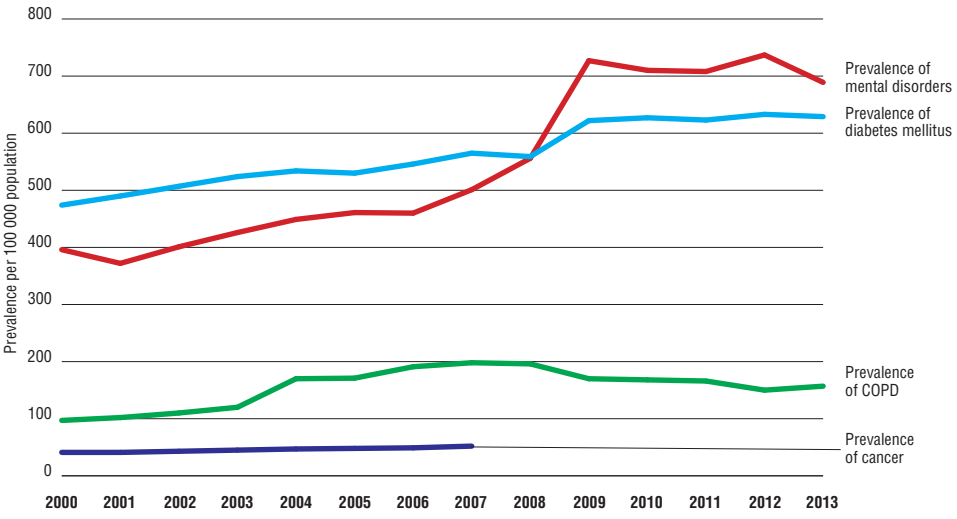
However, these absolute mortality figures have to be interpreted with caution. Standard practice in reporting causes of death has been skewed towards a disproportionately large number of deaths attributed to diseases of the circulatory system. This is due to problems with weak reporting methodology,

practice and recording tools. Although standard reporting methods were revised in 2011, they may continue to overestimate mortality due to diseases of the circulatory system in Slovakia (NCHI, 2012).

The prevalence of the main non-communicable diseases in Slovakia indicates a similar trend as the rest of the Western Europe (WHO HFA, 2015). The prevalence of diabetes mellitus and mental diseases recorded the steepest increase in Slovakia (see Fig. 1.4). In fact, the total number diagnosed with diabetes grew by 32.7% and with mental disorders by 73.9% over the period 2000–2013. The prevalence of COPD, after reaching a peak in 2007–2008, declined and has been stable since then. The prevalence of a variety of neoplasms was last measured in 2008. However, according to estimations by EUCAN (2013) and (NCHI, 2009), the prevalence of cancers must have significantly increased since 2008. In fact, the incidence of some of the diseases, such as colorectal cancer, is estimated to be the second highest in the world, according to the age-standardized rate per 100 000 population (World Cancer Research Fund International, 2013).

Fig. 1.4

Prevalence of selected NCDs in Slovakia, 2000–2013



Source: WHO HFA, 2015.

Child mortality indicators have been improving significantly, as illustrated by Table 1.6. Infant mortality in Slovakia reported in 2014 was roughly half that of 1995. Similarly, perinatal, neonatal and post-neonatal mortality rates were reduced, although at a slower pace than in neighbouring countries. The Czech

Republic and Poland reduced infant mortality by roughly 67%, followed by 52% in Hungary (WHO HFA, 2015). Despite these gains, Slovakia still lags behind the EU-15 average in all maternal and neonatal indicators.

Table 1.6

Selected indicators of maternal and neonatal health

Indicator	1995	2000	2005	2010	2013	2014
Adolescent pregnancy rate (15–19 years)[a]	12.3	9.48	7.56	6.72	6.13	n/a
Adolescent birth rate[a]	5.62	6.71	8.11	12.95	15.6	n/a
Infant mortality rate	11.0	8.6	7.2	5.7	5.5	5.8
Perinatal mortality rate	9.4	7.5	6.4	–	4.95	5.4
Neonatal mortality rate	7.9	5.4	4.1	3.6	2.1	3.3
Post-neonatal mortality rate	3.1	3.2	3.1	2.1	n/a	n/a
Stillbirth rate	3.9	3.9	3.6	3.1	3.0	3.1
Live births	61 427	55 151	54 430	60 410	54 823	55 033
Abortions	35 879	23 593	19 332	17 218	16 347	15 615
– induced	29 409	18 468	14 427	12 581	11 105	10 582
Maternal mortality rate[a]	8.14	1.81	3.67	0	1.82	n/a
Syphilis incidence rate	2.13	5.7	3.28	6.17	5.17	6.55
Gonococcal infection incidence rate	n/a	1.57	2.02	2.32	6.26	7.81
Induced abortions ratio (per 1 000 live births)	479	335	265	208	202	192

Sources: Infostat, 2015; [a]WHO HFA, 2015.

Induced abortions have declined substantially. There were 606 abortions per 1 000 live births in 1990, but only 192 in 2014 (Infostat, 2015b). Slovakia's liberal legislation allows an abortion up to the 12th week of pregnancy. Until 2008 legislation allowed a legal abortion up to the 24th week of pregnancy in case of a foetal genetic malformation. Furthermore, the number of children born to mothers aged below 18 years has been on a continuous decline. Calculated per 1 000 live births, the level decreased from 60 in 1995 to 25 in 2014, while this level peaked at 71 children per 1 000 live births in the early 1990s (not shown in Table 1.6). The reasons for this improvement are changing reproduction patterns, as well as campaigns targeted at the Roma population, which is overrepresented in the proportion of children born to mothers aged below 18 years.

The dental health of children has been comparable to the other V4 countries. Approximately 43.3% of 5-year-old children had no cavities, and the average number of decayed, missing or filled teeth (DMFT) for children up to 12 years was two in 2013, which improved from 2.8 in 2005 (Hungary 1.8 in 2013 and Austria 1.4 in 2012) (OECD, 2015b).

Slovakia has compulsory vaccination schemes, including vaccinations against diphtheria, tetanus, pertussis, poliomyelitis, pneumococcal pneumonia, H. influenza, type B viral hepatitis, rubella, measles and parotitis. The consistent implementation of the vaccination programme has resulted in low or zero incidences of vaccination-preventable diseases. Vaccination rates against some diseases, such as measles, hepatitis b, diphtheria, tetanus and pertussis, have declined recently, reaching 99% in 2009 but only 95.7% in 2015. See Section 5.1 for more detail (PHA, 2016).

Determinants of health are not systematically measured in Slovakia (see Table 1.7). Instead, all available data on key determinants, such as smoking, obesity or physical activity, come from regional surveys, such as CINDI (undertaken in two regions in the middle of Slovakia in 1993, 1998, 2003 and 2008), EHIS (2011 and 2014) and EHES (2012).

Table 1.7

Non-medical determinants of health, 1995–2014

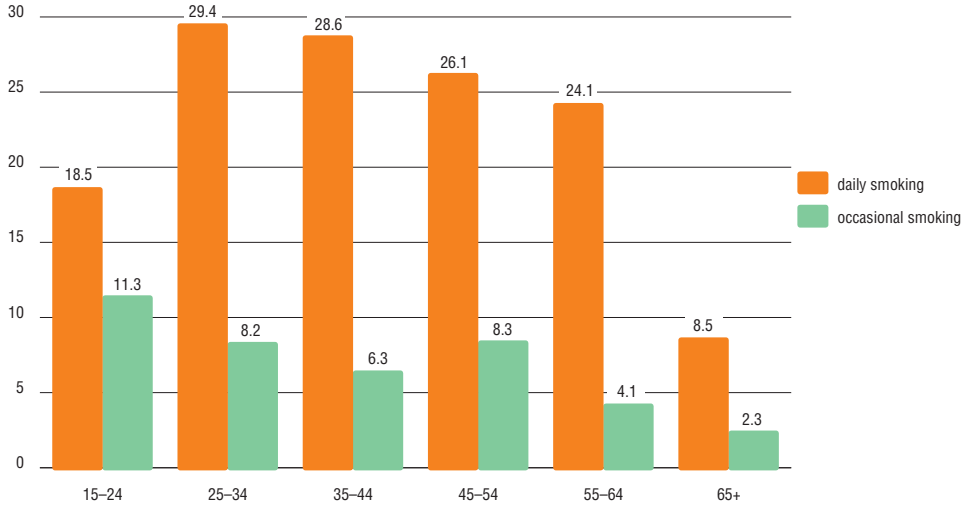
Indicator	1995	2000	2005	2010	2013	2014
Alcohol consumption (litres per capita)		11.0	11.0	10.1	9.9	
% of daily smokers among population aged 15+			22.1*	19.5*		
% obese or overweight population (self-reported)			47.6*	50.8*		
% obese or overweight population (measured)			51.6*	51.5*		

Source: OECD, 2015.
Note: *representative years were 2003 and 2009.

The few available data point towards a prevalence of risk-factors which is comparable or below those of neighbouring countries. Smoking rates have been decreasing. According to Velčická (2015), 22.9% of the population smoke on a daily basis and 6.7% are occasional smokers, as depicted in Fig. 1.5. If analysed from a longitudinal perspective, and based on a combination of CINDI and EHES studies, it can be observed that the age-standardized prevalence of smoking has been gradually decreasing (see Fig. 1.6). Furthermore, nearly 87% of the population reported in 2014 that they are not exposed to tobacco smoke at all during the day, compared to 3.7% of the population that are exposed to smoke for more than one hour per day (Velčická, 2015).

Fig. 1.5

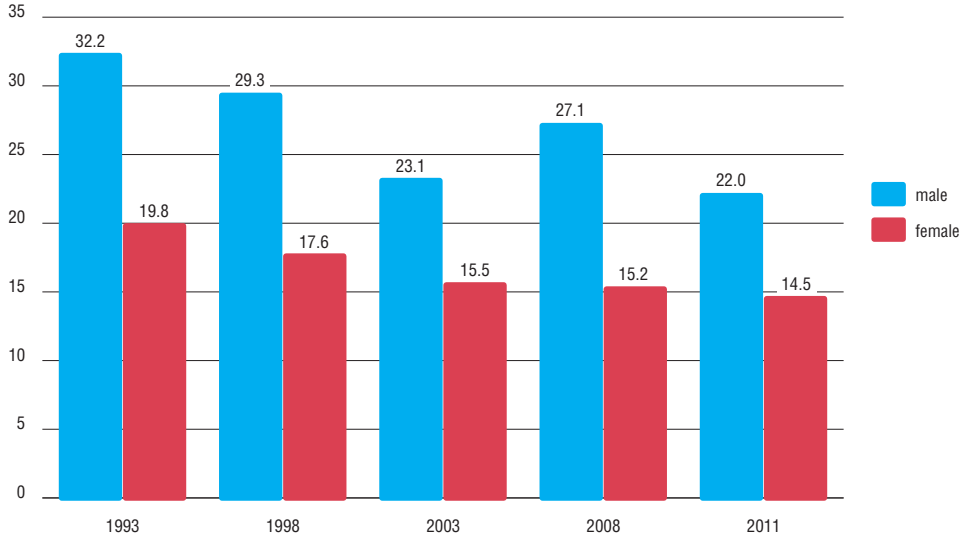
Prevalence (%) of smoking for both genders in Slovakia, 2014



Source: Velčická, 2015.

Fig. 1.6

Age-standardized prevalence of smoking among Slovaks aged 25–64 years, 1993–2011

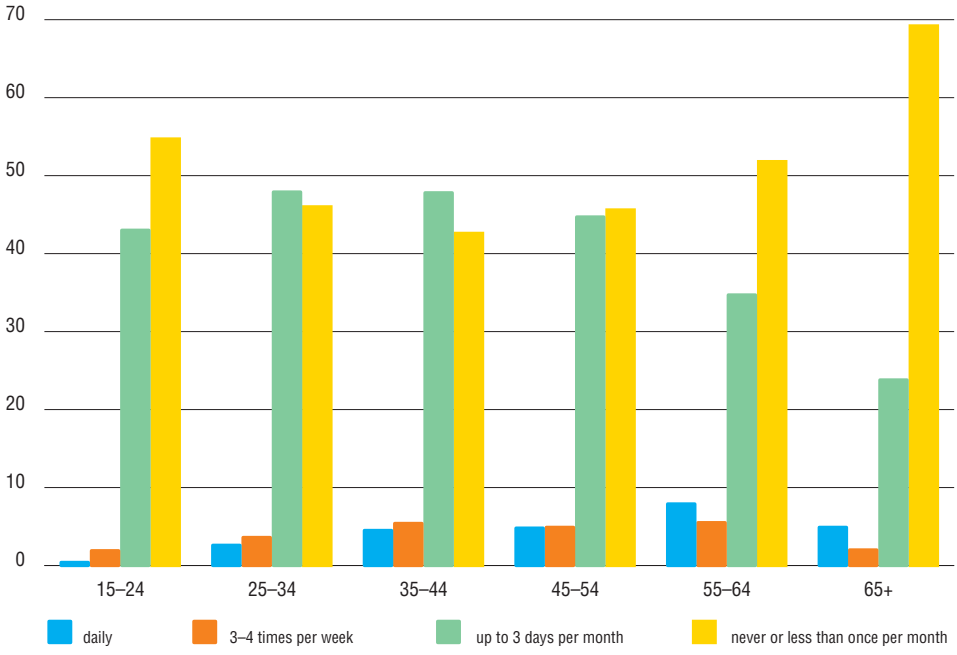


Sources: Data from CINDI, 1993, 1998, 2003, 2008; EHES, 2012; adapted from Regional Office of Public Health in Banska Bystrica (2013).

Annual alcohol consumption was approximately 10 litres per capita in 2013, and has been decreasing since 2003. The EHIS study in 2014 found 4.2% of population consume alcohol on a daily basis, 3.9% consume up to four days per week and 40.6% consume up to three days per month. Roughly 51% of the population (36.0% of males and 65.5% of females) do not consume alcohol at all, or less than once per month (see Fig. 1.7). These figures are comparable to previous findings by EHIS (Velčická, 2015).

Fig. 1.7

Prevalence (%) of alcohol consumption in Slovakia, 2014

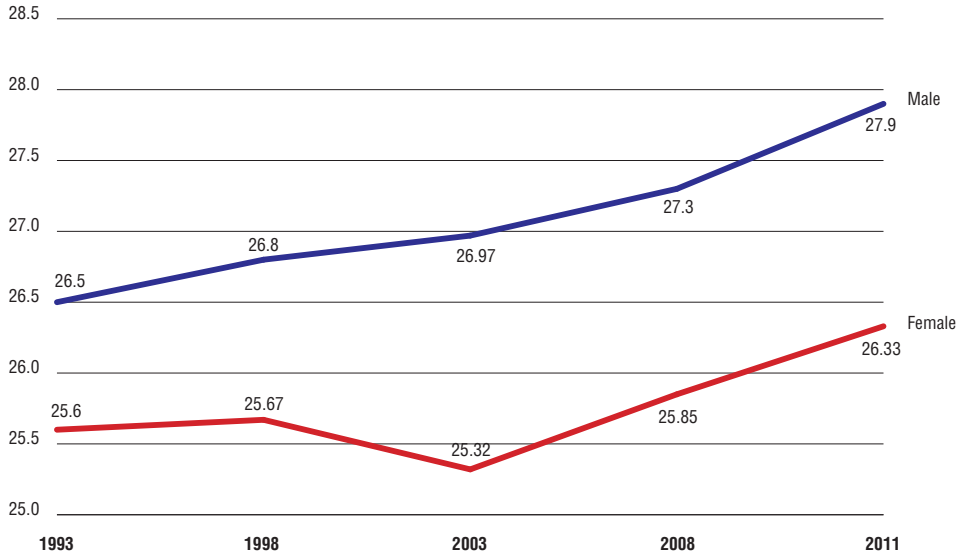


Source: Velčická, 2015.

The average BMI of the 25–64-year-old cohort of the population has been on the increase in both genders, growing by 5.3% for men and 2.8% for women since 1993 (see Fig. 1.8).

Fig. 1.8

Average BMI of Slovak inhabitants aged 25–64 years, by percentage, 1993–2012



Sources: Data from CINDI, 1993, 1998, 2003, 2008; EHES, 2012; adapted from Regional Office of Public Health in Banska Bystrica, 2013.

Occupational diseases per 100 000 employees have also recorded a favourable development, as the total number of occupational diseases fell from 28.2 in 2004 to 12.9 in 2013. There are several factors that contributed to this improvement, especially stricter legislation of occupational health care services. As of 2015, it is obligatory for all companies to have access to occupational health services (but the level of required services differs according to work hazard levels). If a company does not adhere, it can be fined up to 20 000 EUR (Seneši, 2014).

2. Organization and governance

2.1 Overview of the health system

The health care system in Slovakia is based on universal coverage, compulsory health insurance, a basic benefits package and a competitive insurance model with selective contracting of health care providers and flexible pricing of health services. Health care, with exceptions, is provided to insured free at the point of delivery through benefits-in-kind (paid by a third party). After fulfilling certain explicit criteria, there are no barriers to entry to health care provision and health insurance markets.

Health insurance companies compete for insured based on the quality and variety of their contracted services. Health insurance companies are obliged to ensure accessible health care, regulated by law. Health insurance companies fulfil this obligation by contracting health care providers. The Health Care Surveillance Authority (HCSA) is responsible for surveillance over health insurance, health care provision and health care purchasing markets.

Since 2005 all health insurance companies are joint stock companies, that is, they were transformed from (public) health insurance funds to health insurance companies operating under the Business Code. As of 2015 three health insurance companies were operating in the market, one state-owned (with 63.6% market share) and two privately owned: Dôvera, owned by the Slovak private equity group Penta Investments (27.7%) and Union, owned by the Dutch insurance group Achmea (8.7%).

Health care providers are owned by different stakeholders. The state owns and operates the largest health care providers, including four university hospitals, eight faculty hospitals, highly specialized institutions and almost all psychiatric hospitals and sanatoria. Most of them have the legal status of so-called contributory budgetary organizations. These organizations are a Slovak form of not-for-profit legal entities established by the central government,

regional government or municipality in order to perform tasks in the public interest. Furthermore, there are 53 privately run hospitals in Slovakia and several mixed forms of ownership (see Section 4.1).

Health care facilities in state ownership must be contracted by health insurance companies (a so-called compulsory network of providers). The government saw them as crucial in guaranteeing geographical accessibility, but critics argued that this may also give these hospitals an unfair competitive advantage. For more information, see Section 4.1.1.

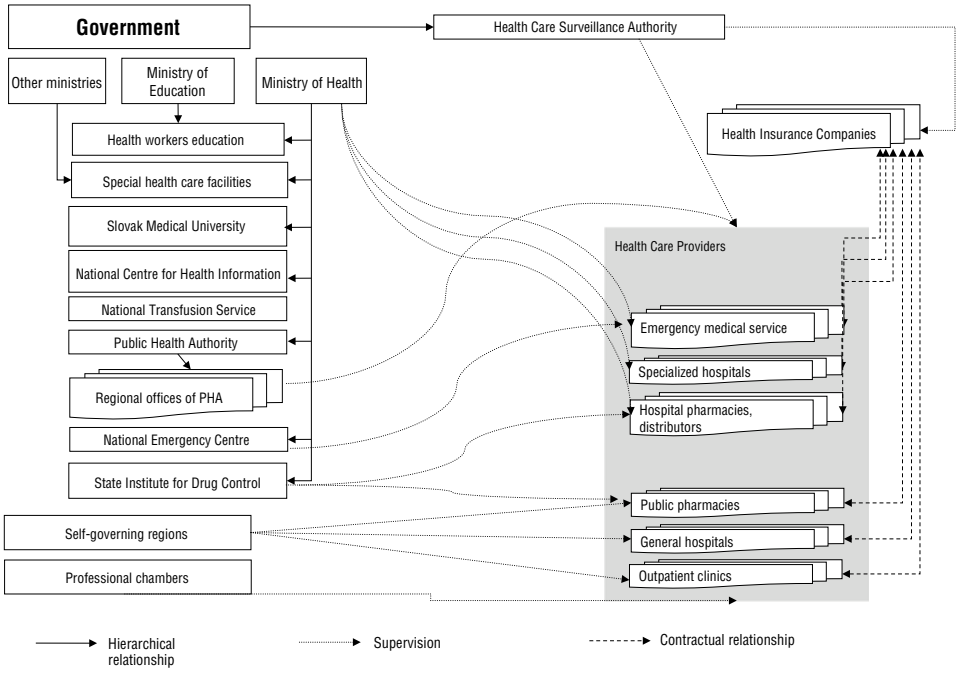
Almost all outpatient facilities are in private hands. A proportion of outpatient specialists are employed by hospitals and provide ambulatory care in polyclinics attached to hospitals. The number of specialists increased due to the reform in 2005 enabling all specialists to enter the market after fulfilling the obligatory criteria. In some regions access to cardiology, immunology, diabetology, rheumatology or endocrinology is limited. Patients are faced with waiting times. These are mainly due to public budget constraints, limited opening hours, shortages in specialists (who often work in other facilities as well) and a (internationally) comparatively high demand for services.

The Health Care Surveillance Authority issues licences to health insurance companies. The Ministry of Health issues permits to emergency (rescue system) ambulance providers, specialized hospitals and spas. Self-governing regions issue permits to all other health care providers (general hospitals, including University and teaching hospitals, GPs, outpatient specialists, laboratories, pharmacies, etc.).

Organized interest groups also participate in health policy-making. Although they are invited to comment on legislative proposals, their recommendations carry relatively little political clout. Representatives of employees and employers meet with government representatives at the Tripartite Economic and Social Council, but their mutual agreement is not needed to continue the legislative process. Professional chambers keep registers of health professionals and they issue or revoke licences. They cooperate in monitoring the management of health care facilities and issue opinions on ethical issues concerning the health care profession. Membership of chambers is not compulsory.

A visual depiction of the various actors in the sector can be seen in Fig. 2.1 and found in Section 2.3.

Fig. 2.1
Organizational overview of the Slovak health care system, 2016



Source: Adapted from Szalay et al., 2011.

2.2 Historical background

The tradition of the Bismarckian system of social and health insurance dates back to the 19th century as established in the Austro-Hungarian Empire on the territory of Slovakia. The First World War resulted in the breaking up of the monarchy and the founding of Czechoslovakia.

After Czechoslovakia's independence in 1918, the Bismarckian health system inherited from the Empire was expanded and refined. In 1919 legislation was adopted that extended compulsory sickness insurance coverage to the family members of blue-collar workers and to all wage earners, thus including agricultural workers for the first time. In 1924 landmark social insurance legislation led to the creation of the Central Social Insurance Fund (*Ústřední sociální pojišťovna*; ÚSP), which consolidated the hitherto fragmented system of social insurance into a single institution. The ÚSP was responsible both for administering a new old-age and invalidity insurance scheme for workers and

for supervising the sickness funds. Although they remained self-governing in character, the health insurance funds were required by law to perform a range of duties on behalf of the ÚSP, such as collecting contributions for old-age and invalidity insurance. In 1925 sickness insurance, which included medical benefits, was introduced for public employees.

The Soviet period

Following the Second World War, Czechoslovakia fell under the strong economic and political influence of the Soviet sphere, resulting in health legislation on national insurance in 1948. Under the stewardship of the Ministry of Social Care, the Central National Insurance Fund (*Ústřední národní pojišťovna*) was established, covering all health-care and sickness benefits. The insurance was paid entirely by the employer and sickness and health benefits were adjusted in Treatment Orders, issued by the Central National Insurance Fund on a regular basis.

However, in 1951 a Semashko-type health care system was introduced. The state assumed responsibility for health care coverage and financed it through general taxation. Health care was provided free of charge at the point of delivery. At the same time all health care providers were nationalized and incorporated into regional and district institutes of national health.

In 1966 health care facilities were unified in district, regional and local national institutes of health. The state took over full responsibility for financing, planning, management and provision of health care. All citizens were granted free of charge health care. Initially, treatment results improved significantly due to good results in combating communicable diseases and the availability in the post-war period of new chemotherapies (Solovič et al., 2008). In the late 1960s, however, outcomes of the Slovak health system deteriorated. The rigidly planned economy led to inaccurate resource allocation decisions in health care. The system was unable to deal with the growing incidence of lifestyle diseases, resulting from the improved living conditions, hygienic standards and successful combating of communicable diseases.

In 1968 Czechoslovakia became a federal state of the Czech and Slovak Socialist Republics, which affected the health system only inasmuch as it was separated into a Czech and a Slovak part. The Ministry of Health of Slovakia was established and took over the responsibility for planning and managing Slovak health care.

By the late 1970s the health system had a surplus of ambulatory specialist physicians, whereas the role of GPs was diminished.

Reintroduction of Bismarck after 1989

The breaking-up of the Soviet Union and a wave of non-violent revolutions in Central and Eastern Europe in 1989 also reached Czechoslovakia. Political and social changes resulted in a total transformation from a centrally planned economy into a market economy. At the same time a reintroduction of a social insurance system was taking place, which continued after the peaceful dissolution of Czechoslovakia and the formation of Slovakia in 1993.

In 1993 the National Insurance Fund was established to fund health, social and pension insurance. The Act on Health Insurance was adopted a year later. This piece of legislation introduced multiple health insurance funds and a social health insurance system financed through a combination of contributions paid by the working population and contributions from the state budget on behalf of the economically inactive. In 1997 the number of health insurance funds peaked at 13, and later mergers between health insurance funds aiming to fulfil the condition of having a minimum of 300 000 insured stabilized the market. By 2015 their number had decreased to just three health insurance companies.

Most pharmacies and ambulatory physicians (both GPs and non-hospital specialists) went into private practice during the early 1990s.

Until the early 2000s nearly all hospitals were in state ownership and were established by the Ministry of Health as budgetary contributory organizations. The inherited oversupply of acute beds and lack of chronic beds, medical technology and efficient coordination proved difficult to change. Any attempts to reduce the number of hospital beds were opposed by the concerned hospitals, as well as by local authorities.

The Ministry of Health was responsible for the surveillance of health insurance and health care provision, but failed in several cases. It allowed health insurance funds to contract unlimited numbers of providers on a fee-for-service basis, which contributed to an increase in the expenditure of the system. Ad-hoc measures, such as restricting hospitalization of non-acute patients and hospital financing based on prospective budgets with historical costs taken into account, did not stabilize the financing system in Slovakia. The situation further deteriorated after protests by health workers in hospitals, complaining over low wages. The resulting formal increase in wages in 2001 was not backed up with sufficient resources. Hospitals were confronted with rising liabilities towards health insurance funds and suppliers, making them vulnerable to corruption and resulting in a declining quality of health care provision (Szalay et al., 2011).

In the period 1999–2002, 14 health care facilities were transformed from (state-owned) contributory organizations into (private) organizations. This meant that many well-paid services such as dialysis were now mostly provided in the private sector, worsening the financial situation of public hospitals. Indeed, only one public hospital still owned a dialysis unit. In 2003 the management of a majority of health care facilities was transferred from the state to the regional and local governments, with the exception of the biggest hospitals (type III hospitals with polyclinics and university hospitals) as well as specialized institutions. Clearing the debts with non-recurring resources from privatization of national property could not help the situation. For more details of the historical background of the Slovak health system, see Szalay et al. (2011).

The 2004 Reform

Against this background, a comprehensive health reform in 2004 restructured health provision through the adoption of six reform acts. Hard budgetary constraints aiming at a more effective utilization of resources and uncovering internal system reserves were introduced. A decentralized and contractual system of health service provision transferred responsibility from the state to the patient, health insurance companies and providers.

These reforms were embedded in a larger wave of restructuring labelled as 'Slovakia's neo-liberal turn' (Fisher et al., 2007). Unlike other countries, Slovakia opted for a comprehensive reform of fiscal policy and taxation, the labour code, the pension system, investment regime, welfare payments, the judicial system, and the health and education sectors.

Reforms to the health system comprised stabilizing measures, provision measures and network measures (liberalization of ownership and market entry, establishing the minimal network of providers, and the reform of emergency services). The first measures aimed at halting rising debt and restricting overconsumption of health care services and drugs (Szalay et al., 2011). Other measures are depicted in Box 2.1.

Public perception of the reform was largely disapproving, especially for the introduction of user fees. On the other hand, in the process of evaluating the reforms, health care did not rank as a priority issue when compared to other societal problems. This may indicate that despite a disagreement with the reforms, people were adapting to the new health care system (IVO, 2007).

Box 2.1
Key features of the 2004 reform

- Introduction of services related to health care and the possibility of user fees
- Tying state payments on behalf of economically inactive insured persons to the average wage
- Change in redistribution of premiums
- Annual settlement of health insurance
- Liberalization of network (eligibility for permits and licences)
- Selective contracting
- Independent oversight by HCSA
- Reform of emergency medical services
- Transformation of all health insurance funds into joint stock companies
- Transformation of (some) hospitals into joint-stock companies
- Creating flexible tools for defining the scope of care

Recent developments up to 2014

The period after the 2004 reforms brought about partial reversion and changes to the measures described above. In light of the far-reaching reforms in the health system, the Slovak Constitutional Court played a major role in assessing whether the 2004 reform was in line with the constitution. Firstly, the Constitutional Court ruled that user fees for health services, which were introduced in June 2003, were in accordance with the constitutional guarantee of cost-free health care (Constitutional Court of the Slovak Republic, 2005). Secondly, in 2008 the Constitutional Court stated that the scope of covered health care services does not have to be defined strictly by law, but can be defined also by governmental and ministerial decrees (Constitutional Court of the Slovak Republic, 2008a). Thirdly, later that year the Constitutional Court ruled that health insurance companies can operate as joint stock companies (Constitutional Court of the Slovak Republic, 2008b). Lastly, in 2011 the Constitutional Court ruled that the provision of health insurance can take place in the sphere of competition and that insurers may make profits (Constitutional Court of the Slovak Republic, 2011). Based on this decision, the parliament reintroduced the possibility of profit-making in health insurance in 2011 by Act No. 250/2011, which was banned in 2007.

The government that took office in 2006 partially abolished user fees. The HCSA, initially conceived as an independent surveillance agency (see Section 2.3), became less independent in 2007 because its chair became a political appointee and thus could be nominated or withdrawn on political lines. The planned transformation of hospitals into joint-stock companies was cancelled twice, in 2006 and 2011 (see Section 6.1 for more information about recent and planned developments).

2.3 Organization

Health policy results from the interplay between the Ministry of Health (legislator), health insurance companies (purchaser), health care providers, professional organizations and the Health Care Surveillance Authority (supervisor). Patient organizations have little influence on the formulation of health policy. The state owns the largest hospitals and the largest health insurance company.

2.3.1 The role of the state and its agencies

Parliament

The parliament has legislative as well as control powers and may carry out parliamentary inspections. The members of the supervisory board of the Health Care Surveillance Authority are elected by the parliament.

Government

The competences of the government are approving the budgets of health insurance companies, adopting legislative measures (defining user fees for services related to health care, setting co-payments, determining accessibility parameters for minimum provider networks), and appointing/removing the chair of the Health Care Surveillance Authority.

Ministry of Health and other Ministries

The Ministry of Health is a central administrative body and its responsibilities include drafting health policy and legislation, regulating health care provision, managing national health programmes, participating in management of health education, managing national health registers, determining the scope of the basic benefits package, defining health indicators and setting minimum quality criteria. Competences in price regulation were transferred to the Ministry of Health in 2003. Furthermore, the state is an owner of university hospitals, faculty hospitals, specialized national centres, sanatoria and the largest health

insurance company. This leads to a conflict of interest because the state sets and regulates the framework in which several institutions that it owns operate (e.g. one health insurance company and several providers).

The management and supervision of health education and the curriculum are shared between the Ministry of Health and the Ministry of Education, the latter being responsible for financing. The Ministry of Health coordinates health research in schools and the Academy of Sciences. This shared competence often leads to confusion. In addition, the Ministry of Finance has a strong influence on the health budget development process.

The organization and funding of social care is the responsibility of the Ministry of Labour, Social Affairs and Family. The social care system and the health care system evolved separately, leading to different organizations and sources of funding, even though many of the services they provide are practically identical. This may pose a barrier to effective solutions in the provision of long-term social care and health care (see Section 5.8).

The Ministries of the Interior, Justice, Defence and Transport have established health care facilities, notably the Military Hospital in Ružomberok and St Michal Hospital operated by the Ministry of the Interior, and play a marginal role in health care provision.

Health Care Surveillance Authority (HCSA)

In 2004, to prevent further conflicts of interests, the monitoring and supervisory role of the Ministry of Health in the health system was transferred to the newly established Health Care Surveillance Authority (HCSA). The HCSA is responsible for the supervision of health insurance, health care purchasing and health care provision markets (also see Fig. 2.2). Since 2007 the government has had the competence to withdraw the chair from office, and has used it twice; this competence compromises the independence of the HCSA. The HCSA's supervisory board is elected by parliament. The HCSA has strong competences and can impose sanctions. This includes banning a health care provider or a health insurance company from the market. Furthermore, the HCSA grants market access to health insurance companies after fulfilling certain conditions and supervises the fulfilment of these conditions (solvency, purchasing of health care services according to legal regulation of, for example, the compulsory network). The HCSA administers the risk-adjustment mechanism of financial resources between health insurance companies and manages several registers. Other competences of the HCSA include administering patients' complaints regarding inadequate health care provision and deciding on autopsies to be performed in forensic and pathological anatomy laboratories.

The HCSA also acts as a liaison body for cross-border health care provision. The annual report describes the HCSA's activities as well as social health insurance performance and is submitted to the government. An amount of 0.45% of contributions collected by health insurance companies is allocated to funding the Health Care Surveillance Authority.

Since 2010 the HCSA has been further responsible for the implementation of a DRG system in Slovakia. Currently, the DRG system is in the last testing phase and is intended to become fully operational between 2016 and 2020.

Public Health Authority of Slovakia (PHA)

The Public Health Authority is responsible for public health tasks. It is a state budgetary organization, which means that it is fully financed from the state budget. It is managed by the chief hygienist, who is appointed by the Minister of Health. The PHA develops the vaccination schedule, directly controls radiation protection and issues permits for the sale of cosmetic products. Through its regional offices, the PHA carries out epidemiological surveillance, assesses the impact of environmental factors on health, issues approvals before putting any premises into operation and monitors the quality of drinking and bathing water. The PHA can impose sanctions if a violation of the regulatory framework is found (e.g. for avoiding mandatory vaccination).

State Institute for Drug Control (SIDC)

The State Institute for Drug Control, a state budgetary organization, is responsible for surveillance of medicinal products and medical devices. The SIDC issues approvals on clinical trials, grants marketing authorizations, assesses pharmacies and maintains a pharmacopoeia. The SIDC can also impose sanctions. In the area of patient safety, it performs assessment of reports on adverse drug effects (pharmacovigilance) and medical device failures. It withdraws or suspends medicinal products or medical devices from (entering) the market. The State Institute of Drug Control is, however, not involved in reimbursement decisions concerning pharmaceuticals or medical devices.

The SIDC also supervises the regulation of re-exports. Since 2013 permission to export drugs is tied to the obligation to report the planned drug export 30 days in advance to the SIDC. If the SIDC does not refuse the export, the distributor or producer has three months in which to realize the export. The actually exported volume of drugs must be reported to the SIDC within one week after the export. The SIDC may ban the export of a reported drug if the drug is scarce and its export would harm the availability of the drug in Slovakia (Szalayová et al., 2014).

Operational Centres of Emergency Medical Services (OC-EMS)
The National Emergency Centre of Slovakia is a state contributory organization, which controls all components of emergency medical services. Administratively, it is divided into headquarters and eight regional operation centres of emergency medical services, which are located in every region and form the control and coordination centre of the integrated rescue systems, together with focal points of the integrated rescue systems.

It is responsible for admission and processing all telephone emergency calls, as well as cooperating with all other components of the integrated emergency system. Operational centres issue instructions for the EMS ambulance crew; manage, coordinate and evaluate the emergency medical service in order to ensure its smooth operation and continuity; provide training for employees; and organize first aid courses and first aid instructor courses.

An amount of 0.35% of contributions collected by health insurance companies is allocated to funding operational centres of EMS.

National Centre for Health Information (NCHI)
The Ministry of Health established the National Centre for Health Information as a state contributory organization to deal with e-health issues, standardization of health information systems, and the collection, processing and provision of health statistics, as well as provision of library and information services in the area of medical research and health. The NCHI operates the national health registers.

Furthermore, the NCHI is responsible for the national health portal. It is expected to feature e-prescription, e-medication, electronic health records for citizens, and an electronic system to coordinate appointments with health providers, and the integration of these applications into one functional unit with a high level of security is the main priority. The implementation of the national health portal, however, has been delayed (see Sections 2.7.1 and 4.1).

An amount of 0.41% of contributions collected by health insurance companies is allocated to fund the National Health Information System.

National Transfusion Service (NTS)
The National Transfusion Service is a state contributory organization established in 2004 by the Ministry of Health to carry out tasks related to the complex production of blood products, securing haemotherapy of the highest possible quality and safety of the required volume.

The purpose of establishing the NTS was that blood and its components, irrespective of their intended use, which are part of the blood transfusion chain have comparable quality and safety across all regions. The National Transfusion Service has 14 offices all around Slovakia.

National Transplant Organization (NTO)
The National Transplant Organization was established as a state contributory organization by the Ministry of Health in 2013. Its tasks include the national coordination of donations and transplantation of organs, tissues and cells, and maintaining the National Reference Laboratory for human leukocyte antigen (HLA) antigens. The NTO is responsible for running the national transplant register, which includes the maintenance of waiting lists for transplants of all organs, registering donors, keeping records of the activities of providers and procurement, and recording the activities of transplantation centres, including aggregated numbers of donors, and the types and quantities of organs procured, and transplanted organs, tissues and cells. In 2014 its total budget accounted for roughly 300 000 EUR.

2.3.2 The role of health insurance companies (HICs)

Health insurance companies play a key role in the system as purchasers of health care services. It is their legal duty to ensure health care for their insured. Purchasing is based on selective contracting. Each health insurance company is allowed to develop its own payment mechanisms and set up its own pricing policy towards contracted providers. The contractual relations between health insurance companies and health care providers are supervised by the HCSA (see Section 3.3.4 for more information on the contracting criteria of HICs).

All health insurance companies are joint stock companies and are obliged to meet solvency criteria. This should guarantee scheduled payments within 30 days after the issuing of a provider's invoice. Ownership regulation allows both the state and the private sector to be shareholders of the health insurance companies. Although there were seven health insurance companies in 2006, a wave of mergers led to increased consolidation in the market (see also Section 2.8.1). In 2016 there are three health insurance companies left: the state-owned Všeobecná ZP (later called General HIC), and two privately owned companies: Dôvera and Union (see Table 2.1). Representatives of health insurance companies are seated in ministerial committees. These committees define the basic benefits package (i.e. the health services covered by SHI), and participate in draft legislation.

Table 2.1
Overview of health insurance companies and their market shares

	Insured persons as of 1 January 2013	% share of the market	Insured persons as of 1 January 2014	% share of the market	Insured persons as of 1 January 2015	% share of the market
GHIC	3 340 451	64.1	3 308 927	63.9	3 295 339	63.6
Dôvera	1 432 634	27.5	1 439 633	27.8	1 433 801	27.7
Union	438 765	8.4	431 671	8.3	451 091	8.7
Total	**5 211 850**	**100**	**5 180 231**	**100**	**5 180 231**	**100**

Source: HCSA, 2015.

2.3.3 The role of self-governing regions (SGRs)

Certain local operative competences were transferred from the state to the eight self-governing regions to decentralize power. The SGRs' responsibilities include issuing permits for the operation of health care facilities, appointing ethical committees, issuing approvals for outpatient biomedical research, maintaining health documentation following the cessation of providers and securing health care provision resulting from a provider's temporary hold of permit or licence. The Ministry of Health deals with appeals against decisions made by the SGRs. The SGRs also assist in improving the network of providers in case the accessibility of health services in the region is deteriorating; for example, by appointing a physician when patients have difficulties receiving and finding treatment.

Self-governing regions took over the responsibilities for health care provision surveillance and can impose sanctions on health care providers for neglecting their duties. Sanctions include financial penalties and temporary or permanent revocation of a licence. The power to ban a provider from the market is a strong legal instrument. SGRs will as a rule only impose sanctions after a recommendation from the HCSA, based on surveillance results and detected shortcomings.

The chief physician of the SGR is appointed by the chair of the SGR with the approval of the Minister of Health. The chief nurse, appointed with the approval of the Minister of Health, is responsible for nursing care provision and midwifery services.

Self-governing regions own some health care facilities and can independently make decisions on the management of these facilities. Since responsibility for health care facilities was transferred to the SGRs in 2003 (also see Section 2.4), some hospitals have been transformed either into joint stock companies,

not-for-profit organizations, or they have been fully privatized into commercial companies. Some of these health care facilities were rented out to private health care providers. SGRs have been negotiating the entry of other strategic investors into the health market.

The role of political parties and trade unions

Politicians manage and make decisions on the majority of resources in health care, not only at national level but also at regional and municipal level. The political interests of the parties vary regionally, and may also be influenced by lobbyist groups. The technical expertise of political parties in the area of health policy is generally low.

The largest trade union, with 40 000 members, is the Association of Health and Social Trade Unions. It negotiates collective contracts with the employers' representatives. The Trade Union of Physicians is a smaller organization, which mainly becomes active to advocate financial interests.

2.3.4 Organizations of health care providers and professional associations

Organizations of health care providers and professional chambers promote and advocate the interests of their members in relation to the state, self-governing regions or health insurance companies. They participate in draft legislation and educational programmes, and represent their members in contract negotiations with health insurance companies. They maintain the register of health professionals and provide continuous education. Chambers also have competences such as granting licences and imposing sanctions. Since 2005 membership of chambers has been voluntary and the chambers cannot oblige non-members beyond the extent prescribed by law. Despite this fact, the oldest chambers (the Slovak Medical Chamber, the Slovak Chamber of Dental Physicians, the Slovak Pharmaceutical Chamber, and the Slovak Chamber of Nurses and Midwives) managed to keep a large member base, and thus constitute influential interest groups. The most significant organizations of providers are the Association of Hospitals of Slovakia, the Association of University Hospitals, the Association of Private Physicians of Slovakia and the Slovak Medical Union of Specialists.

The Slovak Medical Society is an association of professional medical and pharmaceutical societies, and regional associations of physicians and pharmacists, with almost 20 000 members. They focus on technical and ethical issues, as well as the dissemination of scientific knowledge. Professional societies within the Slovak Medical Society delegate their professionals to serve

on different committees (such as the Reimbursement Committee for Medicinal Products and the Catalogue Committee for medical procedures at the Ministry of Health).

Private sector

Private businesses advocate their interests individually. Their common interests are represented by umbrella organizations, particularly from the pharmaceutical market: the Association of Suppliers of Drugs and Medical Devices (ADL), the Slovak Association of Medical Device Suppliers (SK-MED), the Slovak Association of Producers and Distributors of Diagnostic Medical Devices "in vitro" (SEDMA), the research-oriented Association of Innovative Pharmaceutical Industry (AIFP), and the Association of Generic Producers (GENAS).

Patient/consumer groups

Patient organizations vary in their activities. How active they are often depends on the efforts of dedicated individuals and the level of financial resources available. The groups, as well as their interests, are fragmented and they are represented by various umbrella organizations. Successful promotion of their interest is often hindered by the division of competences between health and social care. The issues of people with disabilities belong to the agenda of the Ministry of Labour, Social Work and Family. Most patient organizations, as well as organizations of people with special health care needs, directly approach the responsible ministry with their problems.

Patient organizations representing people with chronic conditions are the most active. These include the Union of Diabetics of Slovakia, the Slovak Association of Multiple Sclerosis, the Slovak Osteotomy Association, League against Rheumatism in Slovakia, the Club of Parents and Friends of Children with Cystic Fibrosis, and the Down Syndrome Association in Slovakia. Numerous educational projects aimed at oncologic patients and their relatives, as well as the public, take place under the auspices of the League against Cancer, a charitable non-profit organization. Psychiatrists, psychotherapists and patient organizations cooperate within the League for Mental Health to actively advocate mental health promotion. The Association for Patients' Rights Protection is active in the area of patient rights.

Patient organizations in Slovakia are relatively passive. In the period 2010–2012 only 14 out of 300 Slovak patient organizations commented on seven of the 110 legislative acts that were being discussed in this period, despite the fact that their comments were in 63% of cases regarded as substantial and 77% of them were accepted (Balík & Starečková, 2012).

2.4 Decentralization and centralization

In 1990 local self-government at the level of the municipalities was re-established. In 2002 self-governance was introduced at the regional level by establishing the self-governing regions (SGRs). Decentralization of competences, as well as finances, and political decentralization followed. Decentralization in the health sector focused on the partial delegation of state power to SGRs and the transfer of ownership of the majority of state health care facilities. Large type III hospitals with polyclinics and university hospitals, as well as highly specialized institutions and specialized hospitals, remained under the administration of the Ministry of Health. The ownership and managerial competences of type II hospitals with polyclinics for secondary care were devolved to SGRs and type I hospitals with polyclinics of primary care were devolved to the municipalities.

The self-governing regions have been given the responsibility for scheduling 24/7 first aid medical services. If the in- or outpatient network of providers does not meet the minimum network requirements, the SGRs collaborate with the Ministry of Health to cope with such situations.

2.5 Planning

Health care planning is based on the newly introduced Strategic Framework adopted by the MoH and the Slovak government in July 2014. For the first time the Strategic Framework for Health 2014–30 determines the medium- and long-term direction of Slovak health policy and formulates goals and areas of priority. Previously, decisions were made without a comprehensive assessment of health needs.

The ambition of the strategic plans for 2014–2030 is to identify current problems of the Slovak health sector, to find measurable indicators and to set objectives achievable by 2030. Common priorities of the Health 2020 document are also enshrined in the Strategic Framework as follows:[2] (1) public health, (2) integrated outpatient health care and (3) inpatient health care.

Public Health

The public health objective concentrates on a functional health system at national, regional and local level with the involvement of all relevant public and private subjects, including the active involvement of the population. It aims to

[2] The strategic direction and objectives of the health sector are defined and set out in the Programme declaration of the government of Slovakia.

improve the level of non-medical determinants of health through multi-sectorial collaboration (especially in the field of life, work and social environments), as well as to strengthen citizens' interest and responsibility for their own health, and to promote their awareness of health care, healthy lifestyle, health threats, and prevention of drug addiction by using modern communication tools and technologies. Several key indicators were selected, such as to improve HLYs to 63 by 2030, or to reduce amenable mortality per 100 000 to 94.

Integrated outpatient health care

The integrated outpatient health care objective aims at containing overutilization in general outpatient health care, especially for general practitioners for adults, paediatric practitioners for children and adolescents, gynaecologists and dentists providing general outpatient care, together with nurses and other health professionals.

One area of intervention is to strengthen the gatekeeping role of general practitioners, paediatric practitioners, gynaecologists and dentists. Furthermore, the role of nursing care should be directed towards concepts of integrated care by creating new procedures in the field of treatment and prevention, by strengthening and expanding general outpatient and nursing care. The concept of integrated care has been implemented in plans to build up to 140 "integrated care centres" by 2020 where GPs and a variety of specialists would provide several integrated services such as primary care, secondary care, nursing and health promotion.

Secondly, medical preventive programmes focusing on the prevention of communicable and non-communicable diseases should be implemented. Key Performance Indicators (KPI) were selected accordingly, for example to improve the rate of preventive screenings to 60% per year by the end of 2030.

Inpatient health care

The inpatient health care objective aims to redefine the types of hospital and the range of health services they provide, determine their catchment areas, and review existing types and organizational structures of inpatient health care facilities. It aims to re-evaluate the number and structure of acute beds and to strengthen after-care, rehabilitation, nursing beds and beds for long-term care patients. Finally, it aims to implement a programme of renewal of the health infrastructure of hospitals to more effectively use the human resources, buildings and medical equipment. Key KPIs are to reach an occupancy rate of 85% and reduce the number of acute care beds to 2.5 per 1000 inhabitants by 2030.

It furthermore stresses the effective exchange of information (including through the use of eHealth solutions) between hospitals and other health care facilities, while ensuring the continuity of health care when transferring patients between different environments (including health care providers, home, etc.).

2.6 Intersectorality

Occupational Health

Since 2008 all employers must offer an occupational health service for employees working in high-risk environments. An occupational health service is a professional counselling service for employers in occupational health protection. It includes professional health risk assessment and occupational health surveillance. It is provided by health professionals with a special qualification or by external bodies that are authorized by the Public Health Authority.

Healthy Communities

A pilot project ("Healthy Communities") for improving health education and early medical intervention at the community level was funded by the European Social Fund starting in 2002, with an NGO. By 2012 the project had initiated a platform to promote the health of disadvantaged groups (called PPZZS) and has expanded from the original 68 localities to 108 locations throughout Slovakia. In 2013 the pilot project evolved into a national project under the Ministry of Health. This should target especially the Roma living in Slovakia and promote access to health care, including preventive health care and health education, as well as reducing the gap in health status between Roma and the general population (see Section 5.14). The project is currently (mid-2016) being carried out in 239 locations mainly in central and eastern Slovakia. It involves 257 employees (234 health education assistants and 23 coordinators) who work with more than 750 physicians and 100 primary and nursery schools on a regular basis.

National Anti-Drug Strategy

In 2013 the Slovak government approved the fifth "National Anti-Drug Strategy for 2013–2020". The National Anti-Drug Strategy of Slovakia is defined as the basic strategic document of Slovakia in the field of drug policy, based on the European Union Drugs Strategy for the period 2013–2020. The strategy aims to contribute to a measurable reduction of drug demand, drug addiction, health risk, social risks and drug-related harm. It is hoped to reduce drug crime and

the illegal drug market. Furthermore, cooperation within the EU with third countries and international organizations in the field of demand and reduction of drug supply was strengthened.

2.7 Health information management

Although a new law on a National eHealth Information System was adopted in 2013, Slovakia still lacks a credible health information policy and reliable and accessible data. There are several data collection systems that suffer from a lack of systematic and institutionalized data processing capacity. A notable exception is the reference pricing system for pharmaceuticals, which is accessible for all players, while data are transparent and collected systematically.

The collection of information on quality and performance of health care providers is very limited. Comparisons on various performance and quality indicators or waiting lists are prepared by independent organizations and partially by health insurance companies as a result of selective contracting, and by the regulators. Consumer-friendly information about the quality of providers in an understandable format is still missing.

Information on health insurance performance collected by the HCSA is more relevant and more easily accessible, but is only used by the HCSA to a limited extent.

2.7.1 Information systems

e-Health

Both government and independent analyses have found that Slovakia is lagging behind in implementing health information technologies compared to other countries in Europe. In 2008 the establishment of a health information infrastructure was declared a health policy priority. This resulted in a new Act in 2013 for a national eHealth information system. The Ministry of Health estimated the expenses for building an eHealth infrastructure at 250 million EUR over a period of five years. As of 2016, the eHealth project is still not in place (see Section 4.1.4). To some extent health insurance companies carry out this task and they are building their own information systems, applications and tools.

Providers

Information from various sectors of health is collected by various actors using different methods. Lack of data interconnection imposes an administrative burden on all actors in the Slovak health system, particularly on health care providers. The collected data are not verified, with the exception of those where reporting is based on financial flows. Neither commonly agreed indicators nor standards of their reporting methodologies are available.

Health care providers are reimbursed by health insurance companies according to certain reported indicators. However, the HCSA declared that the reported quality indicators are generally of low validity even though health insurance companies have used increased funding to stimulate effective data collection and electronic reporting. An obligation to report communicable diseases to the Public Health Authority applies to all health care providers.

National Centre for Health Information (NCHI)

Since 2013 the law requires all health care providers (public and private) and all health insurance companies (state-owned and privately owned), as well as the self-governing regions, the Public Health Authority and legal entities under the management of the Ministry of Health, to provide data in a systematic structure according to standards set by the National Centre for Health Information (NCHI). In practice, this requirement is not fully met due to (1) the non-existent unified information system; (2) outdated data structure and standards; and (3) inadequate capacity at NCHI to analyse the data. Hence the reliability and validity of the data are low. The data on health status, quality and performance of health care providers do not meet the needs of policy-makers in making qualified decisions.

According to the Act on the National Health Information System adopted in 2013, the database for all health information is anchored on four pillars: (1) national health administrative data – the national register of health care providers and the national register of health professionals, (2) the national health registers (see Box 2.2), (3) detection of events characterizing the health status of the population and (4) statistical reports in health care.

In accordance with the 2013 legislation, the NCHI is in charge of implementing the eHealth strategy, including authorized electronic communication, electronic prescription, electronic patient records, reporting of medical procedures and systematic data collection. To this end, the NCHI is responsible for listing the prevalence of certain diseases as shown in Box 2.2.

Box 2.2
National health registers

National register of electronic health records

National register of oncological patients

National register of patients with diabetes mellitus

National register of patients with congenital developmental disorder

National register of patients with cardiovascular diseases

National register of patients with neurological diseases

National register of patients with chronic respiratory diseases

National register of patients with tuberculosis

National arthroplastic register

National register of patients with inflammatory rheumatic diseases

National register of persons with injuries that require the provision of inpatient healthcare services

National register of persons suspected of neglect or abuse and individual victims of violence

National register of assisted reproduction

Source: NCHI, 2013b.

Health Insurance Companies

Health insurance companies offer innovations in eHealth and modern technologies driven by competition and the need to offer transparent information to insured and surveillance authorities. Innovative examples include:

- HIC Dôvera offers various eHealth projects, such as "Safe drugs" and "HospiCOM". These are online services which link doctors, patients, pharmacists and the Health Insurance Company more directly and allows for e.g. ePrescription. Additionally, Dôvera introduced unique services for informing patients about their registration and approval of planned hospitalization via SMS, email or smartphone apps.

HCSA

The HCSA compiles and analyses data of all HICs, and publishes annual reports. Information on waiting lists, a requirement since the 2004 reform, is not officially available despite the fact that maximum waiting lists are legally defined. Health insurance companies are responsible for the management of waiting lists. This lack of data makes HCSA surveillance more complicated and

obstructs necessary feedback and information on the workings of the system to health policy-makers. The HCSA administers several registers and lists related to SHI (see Box 2.3).

Box 2.3
Registers under the Health Care Surveillance Authority

Central register of insured persons

Register of health insurance companies providing SHI

Register of SHI contribution payers

Register of health care providers

Register of health professionals

Register of persons with HCSA authorization to perform surveillance monitoring

Register of submitted applications for SHI

Register of deaths

Register of persons who have rejected an autopsy

Register of social services facilities providing nursing care

Source: HCSA, 2016.

2.7.2 Health technology assessment

There is no special state institution in charge of Health Technology Assessment in Slovakia. The assessment of both novel and existing technologies is carried out through four independent reimbursement decision processes for (1) pharmaceuticals, (2) medical devices, (3) dietary foods and (4) diseases.

With regard to reimbursement for diseases, the Reform Acts in 2004 created tools to define priority diseases, which have to be fully reimbursed, and the mechanisms for defining cost-sharing requirements or exclusion of non-priority diseases from the basic benefits package. However, this tool has not yet been used because of political controversy. In practice, non-priority diseases are also covered without cost-sharing (see Section 6.1).

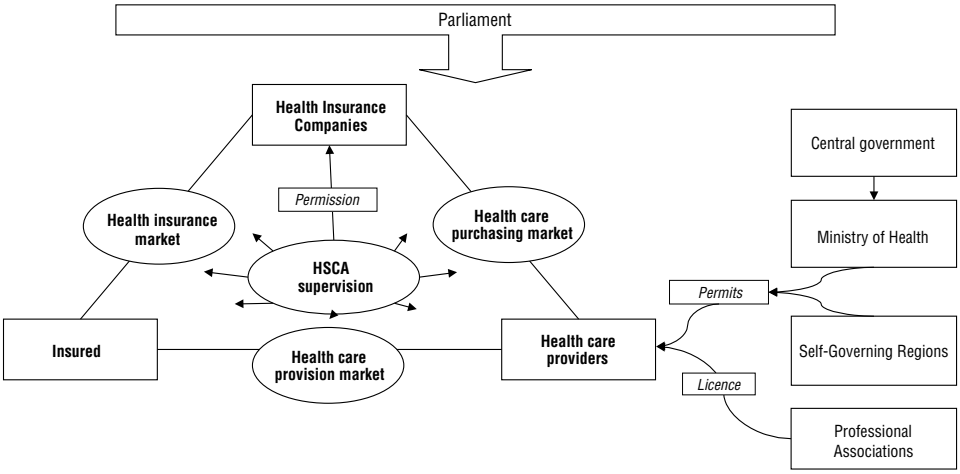
2.8 Regulation

In terms of regulation, the main actors in the Slovak health system are the parliament, the central government, and the Ministry of Health and its subsidiary organizations, as well as the self-governing regions. The parliament as a legislative body passes the acts. The legal environment in health care is significantly influenced by general acts, including the Commercial Code, the Civil Code and the Labour Code. As executive bodies, the government and the Ministry of Health enact secondary legislation (regulations, decrees, rulings, measures, guidelines) with different legal liability and law enforcement. The HCSA is responsible for monitoring health insurance, health care purchasing and health care providers, and also enforces the regulatory framework. The role of the health insurance companies in system regulation results from their competences as purchasers of health care services. This includes maintaining the conditions of selective contracting and flexible pricing.

The Constitutional Court of the Slovak Republic rules on whether or not laws conflict with constitutionally established rights. The Constitution of Slovakia stipulates that every person shall have the right to protect his or her health. Through medical insurance the citizens have the right to free health care and medical equipment under the terms provided by law. The law sets the scope of free health care in general, and subordinate legislation defines specific proceedings (see Section 2.2).

Fig. 2.2 schematically depicts the regulatory framework in Slovakia, which will be elaborated upon in the following sections.

Fig. 2.2
Regulation and supervision in the Slovak health care system



Source: Adopted from Szalay et al., 2011.

2.8.1 Regulation and governance of third-party payers

Health insurance companies providing SHI have the role of third-party payers in the Slovak health system. They operate under private law and must be established as joint stock companies. Health insurance companies are responsible for collecting contributions and purchasing health care. All health insurance companies must operate nationwide, although their market shares show significant regional variation. This results in regional differences between health insurance companies in negotiating positions vis-à-vis health care providers.

The HCSA issues licences for health insurance companies. Legal conditions for issuing a licence include an issued share capital in a minimum of 16.6 million EUR and transparent staff relations. Their owners appoint the members of the board of directors and the board of trustees. Regulations apply to the shareholders' structure, staffing, and purchasing policy, as well as to the financial management of the health insurance company itself. The HCSA enforces these regulations and may impose sanctions. This may happen, for example, in cases of poor economic performance, if the HIC becomes seriously indebted or insolvent, or in cases of failure to comply with the public interest. Examples of these sanctions include imposing penalties, placing the company under forced management and revoking the operating licence.

Health insurance companies, like all other joint stock companies, are obliged to undergo an audit of their accounting records. The health insurance company can propose an auditor but the HCSA may refuse this and assign another one. The HCSA submits biannual reports on the financial administration of health insurance companies, as well as an annual budget proposal to the Ministries of Finance and Health. All health insurance companies must submit their business plans to the HCSA and must publish annual reports via the Commercial Register. The health insurance companies must publish all contracts with health care providers on their websites and also on the central register of contracts.

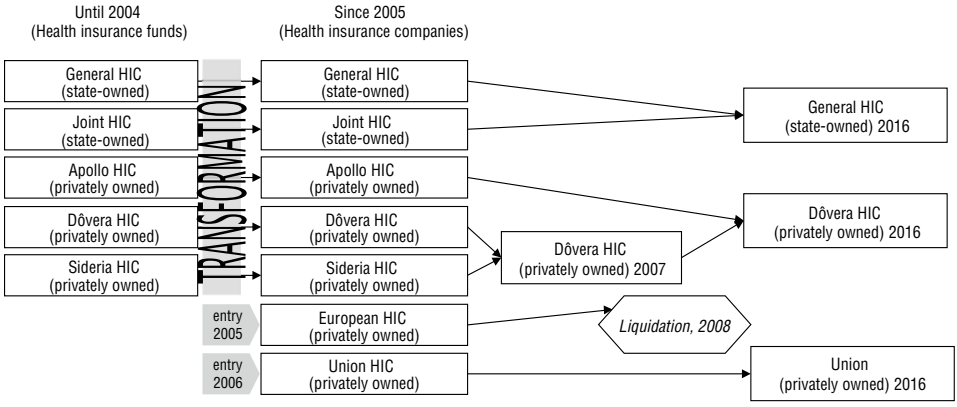
The (central) government plays an important role in regulating health insurance companies. The government can dismiss the chair of the HCSA if the performance of the health insurance sector does not meet expectations. Furthermore, during the preparatory process of the state budget, the government also decides on additional financial sources for the system through changing the contribution rate for the state insured. Through the Ministry of Health, it defines the (minimum) benefits package, the minimum provider network, reimbursement policies for drugs, medical devices and dietetic food, whether user fees apply and maximum waiting lists. Lastly, the Ministry of Health is the only shareholder in the largest health insurance company, the General Health Insurance Company (GHIC). This enables the MoH to influence the company's operating and purchasing policies. Moreover, due to its size the GHIC has strong influence over the entire health insurance market.

In the 2004 health reforms the hitherto existing public health insurance *funds* (operated by the state or industrial sector) were transformed into joint stock *companies*, allowed to make profits and pay dividends to shareholders. The health insurance companies must meet all the health care needs of their insured before being allowed to pay out profits to shareholders. During the three years after the reform two profit-oriented health insurance companies entered the market, two companies merged to consolidate their portfolios, and one ceased operations as a reaction to the changed regulatory framework from 2008. From the beginning of that year health insurance companies have been obliged to use all profits for purchasing health care in the following year (ban on profit). The possibility of making a profit from public health insurance was re-introduced in 2011 after a ruling of the Constitutional Court. In 2012 the Dutch health insurance company Achmea, owner of Union Health Insurance Company, won an international arbitration against Slovakia. According to this, Slovakia must pay 25.5 million EUR in damages to Achmea as a result of the profit ban between 2008 and 2011 (see Section 6.2).

After two more mergers, the market (as of 2015) consists of one state-owned health insurance company and two privately owned health insurance companies (see Fig. 2.3). The total market share of the state-owned company GHIC dropped from 76% in 2005 to 64% in 2015.

Fig. 2.3

The health insurance market structure, 2004–2016



Source: Adopted from Szalay et al., 2011.

Despite this, in 2015 the health insurance market is very concentrated, with a Herfindahl-Hirschmann index of 0.49. This indicator measures the amount of competition among firms in an existing market in relation to their sizes. As such, it can range from 0 to 1.0, moving from a huge number of very small firms to a single monopolistic producer (see Table 2.2). Above 0.25 a market is seen as highly concentrated.

Table 2.2

Herfindahl-Hirschmann Index of the Slovak health insurance market, 2005–2015

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Index	0.45	0.45	0.36	0.36	0.36	0.52	0.51	0.50	0.49	0.49	0.49

Source: Authors' own calculation based on HCSA data.

Timely access to health care is regulated by the law. In general, waiting lists should not exceed 12 months. Empirical findings indicate considerable differences in the length of waiting lists between different health insurance companies. Subordinate legislation issued by the Ministry of Health regulates

only three types of waiting list (implantations of artificial joints, implantations of artificial lenses and heart interventions). This prevents the HCSA from monitoring overall waiting times.

2.8.2 Regulation and governance of providers

Regulating provided care (also for quality aspects) focuses on three components: structure, processes and results. The first component, regulation of structure, is most clearly defined. The Ministry of Health sets minimum criteria for material and technical equipment as well as qualifications and personal criteria. The following conditions need to be met by a health care facility to provide health care in Slovakia: (1) a permit to operate the facility and (2) a licence from the relevant professional chamber for the various professionals working in the facility. Both can be requested if material, technical, staff and qualification requirements are met.

The permits for almost all in- and outpatient facilities are issued by the relevant self-governing region. Disputes are settled by the Ministry of Health. The Ministry of Health also issues permits for providers of emergency medical services, specialized hospitals, facilities for biomedical research, tissue units, biological banks and reference laboratories. Providers willing to act in several self-governing regions also fall under the competences of the Ministry of Health.

Permits are granted for an indefinite period of time, during which the provider is obliged to observe the legal conditions of their entry to the market. The facilities of emergency medical services are an exception; they can only obtain a permit from the Ministry of Health for a period of six years based on a tender. After winning a tender, financing from health insurance companies and an identified operating territory are secured.

Independent health care professionals who do not operate in any health care facility but function as entrepreneurs may provide health care services based only on their licence to perform in an independent medical practice.

Almost all GPs and the vast majority of specialized physicians provide health care services in private medical practices. The state is the owner of the largest (mostly university and teaching) hospitals, almost all of which are contributory organizations. Five state-owned health care facilities were transformed into joint stock companies by the 2004 health reform.

Irrespective of their legal form, all providers need to compete for contracts with health insurance companies based on quality criteria and prices. By delegating the competences to establish a network of providers from the

Ministry of Health to health insurance companies, selective contracting was enabled in the Slovak health system. To guarantee accessibility of providers, a minimum network requirement is set by the government to influence capacity planning. This network is based on calculations of the minimum number of physicians' posts in outpatient care and a minimum number of hospital beds for each of the eight self-governing regions. Minimum capacities are calculated per capita, but they do not consider the specific health care needs of the population and the effective use of resources.

Health insurance companies are responsible for maintaining the minimum network. Both selective contracting and market demands motivate health care providers to adapt to changes in demand. The government can adapt the minimum network requirement and by doing so direct the planning of the health sector. In 2016 a total of 36 state hospitals, specialized institutions and medical institutions are part of this legally set minimum network.

The Ministry of Health also regulates natural healing spas, natural healing resources and natural mineral waters through the State Balneal Committee.

The second quality component, regulation of processes, is very general. The Ministry of Health requires providers to have written documentation concerning their quality system, in order to reduce shortcomings in health care provision. However, the Ministry of Health has so far not enforced this requirement. It only issues guidelines, which are neither legally binding nor enforceable. Therefore, health care providers are not required to undergo external monitoring, or to publish their financial results or quality indicators publicly, thus reducing quality systems in health care to a mere formality.

The third quality component, regulation of results, is limited to issuing quality indicators on health care providers, which serve as criteria for selective contracting. Quality indicators are published yearly and are developed by the Ministry of Health in cooperation with professional organizations, health insurance companies and the HCSA. According to the HCSA's own statement, the data collected by health care providers have low validity, which results in the low credibility of the providers' ranking.

Suspicions of malpractice are investigated by the HCSA. If malpractice is confirmed, the HCSA can impose sanctions on the health care provider in cooperation with the SGR and MoH. In case of a suspected crime, the HCSA files a motion to bring a contested issue before a court for decision. Such incidents are published by the HCSA in case report summaries.

2.8.3 Registration and planning of human resources

Each health professional is obliged to register in the relevant professional chamber and regularly update their occupational and educational activities. Upon completion of a university education and having been issued a licence, graduated physicians are authorized to practise as physicians. Health care professionals can be providers themselves (as entrepreneurs) or employees of a provider. As providers they need both a permit and a licence, but as employees they need only a registration from the professional chamber. A licence is also issued by the professional chamber and provides proof of qualification (education and years of practice).

In order to operate an outpatient practice, a physician must submit their licence to the chief physician of the relevant self-governing region, together with and application for a permit to operate an outpatient practice. Upon fulfilling certain requirements for qualification and medical equipment (technical and personnel criteria established by law), a physician is authorized to run their own practice. There is no system of recertification of licences in the Slovak health system. Furthermore, there is no mechanism for regulating the number of health workers in each category and specialization according to the population's needs.

A lack of regulation is evident in long-term human resource planning. Decisions concerning the numbers of students and graduates at medical faculties are made by the university, funded by the educational sector, and are not linked to health sector needs. The EU accession has strengthened the mobility of health professionals and has resulted in shortages in specialists in certain areas. Expanding emergency medical services by requiring them to employ anaesthesiologists has led to a decrease in the number of hospital-based anaesthesiologists. The rigid territorial planning of GPs until 2004, which made the profession unattractive for new entrants, combined with the ageing of the workforce, has led to significant shortages in the sector (see Section 4.2).

Residency programme

The Strategic Framework for Health 2014–30 tackles the planning of human resources in Slovakia. Firstly, it addresses the ageing workforce, and should reduce the average age of general practitioners from currently 54 to 40 years by 2030. Key to achieving this goal is a newly established Residency programme, which aims to (1) reduce the average age of general practitioners and paediatricians, (2) improve education in general medicine for adults, children and adolescents, and (3) improve the quality and accessibility of health care in primary care.

The pilot project began in the school year 2014/2015, and graduates of medical schools can apply immediately after graduation. Other graduates of medical faculties must meet these conditions: age up to 36 years and the non-inclusion of any specialized study, or already enrolled for the specialized study, which is scheduled to terminate at the earliest at the end of October 2015. The programme should also raise general awareness of quality and gatekeeping in primary care and improve accessibility of health care.

Hand in hand with decreasing the age of the workforce, performance indicators are also to be improved. Firstly, the gatekeeping role of GPs is to be strengthened, so that the number of patients sent to specialists or hospitals decreases from the current 80% to 30% in 2030. Secondly, consultations per capita are to decrease from 11.3 in 2014 to 6.4 in 2030 (Strategic Framework for Health 2014–30) (see Section 6.2).

2.8.4 Regulation and governance of pharmaceuticals

Before entering the market in Slovakia, pharmaceuticals must have an authorization from the European Medicines Agency (EMA), or the national-level State Institute for Drug Control (SIDC). The SIDC closely monitors the safety of drugs in Slovakia and is the national competent body responsible for pharmacovigilance. Monitoring includes reporting of adverse reactions, requiring reports from pharmaceutical companies as well as pharmaceutical quality. Reports on adverse effects are submitted to the Centre of Adverse Effects Follow Up in the SIDC. The prescribing physician is obliged to report any adverse effects. The number of reports peaked in the 1980s and the 1990s with over 2000 reports annually. In the late 1990s the number of reports fell below 500 per year but has been well above that number in the early 2000s. In 2015 there were 1171 reports (SIDC, 2016).

Market authorization holders are also obliged to report adverse effects of drugs. Each market authorization holder appoints a person responsible for pharmacovigilance. In addition to physicians, the reporting of adverse effects applies to pharmacists and nurses as well as patients. The SIDC has the right to suspend distribution of a pharmaceutical or withdraw a pharmaceutical from the market, and in more serious cases can suspend the registration for 90 days or terminate the registration.

General public advertisement is permitted for drugs free of dazing and psychotropic effects, and OTC drugs not covered by health insurance. Advertisements aimed at physicians and pharmacists have no such limitations.

Vaccination campaigns, with the permission of the Ministry of Health, are another exception. The content of general public advertisement may not give the impression that medical examination is not necessary or that pharmaceutical effects are guaranteed. The description of a diagnosis should not mislead patients, and result in self-diagnostics; it should avoid exuberant, ugly and misleading expressions. The advertisement should not compare a drug to food, cosmetic products or consumer goods. It must be clear that the information is an advertisement, containing clear information on proper use. The State Institute of Drug Control is in charge of advertising standards.

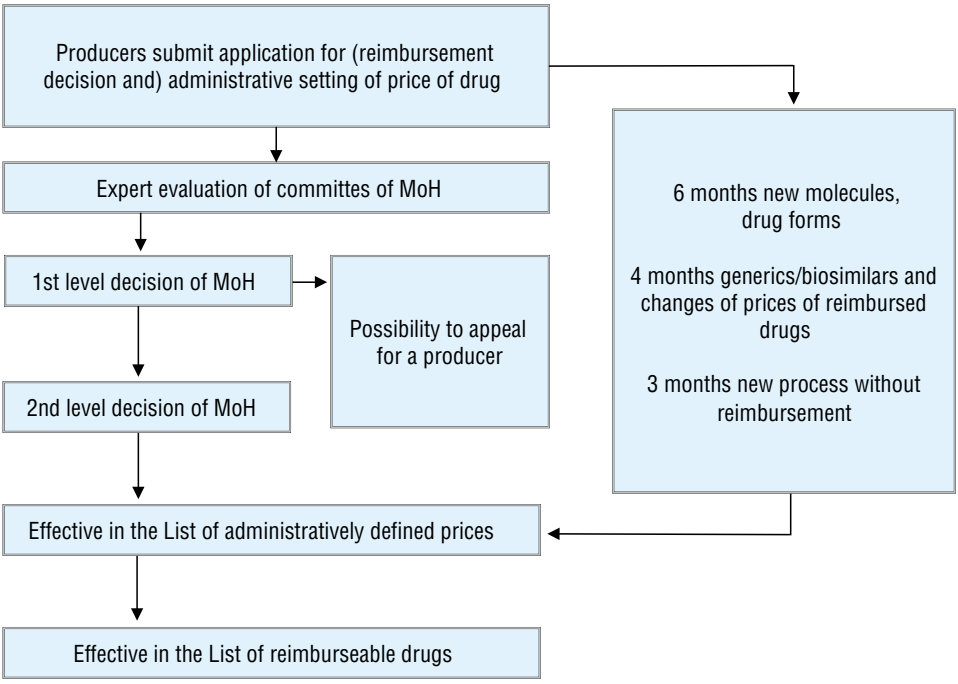
Based on European legislation, as well as the recommendation of the EMA to improve the knowledge of patients, the SIDC has created a patient portal on the website www.sukl.sk. This portal publishes a list of patient organizations. However, it has not been updated since 2007, which may reflect a rather formal approach to the patients' agenda.

Additionally, the Dôvera health insurance company started its own e-Health project, "Safe drugs", for its 1.4 million insured individuals. This is an online service which links doctors, patients, pharmacists and the company itself more directly. The main goal of the project is to increase patient safety and decrease the risk of polypharmacy for complex patients.

Reimbursement decision

The decision as to whether a pharmaceutical will be covered by SHI is the competence of the MoH and its reimbursement committee. The decision is made after an assessment of the pharmaceutical (see Fig. 2.4). A similar process is used for medical devices and dietary products. The MoH centrally regulates the scope of health care services provided by health insurance by defining the list of fully, partially or non-reimbursed drugs, medical devices and dietary products, and also by defining the list of priority and non-priority diseases, as well as by definition of co-payments and user fees.

Fig. 2.4
Reimbursement decision processes of pharmaceuticals in Slovakia, 2016



Source: Authors' own compilation, based on presentation of Dagmar Hroncová in 2015.

First, the marketing authorization holder must submit comparative data on the pharmaceutical, including effectiveness, safety and pharmacoeconomic data. In line with recommendations from the Ministry of Health, the pharmaceutical is assessed using cost-minimization, cost-effectiveness and cost-utility analysis. The discount rate for benefits and costs was set at 5%. The recommended threshold of a cost-effective new technology was set at 24x the average monthly wage from two previous years per unit of health state improvement (20 592 EUR in 2016), and thus pharmaceuticals with lower costs per QALY are considered cost-effective. In contrast, pharmaceuticals that exceed 35x of the average monthly wage from two previous years per unit of health state improvement (30 030 EUR/QALY in 2016) are not considered cost-effective. Pharmaceuticals whose QALY range lies between 20 591 EUR and 30 030 EUR per QALY in 2016 will undergo further evaluation.

Second, each pharmaceutical is evaluated according to its anatomic and therapeutic classification by one of the 22 specialist working groups. The working groups evaluate the effectiveness, safety and importance of each

pharmaceutical. One working group evaluates the pharmacoeconomic properties of the pharmaceutical. The results produced by the specialist working groups serve as the context for the decisions of the Reimbursement Committee for Medicinal Products. The Committee has 11 members, of which three are representatives of the Ministry of Health, five are representatives of the health insurance companies and three are representatives of the professional public.

Lastly, the Reimbursement Committee puts forward proposals for inclusion, non-inclusion, exclusion or change in the status in the benefits package, along with proposals for reimbursement level, co-payment and conditions for reimbursement. The results of their decisions are published on the webpage of the Ministry of Health after every meeting of the Reimbursement Committee. The applicant receives written information on the results of the reimbursement decision, and may appeal the decision.

The process of reimbursement decision-making for drugs is updated and published once a month. Requests for inclusion in the official price list may be submitted at any time. Price changes and the inclusion of medicinal products shall be published each month, according to the actual timetable of the entire assessment process.

The frequency of revising the reimbursements is four times a year. These revisions become enforceable always on the first day of the calendar quarter (1 January, 1 April, 1 July and 1 October).

Pricing decision

Slovakia operates a reference pricing system for pharmaceuticals. SHI reimbursement is set as the maximum price for a standard daily dose in the reference group of the pharmaceuticals. The definition of a given reference group is very narrow. All pharmaceuticals included in the reference group contain the same active substance and are administered uniformly. In certain cases the Reimbursement Committee may decide to form a separate reference group for pharmaceuticals with different administering form and a different amount of active substance per dose. The prices of pharmaceuticals covered by SHI are regulated, both in the ambulatory and inpatient sectors. After obtaining an authorization to enter the market, the ex-factory price of the pharmaceutical is determined by the Ministry of Health through external reference pricing. The ex-factory price may not exceed the average of the three lowest prices of the same pharmaceutical sold in all 28 EU countries. The prices of OTC pharmaceuticals and prescription pharmaceuticals not covered by health insurance have been deregulated (Table 2.3).

Table 2.3

Types of drug with regulated prices in Slovakia, 2016

Type of drug	Subject of price regulation		VAT
Reimbursed drugs, prescription drugs, inpatient drugs	Regulated price of producer	Regulated commercial margins of distributor and pharmacy	10%
OTC drugs with no reimbursement from health insurance	Free pricing for producer	Non-regulated commercial margins for distributor and pharmacy	

Source: Hroncová, 2015.

Table 2.4

Summary of changes in pharmaceutical reimbursement and categorization

Time period	Key changes
2003–2006	• Quarterly categorization • In advance defined timeline of the whole process • Joint price and reimbursement procedures (moved to MoH) • Applications processed within 180 days • Categorization Committee members: 3 MoH + 5 HIC + 3 professionals • Publication of the minutes from Categorization • Issuing decisions • Pharmacoeconomic evaluation • Fixed co-payments • Price proposals • Rapid inclusion and decreased prices • Centralized purchase of drugs
2006–2010	• Reference pricing • Methodological guideline for pharmacoeconomic review (cost-per-QALY)
2010–2012	• Monthly categorization • Edited administrative proceedings • Electronic portal (publication of applications, decision) • Cost per QALY adopted in the Act • Disclosure of conflicts of interest of members of Categorization Committee and marketing activities of pharmaceutical companies • Generic prescription • Maximum limit for co-payments

Source: Szalayová et al., 2014.

A degressive margin for pharmaceuticals and dietary foods was first introduced in Slovakia in 2004. Initially, the margins were set as a fixed percentage from the pharmaceutical price (11% for the distributor and 21% for the pharmacy). In 2004 a lower margin (10%) was established (4% for the distributor and 6% for the pharmacy) for so-called financially demanding pharmaceuticals, i.e. certain high-priced pharmaceuticals that put pressure on the budget. However, exactly what constituted a financially demanding pharmaceutical was never precisely defined. The decision to include a pharmaceutical in this category was made by the Reimbursement Committee

during the reimbursement decision. Since 2008, however, a more elaborate degressive system is in place, which sets margins separately for distributors and pharmacies based on the ex-factory price (Table 2.5).

Table 2.5

Retail margins for pharmaceuticals (excl. generics)

Bands (EUR)		Distributor		Pharmacy	
		Cumulative surcharge for preceding bands (EUR)	+ surcharge as % of the price in the corresponding band	Cumulative surcharge for preceding bands (EUR)	+ surcharge as % of the price in the corresponding band
1	0.00–2.66	–	14.1	–	32.9
2	2.66–5.31	0.4	11.1	0.9	25.9
3	5.31–7.97	0.7	8.1	1.6	18.9
4	7.97–13.28	0.9	5.1	2.1	11.9
5	13.28–23.24	1.2	3.3	2.7	7.7
6	23.24–39.83	1.5	2.7	3.5	6.3
7	39.83–73.03	1.9	2.4	4.5	5.6
8	73.03–165.97	2.7	2.3	6.4	5.3
9	165.97–331.94	4.8	2.1	11.3	4.9
10	331.94–663.88	8.3	1.9	19.4	4.5
11	above 663.88	14.8	1.8	34.5	4.2

Source: MoH, 2016b.

VAT on pharmaceuticals has changed several times since 1999. Until 1999 it was 6%, after which it rose to 10% in the period 2000–2002. In 2003 VAT increased to 14% and a flat rate of 19% VAT was introduced in 2004. On 1 January 2007 the new government reduced the VAT on pharmaceuticals to 10%. VAT on the pharmacy margin was introduced on 1 January 2004.

Generic substitution

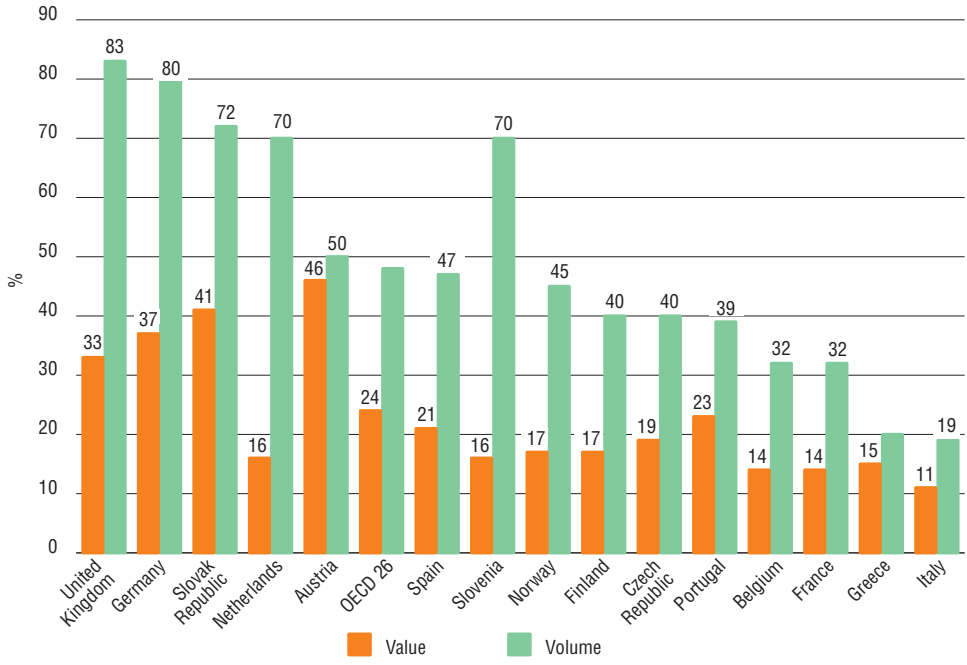
Regulation in 2011 (Act no. 362/2011) amended the legal framework of 2005 on generic substitution. The change obliged doctors to prescribe the effective substance of a medicine. Furthermore, pharmacists were obliged to inform patients about cheaper alternatives (generics) when filling a prescription. If the physician did not provide any reason not to use the generic substitute, the patient may choose the less expensive option under the supervision and advice of a pharmacist.

Out of 4415 medicines reimbursed under health insurance during the first half of 2016, 2573 (i.e. 58%) were registered as generics. According to the OECD (2015) 72% of all medicines that were partially or fully reimbursed in

2013 were generics, which accounted for roughly 41% of total pharmaceutical sales in the country. These values are some of the highest among OECD member countries (see Fig. 2.5).

Fig. 2.5

Share of generics in the total pharmaceutical market of Slovakia, 2013



Source: OECD, 2015.

2.8.5 Regulation of medical devices and aids

Medical devices and aids are assessed through a similar categorization process as described for pharmaceuticals. This includes the application by the marketing authorization holder of the medical device, evaluations by working groups and a reimbursement proposal prepared by the Reimbursement Committee.

The Ministry of Health acts as regulator, and defines the administratively defined price at which the medical device manufacturer or the importer is allowed to enter the Slovak market. This price is based on the reference pricing principle and is the average of three lowest prices across the 28 EU countries. The MoH started the process of price referencing for 586 medical devices in

January 2016 and implementation was expected in July 2016. According to preliminary reports, a 23.5% reduction in the prices of the 586 medical devices is expected (Černěnko & Haluš, 2015).

The MoH also sets the maximum margin for the distributor (8.5%) and the retailer (11.5%), which together should not exceed 20%. On average, health insurance companies pay 92% of the price, the rest is paid by the patient in the form of a co-payment (Černěnko & Haluš, 2015).

2.8.6 Regulation of capital investment

The centrally organized capital budget of the Ministry of Health was largely abolished in 2003 to secure greater transparency in hospital capital modernization. Investment planning was not based on transparent relevant economic or health indicators resulting in unpredictable allocation of funds. Funds are now redistributed to health insurance companies to be included in their payments to providers and cover fully for capital investments. Thus, in theory capital renovation of hospital infrastructure has been financed by the health insurance funds through reimbursement of hospital services.

Providers, however, do not see these revenues as sufficient and often invest additional money into their health facilities and usually bear the investment costs in these hospitals and outpatient centres. The MoH provides only occasional capital grants, the average value of which is up to 10 million EUR per year. Planning and coordination of resource utilization from the EU structural funds to this day suffer from the same problem. From 2004 onwards, the vast majority of funds for capital investment was allocated to health insurance companies so that they could include amortization in their payments to providers. A programme called "Operation Programme Healthcare ("*Operačný Program Zdravotníctvo*") was launched for the period of 2007–15 to tackle investment gaps in health service provision. The programme, worth 193 million EUR for updating hospital infrastructure and 34 million EUR co-financing from other national sources, only marginally contributed to urgently needed capital (KPMG, 2013). A new Operation Programme for 2014–2020, called the Integrated Regional Operation Programme, which has a budget of 300 million EUR for the capital demands of in- and outpatient providers of care, may have a similarly small impact.

The technical infrastructure of hospitals in Slovakia is often outdated. According to a comprehensive MoH investigation from 2004, Slovak state hospitals had an average age of 34.5 years. Since then, only one new hospital has been built (St Michael's Hospital, built by the Ministry of Interior for

50 million EUR). An update by the MoH had seen a further increase of the average age to 42 years in 2013 (MoH, 2013a). A study by HPI confirmed an insufficient capital formation in Slovak health care (Pažitný et al., 2014). Slovak capital formation in health care was found to be only 59.3% of that of the Czech Republic and 30.8% of that of Austria. Estimates of investments needed to converge with EU-15 averages range from 3.9 billion EUR by the MoH (MoH, 2013a) up to 8.3 billion EUR, in the worst case scenario, by HPI (Pažitný et al., 2014).

It was also discovered that hospitals in Slovakia do not reach international standards in terms of their built-up areas. The majority of hospitals occupy large areas of land with numerous buildings scattered around the area. General hospitals have an average of 30 buildings per hospital; some hospitals have up to 81 buildings.

2.9 Patient empowerment

The role of patients in the Slovak health care system is gaining importance. For example, patients have the right to free choice of insurance company and health care provider (if these are contracted by the relevant HIC). However, there is still low awareness about patient rights and empowerment in Slovakia and its formal implementation.

2.9.1 Patient information

Information asymmetry is one of the characteristic features of health systems. In spite of gradual improvement in health system information, explicitly defined information on services covered by SHI, including which diagnostic and therapeutic procedures this may imply, is lacking. This creates room for arbitrary interpretation by health insurance companies as well as by health care providers.

As far as access to information is concerned, every individual has the right to information on their state of health as well as to their health documentation. Prior to giving informed consent, a condition before a health service can be provided, health care providers must provide patients with all necessary information.

Health insurance companies also provide information on health services performed beyond the coverage of SHI. They are obliged to publish the list of their contracted providers (e.g. on internet). Health care providers have to inform

patients in advance if the provided health service is subject to cost-sharing. Physicians have an obligation to inform patients about co-payments for prescribed medications and must offer a prescription of a generic with a different co-payment. Patients can verify the pharmaceutical prices and co-payments in pharmacies, since pharmacies must provide an updated list of pharmaceuticals.

Information on the quality of providers is scarce. Based on their own analyses, the health insurance companies publish assessment of hospitals. No institution is actively and systematically monitoring awareness of patient rights or accessibility of information in minority languages. This gap is bypassed by self-supporting patient organizations.

2.9.2 Patient choice

Free choice in health care encompasses free choice of health insurance companies and health care providers, as well as the right to choose a curative procedure.

Free choice of health care provider via social health insurance is restricted to contracted health care providers irrespective of where they are based. The list of contractual health care providers is published by individual health insurance companies. One exception is made for GPs; patients are registered with one GP and can only change their GP once every six months. If an insured person insists on choosing a non-contracted provider, the health insurance company may issue a prior authorization and cover the costs. The providers may not refuse patients except in specified cases, for example work overload or a conflict of interests. Furthermore, providers may decline to perform certain procedures if these are irreconcilable with their religious or other beliefs. If this situation arises, the chief physician of the self-governing region identifies a physician who will take care of the patient. If a patient lives in the district where the physician operates, they cannot be refused due to work overload.

The 2004 health reform gave health insurance companies tools to compete for clients. The insured may change their health insurance company once a year. The deadline to switch health insurance companies is 30 September, becoming effective from 1 January the following year. The switch can only be refused if the insured person has applied to more than one health insurance company at the same time. Other administrative barriers that could hinder switching health insurance companies (e.g. a written notice) were removed. Mobility of insured has varied significantly over time and is influenced by marketing activities and by the extent to which the insured exercise their freedom of choice (see Table 2.6).

Table 2.6
Accepted applications to switch HIC in Slovakia, 2005–2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number of applications	50 158	716 467	232 145	178 916	125 723	81 108	157 331	177 160	109 916	89 633	113 397
Share of all insured (%)	1	14	5	4	3	2	3	3	2	2	2

Source: HCSA, 2016.

Patients can decide whether to give an informed consent to their health care professionals. In addition, health care professionals are obliged to inform patients about alternative treatments. When a prescription is issued, the patient may opt for a generic substitution, unless the physician decides that the branded pharmaceutical must be given. The patient has the right to withdraw their informed consent at any time.

The donation of tissues and organs takes place with the presumed consent of the donor or autopsied person. Individuals must register in writing with the national register to protect the integrity of their body after death.

Health care professionals may, based on religious or other beliefs, decline to perform certain procedures related to reproductive health, such as artificial insemination, sterilization or induced abortions.

2.9.3 Patient rights

Awareness of patient rights among patients and health professionals is low. Patient rights in Slovakia are laid down in several acts. The Patients' Charter (see Table 2.7) was elaborated in 2000 as a project of the Ministry of Health, funded by the European Union's PHARE programme. It was ratified by Slovakia in 2001. A group of international and Slovak experts drafted the charter according to the laws in force, and several international organizations (UN, WHO, Council of Europe) cooperated in the project. The goal of the Patients' Charter was to explain to patients their basic rights in health care. The Charter was approved by the Slovak government in 2001, but the document itself is not legally binding.

Table 2.7
Ten articles of the Charter of Patient Rights in the Slovak Republic

I.	Human rights and freedom in health care provision
II.	General patient rights
III.	Right to information
IV.	Patient's consent
V.	Consent of patients with legal incompetence
VI.	Confidentiality
VII.	Treatment and care
VIII.	Care for incurable and mortally ill patients
IX.	Complaint submission
X.	Compensation for damages

Source: Charter of patients' rights in the Slovak Republic, 2001.

Furthermore, the European Charter of Patients' Rights was drafted in 2002 by a European network of civil, consumer and patient organizations called the Active Citizenship Network. The goal of the European Charter is to encourage patients to play a more active role in health care provision. The European Charter is not legally binding either, but the network of patient organizations successfully earned recognition in many countries, as well as the adoption of rights stated in the Charter. The 2004 Slovak health reform incorporated 14 patient rights from the European Charter into the new reform legislation. Most of the rights from both Charters can be traced back to the International Agreement on Human Rights and Biomedicine, which Slovakia ratified in 1999.

Several programmes funded by various grants were used to promote patient rights, but once the funds were exhausted, promotion activities stopped. In 2003 the Ministry of Health established a patient rights unit. This unit provided consultations for patients and information regarding health care provision, as well as monitoring public awareness in observing patients' rights. It was relocated to the HCSA in 2005 and later dissolved. In addition, a non-governmental organization called the Association of Protection of Patient Rights deals with patients' rights.

In spite of the declared formal support by the authorities, vulnerable groups of citizens have difficulties advocating their rights. There are no patient advocates in health care facilities.

2.9.4 Complaints procedures (mediation, claims)

A mediation system is not available in Slovakia. If patients or their relatives believe that a health care service was not adequately provided, they can submit a written complaint to the health care provider. If the health care provider's response does not satisfy the complaint, it is the patient's right to request the HCSA to assess whether adequate health care was provided. Other complaints (e.g. concerning user fees, ethics and the organization of health care) must be submitted to the relevant body (e.g. the Ministry of Health, self-governing regions, professional chambers). The law prohibits the persecution of a person exercising their right to file a complaint, make a claim or start a criminal prosecution against a health care professional or provider.

The Health Care Surveillance Authority, as an independent body for surveillance of health care, has become a credible advocate of patient rights. The HCSA advocates the position of patients by examining the procedures of provided health care based on patient complaints. In 2015 the HCSA dealt with 2181 complaints and resolved 1682 of them. In all 908 cases were reviewed, and 136 complaints (6% of all complaints) were recognized as justified (HCSA, 2016).

The total number of complaints increased from 2005 to 2015, from 1632 to 1754 (Table 2.8). Health services were found to be inadequate in 6% of total complaints in 2015, representing a decrease compared to 2009–13 (HCSA, 2015).

Table 2.8

Number of complaints in relation to provided health care

	2005	2007	2009	2010	2011	2012	2013	2014	2015
Number of complaints in the given year	1 632	1 249	1 634	1 469	1 391	1 563	1 647	1 641	1 754
Number of complaints from previous year	0	153	212	265	260	224	289	277	427
Total number of complaints	1 632	1 402	1 846	1 734	1 651	1 787	1 936	1 918	2 181
Number of resolved complaints	1 430	990	1 581	1 474	1 427	1 498	1 651	1 491	1 682
Number of complaints related to correct provision of health care services	510	678	1 049	1 016	961	1 005	1 085	901	908
Valid complaints	101	146	206	245	282	228	227	144	136
Invalid complaints	409	532	843	771	679	777	858	742	766
Share of valid complaints in total (%)	6	10	11	14	17	13	12	8	6

Source: HCSA, 2016.

In addition to the increase in formal complaints about the provision of health care in the last five years, there are more reports of dissatisfaction about health professionals in public media. These mainly relate to reluctance, incompetence, poor quality or lack of professionalism in the provision of health care. This anecdotal evidence suggests that there is a widespread perception of low quality in the Slovak health care system (Mužik, Balík & Pažitný, 2014).

2.9.5 Public Participation

Public participation in Slovakia remains limited, despite an impressive number of patient organizations in place, as discussed in Section 2.3.4. Representing organizations and associations have an opportunity to comment on new legislation, but are limited to voice-only recommendations. They are too fragmented, and frequently plagued by lack of funding. Patient organizations can advocate their interests by lobbying legislators and by influencing public opinion. By allowing real competition in health insurance the insured have the possibility to indirectly influence the purchasing policy.

2.9.6 Patients and cross-border health care

As an EU Member State, members of a Slovak health insurance company are entitled to receive services that are covered by statutory insurance in other European Union countries, Liechtenstein, Norway, Iceland and Switzerland. Based on EC Regulation 1408/71 (now 883/2004), Slovak policy-holders can use the European Health Insurance Card (EHIC) to receive health services abroad, paid for by the Slovak system, when on a temporary stay (for example, as tourists). Furthermore, Slovak insured may ask their health insurance company for pre-authorization when planning to receive treatment abroad under EU Directive 2011/24/EU. The Directive was implemented in 2013 in Slovakia, using a mechanism of prior authorization.

The conditions for reimbursement of non-urgent (planned) treatment in another state are as follows: (1) pre-authorization by the health insurance company, (2) expected health improvement, (3) lack of treatment possibilities in Slovakia, or (4) insufficient providers' capacity. In some cases, the health insurance company has the right to specify the health care facility or the state in which the person can seek health care. This applies to EU Member States as well as countries worldwide. In countries outside the EU the insured may receive reimbursement for urgent health care to the same amount as in the

territory of Slovakia. The HCSA represents the Slovak health system in cross-border health care issues and reimburses patients when treated abroad and collects contributions from foreign patients treated in Slovakia.

In 2014 the HCSA processed 5620 requests in total; 28% were requests from Slovak insured for reimbursement of already paid in-kind health services in the EU prior approved by their HIC (E 126SK), followed by 22% requesting reimbursement without prior authorization (E 107EU). Additionally, 15% of the requests were made by EU insured using benefits in-kind without prior formularies (E 107SK) and 8% were made by EU insured claiming a refund for payments for benefits in-kind which they paid in Slovakia in cash (E 126EU). Granted reimbursements amounted to 3.6 million EUR in 2014, an increase of roughly 30% from 2013, but almost on the same level as 2012 (3.5 million EUR).

Cross-border health care has therefore played only a minor role, although it did open up opportunities for some particular groups. For example, Slovak women may schedule a birth abroad (see Table 2.9). The Czech Republic and Austria are seen as attractive because of better conditions during childbirth, for example through better infrastructure of hospitals, choice of procedures during childbirth and more highly qualified birth attendees. Health insurance will reimburse costs up to an average reimbursement for birth delivery in Slovakia, which is around 600 EUR (Skybová, 2014).

Table 2.9
Number of births abroad

	2013	2014
General HIC	2	36
HIC Dôvera	12	23
HIC Union	0	12
Total	**14**	**71**

Source: Skybová, 2014.

Spa treatments and orthopaedic services (total endoprothesis, arthroscopy) are traditionally the most sought-after health care services in Slovakia, mainly for patients coming from Arab countries. Considering the relatively low prices for dental care, an increased demand for dental services has also been observed. Also there has been an increased demand for in vitro fertilization from countries where stricter regulation of reproductive health is observed.

3. Financing

In 2014 total health expenditure in Slovakia was 8.2% of GDP, which was higher than neighbouring Czech Republic and Hungary, but still significantly lower than the EU-28 and EU-12 averages in WHO data. When looking at per capita spending on health, Slovakia was well below the EU-28 average, but slightly above Poland and Hungary. In national data, health expenditures are significantly lower due to differing methodologies to account for related expenses.

The Slovak health system provides universal coverage for a broad range of services, and guarantees free choice of one of the three health insurance companies in 2016. Public resources accounted for 70% of total health expenditure in the Slovak health system in 2013 in WHO data. Main sources of revenue are contributions from employees and employers, self-employed, voluntarily unemployed, publicly financed contributions on behalf of state-insured and dividends. State insured is a term used for the significant group of mostly economically inactive persons for whom the state pays contributions (e.g. students and retired). The ratio of revenue from state insured to revenue from other groups is 30:70. Compulsory health insurance contributions are collected by the health insurance companies, and are redistributed according to a risk-adjustment scheme. This scheme adjusts for age, gender, economic activity and pharmaceutical cost groups (since 2012). The central government budget finances the Ministry of Health and other health-related agencies. Self-governing regions are furthermore responsible for covering investment costs of hospitals. Debt settlements for hospitals have caused additional expenses in 2009–2011, but steady investments in hospitals are lacking. This was only partly addressed with external financing from EU structural funds.

Private expenditure comprised approximately 30% of the total health expenditure in 2013 in WHO data. It is primarily composed of private households' out-of-pocket payments. Out-of-pocket payments in Slovakia

mainly consist of co-payments for prescribed pharmaceuticals and medical durables; user fees for various health services, stomatology care and spa treatment; and direct payments for OTC pharmaceuticals.

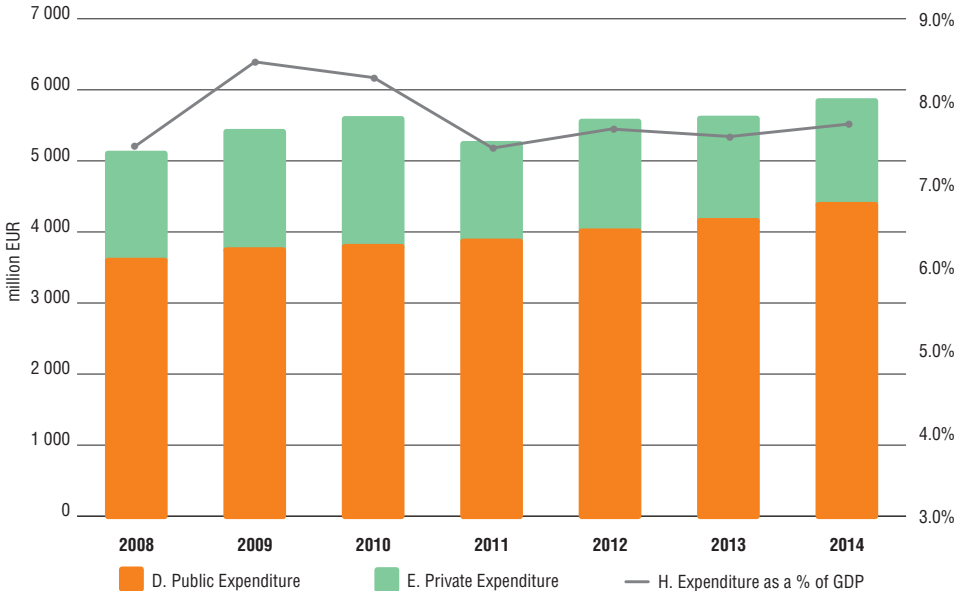
The MoH defines a minimum of clinical FTEs in ambulatory care and a minimum number of beds per specialty in acute care that the HICs have to cover in each of the self-governing regions. Health providers are paid by HICs according to individual contracts, which determine the quota, volume and price of services. The guiding principles of payment mechanisms differ for primary and specialized ambulatory care, inpatient care, diagnostics, emergency and pharmaceutical services. For inpatient services, the introduction of a DRG system is expected to bring significant changes, although its implementation has been delayed. Outpatient primary health care is paid by a combination of capitation and fees for certain medical services not covered by the capitation but included in SHI benefits, such as preventive services. Specialists in outpatient care are paid on a capped fee-for-service basis. Following massive strikes in 2011, the wages of doctors increased in several stages. The wages are defined as multipliers of the national wage average and range from factor 1.3 up to 2.3 according to the reached level of specialization.

3.1 Health expenditure

Health care expenditure is estimated at 5.8 billion EUR (national data), i.e. approximately 7.7% of Slovak GDP in 2014. The expenditure increased in various waves since 2004, rising in absolute terms by 2.8 billion EUR and in relative terms by 1.2 percentage points of GDP (see Fig. 3.1). Health expenditure peaked in 2009 at 8.5% of GDP, as a consequence of increasing state contributions on behalf of the economically inactive population and a simultaneous decline in national GDP, caused by the financial crisis (see Section 1.3).

The increase in health care spending was driven by economic growth during 2004–2010, which enabled higher revenues from collected contributions. Nonetheless, this increase in available resources did not lead to balanced spending levels. Indeed, public providers of health care services have regularly recorded liabilities after their due date. These debts were met with several rounds of debt settlement, causing a further burden on public expenses.

Fig. 3.1
Development of health expenditure as a percentage of GDP in Slovakia, 2008–2014



Source: Authors' compilation based on Table 3.1.

After 2010 health expenditure decreased and remained fairly stable. Partly, this is attributed to a decline in private expenses resulting from a change in methodology of reporting private expenses, and to a variety of cost-containment measures, introduced since 2010. This helped the financial sustainability of the Slovak health system. Nonetheless, three factors need to be considered that might cause this stability to deteriorate in the future.

Firstly, another round of debt settlement is needed, since public hospitals have accumulated a considerable amount of debts again. As Table 3.1 shows, public hospitals regularly have debts, despite their debts being last settled in 2011. They are estimated to be around 600 million EUR as of June 2016.

Secondly, there is a need for hospital modernization, since the MoH estimated that there is a capital underfunding of public hospitals by roughly 3.9 billion EUR in the most optimistic scenario (see Section 4.1.1).

Table 3.1

Structure of total health expenditure (in million EUR), 2009–2014, by agents

	2009	2010	2011	2012	2013	2014
A. Admin and health care expenditure of HICs[a]	**3 384.5**	**3 434.5**	**3 486.3**	**3 631.5**	**3 783.5**	**4 005.3**
A.1 Health care expenditure	3 285.6	3 385.7	3 362.3	3 504.5	3 645.1	3 851.9
A.2 Administrative overheads	111.9	117.2	107.5	127.0	138.4	153.4
B. Central/regional government and other public institutions	**279.5**	**264.3**	**214.0**	**312.3**	**259.1**	**282.4**
B.1 Ministry of Health expenses[a,b]	79.7	75.4	74.5	72.8	77.8	75.3[e]
B.2 Self-governing regions expenses[c]	11.7	7.4	11.2	4.0	6.2	6.0[e]
B.3 Other public institutions and EU funds expenditure[a,b]	188.1	181.5	128.3	235.5	175.1	201.1[e]
C. Debt formulation of public providers of health services[b]	**79.5**	**92.0**	**165.3**	**64.6**	**112.5**	**93.5**
D. Public Expenditure Total (A+B+C)	**3 743.5**	**3 790.8**	**3 865.6**	**4 008.4**	**4 155.1**	**4 381.2**
E. Private Expenditure Total[d]	**1 665.2**	**1 798.9[br]**	**1 373.7**	**1 544.6**	**1 440.2**	**1 459.9[e]**
E.1 OOP	1 456.5	1 520.0	1 235.0	1 289.5	1 302.1	1 319.9
F. Expenditure total (D+E)	**5 408.7**	**5 589.7**	**5 239.3**	**5 553.0**	**5 595.3**	**5 841.1**
G. GDP of Slovakia	**63 819**	**67 387**	**70 444**	**72 420**	**73 835**	**75 561**
H. Expenditure as a % of GDP	**8.5**	**8.3**	**7.4**	**7.7**	**7.6**	**7.7**

Sources: [a]HCSA, 2015; [b]MoH, 2015a; [c]INESS, 2014; [d]Statistical Office of the Slovak Republic, 2016; [e]estimate, see Box 3.1 for further information on OOPs since there are several methodologies that can be used for calculating OOPs; [br]break in series.

Thirdly, additional budgets by the Ministry of Social Affairs on long-term care and disability benefits should be considered as health expenditures. From these budgets, physically or mentally disabled persons received in 2014 financial and material benefits totalling approximately 1140 mil EUR that some countries (e.g. Sweden, Austria and Germany) might include in health care expenditures.

The HICs accounted for the majority of spending, amounting to approximately 3.85 billion EUR in 2014, of which 20% was spent on pharmaceuticals (see Table 3.2). In the last years before 2011, HICs spent up to one-third of their revenues on pharmaceuticals. Since then, a number of cost-containment measures have been adopted, such as price referencing and regressive margins of prescribed drugs to contain pharmaceutical expenditure, which was driven primarily by over-consumption of medicines. A first drop in pharmaceutical expenditure was notable in 2012[3] due to the introduction of the changes in the list of reimbursed pharmaceuticals and their price referencing that was set as the average of three lowest EU prices (see Section 5.6).

[3] A decrease in 2011 was caused by formal changes in the reimbursement process; it did not represent structural cost-efficiency improvements.

Table 3.2

Expenditure of HICs, 2009–2014

		millions EUR						as % of total expenditure					
	Expenditures	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
A	**Health expenditures total**	**3 286**	**3 386**	**3 361**	**3 505**	**3 645**	**3 852**	**94**	**93**	**91**	**94**	**91**	**94**
A1	**Pharmacies**	**1 138**	**1 151**	**1 094**	**1 048**	**1 040**	**1 077**	**33**	**32**	**30**	**28**	**26**	**26**
	Pharmaceuticals	988	963	898	814	825	n/a	28	26	24	22	21	n/a
	Medical durables	128	131	141	146	157	n/a	4	4	4	4	4	n/a
A2	**Ambulatory care**	**1 172**	**1 213**	**1 230**	**1 337**	**1 405**	**1 442**	**34**	**33**	**33**	**36**	**35**	**35**
	Primary care	266	266	240	264	272	280	8	7	6	7	7	7
	Secondary care	368	393	428	479	484	456	11	11	12	13	12	11
	Dentists	114	116	116	122	128	128	3	3	3	3	3	3
	Diagnostics and labs, other	423	438	446	471	521	577	12	12	12	13	13	14
A3	**Tertiary care**	**955**	**996**	**1 002**	**1 081**	**1 163**	**1 287**	**27**	**27**	**27**	**29**	**29**	**31**
	General hospitals	725	796	818	884	988	1 041	21	22	22	24	25	25
	Specialized hospitals	179	157	146	160	134	202	5	4	4	4	3	5
	Medical and maternity centres	9	1	3	4	7	5.9	0	0	0	0	0	0
	Nursing homes	42	42	35	33	34	38	1	1	1	1	1	1
A4	**Foreigners, homeless, EU**	**21**	**26**	**35**	**38**	**38**	**46**	**1**	**1**	**1**	**1**	**1**	**1**
B	**Admin expenditure**	**112**	**117**	**108**	**127**	**138**	**154**	**3**	**3**	**3**	**3**	**3**	**3**
C	**Other expenditure[4]**	**86**	**151**	**219**	**106**	**236**	**96.1**	**2**	**4**	**6**	**3**	**6**	**2**
D	**Expenditure total**	**3 484**	**3 654**	**3 688**	**3 738**	**4 019**	**4 102**	**100**	**100**	**100**	**100**	**100**	**100**

Source: HCSA, 2015 and authors' own compilation.

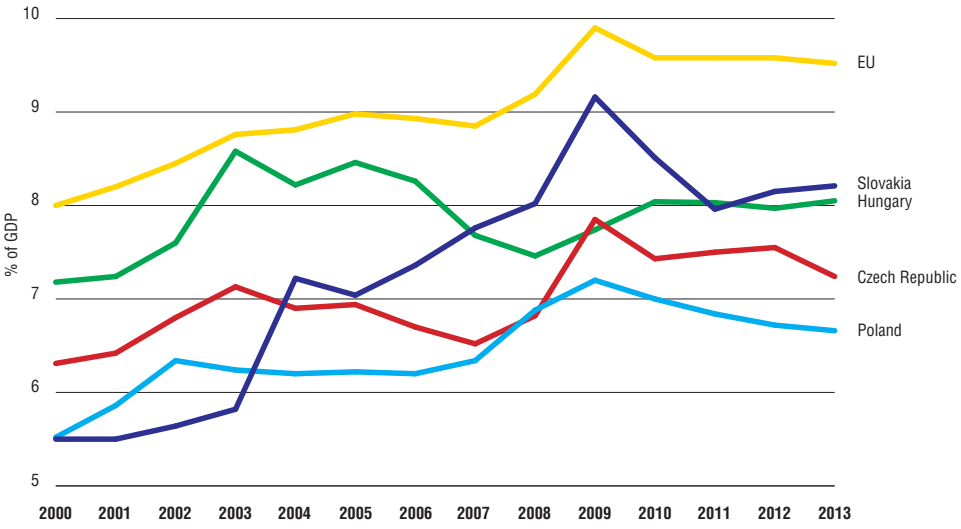
[4] Other expenditure comprises fines, compulsory contributions towards HCSA, NCHI and operating centres for ambulances. These expenses were, for the purposes of Table 3.1, included under B.3 "Other public institutions".

Expenditure on ambulatory care has been slightly increasing over time, reaching 35% in 2014. Primary care spending has stabilized at around 7% of health spending, whereas expenses of ambulatory specialists and diagnostic services have been significantly higher than in neighbouring countries. For instance, spending on medical goods and auxiliary services in Slovakia is higher compared to other EU countries (OECD, 2016). Also hospital care has seen an increase in costs, reaching 31% in 2014. This is mainly driven by higher salaries for health personnel after the strikes in 2011 (see Section 3.7.3).

From an international perspective, Slovakia spent 8.2% of GDP in 2013 on health, which was slightly higher than the V3, but still significantly lower than the EU-28 and EU-12 averages according to WHO data (see Figs. 3.2 and 3.3). This number differs from national data due to differences in methodology. WHO uses the internationally accepted National Health Accounts methodology that shows higher private expenditure figures than the national sources (see Box 3.1 for further information on accounting for private expenditure in Slovakia).

Fig. 3.2

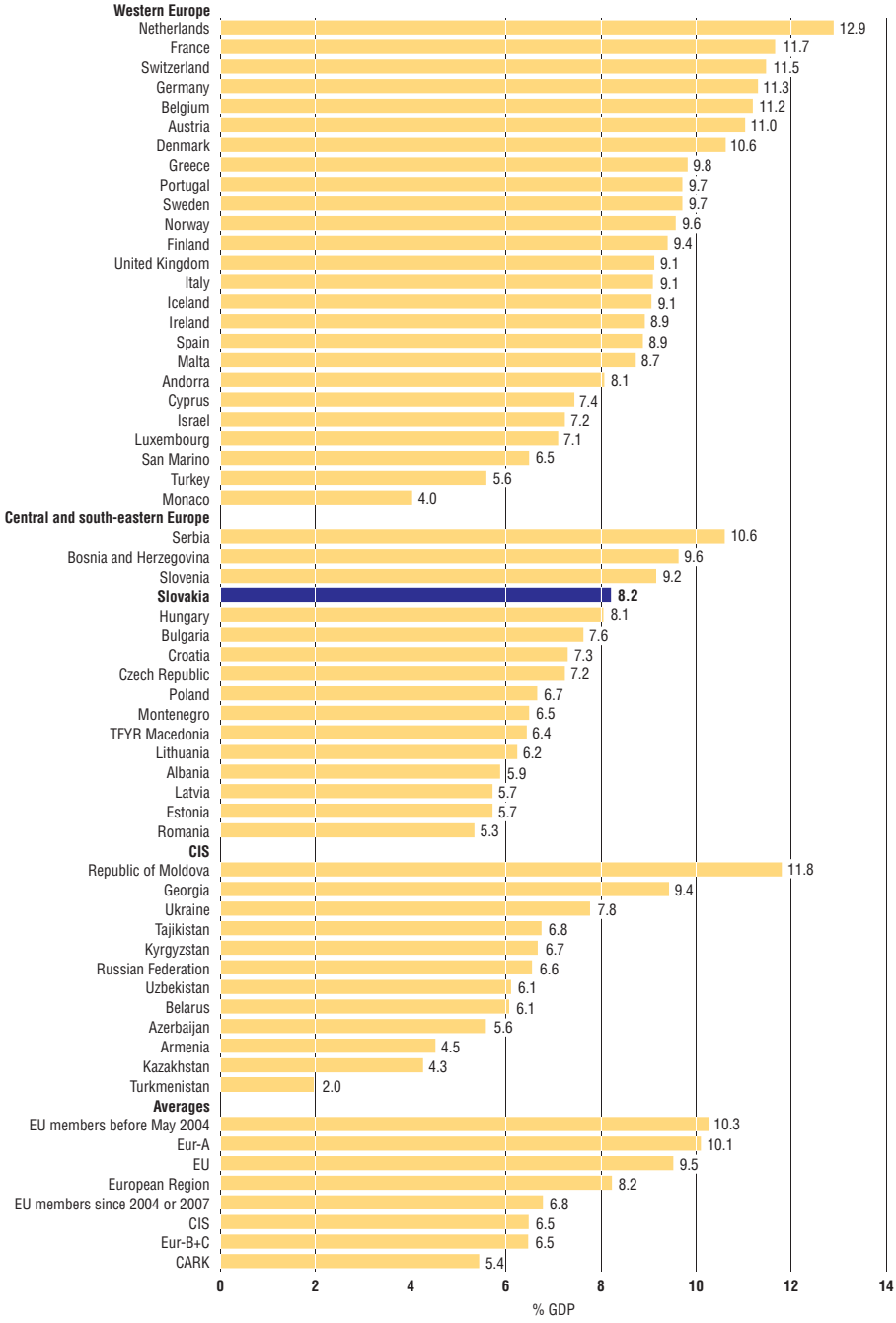
Trends in health expenditure as a share (%) of GDP in Slovakia and selected countries, 2000–2013



Source: WHO HFA, 2015.

Fig. 3.3

Total health expenditure as a share (%) of GDP, European region, 2013 or latest available year



Source: WHO HFA, 2015.

Box 3.1
Different perspectives on OOP payments

There are three methodologies that can be used to measure and report OOP payments. The first method includes "household accounts" and refers to the narrowest definition of OOP, recorded by expenditures of households. These accounts tend to be most accurate, but the lowest. The second method includes "national accounts" that comprises household accounts and inputs from consumption standards according to COICOP (Classification of Individual Consumption According to Purpose). This method reports greater values, which are, however, difficult to analyse and justify in Slovakia because health expenditure is not separately accounted for. This means that health-related expenditures cannot be distinguished from e.g. cosmetics and dietary food available in pharmacies. The last, most extensive method also includes, in addition to the previous two items, expenditure of non-profit agencies. Comparison of these three methodologies was undertaken by HPI (2014a), and the results are illustrated in the following table:

	First methodology	Second methodology	Third methodology
OOP values for 2012	652 million EUR	1 630 million EUR	2 240 million EUR

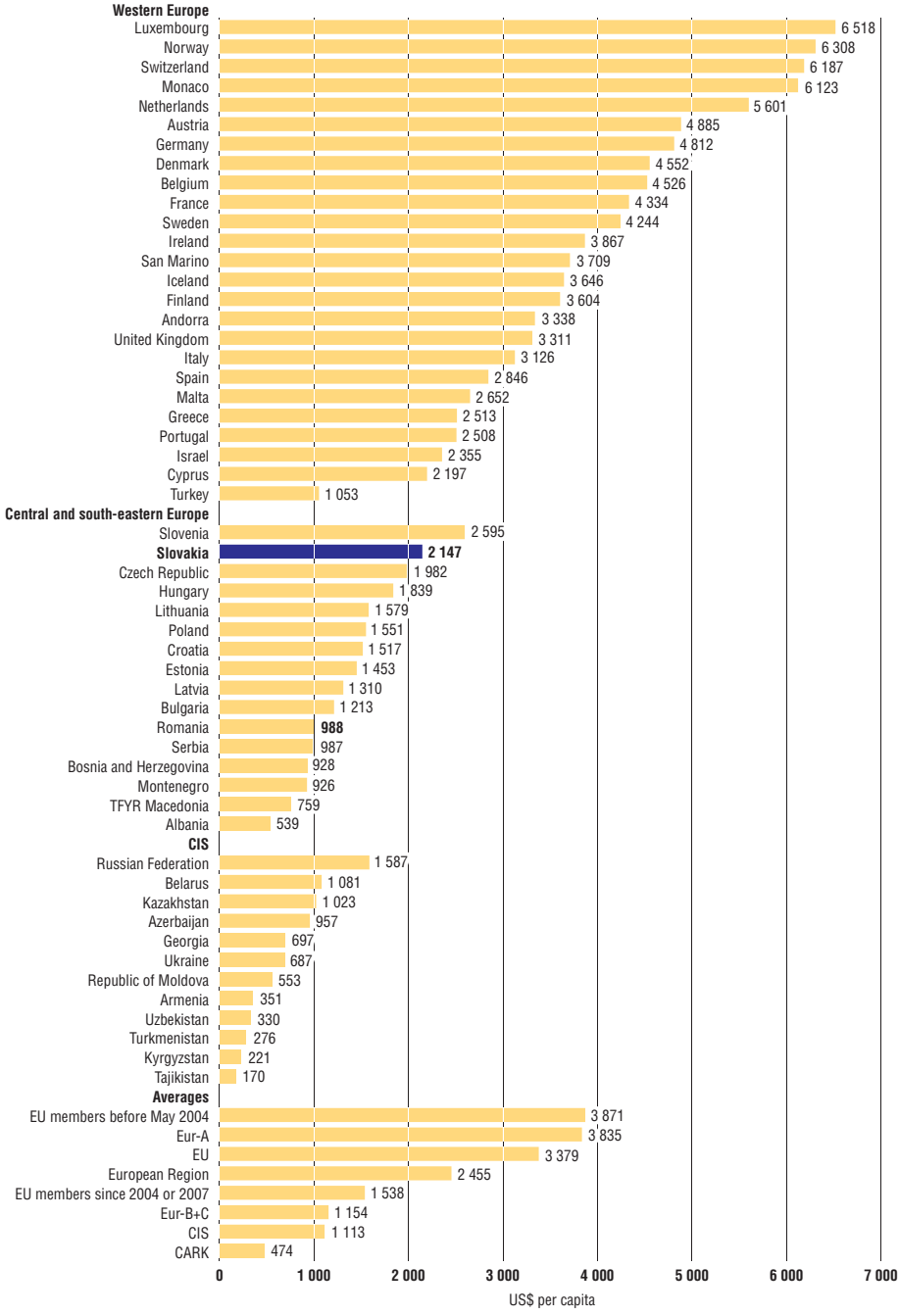
Slovakia reports figures using the third method to WHO and EUROSTAT. Yet according to a variety of national experts, these figures are unrealistic and incorporate a variety of unjustified items (see Section 3.4).

Total health expenditure per capita (in US$ PPP) was 2 147 in 2013, which was lower than the EU average of US$ PPP 3 379. However, compared to Poland and Hungary, Slovak per capita spending was slightly higher (see Fig. 3.4).

Public health expenditure was 3 916 billion EUR in 2013, i.e. roughly 70% of the total health care expenditure of Slovakia, and was below the EU-28 average of 75.9%. This is comparable to Poland's expenses but higher than Hungary's and significantly lower than the Czech Republic's (see Fig. 3.5).

Fig. 3.4

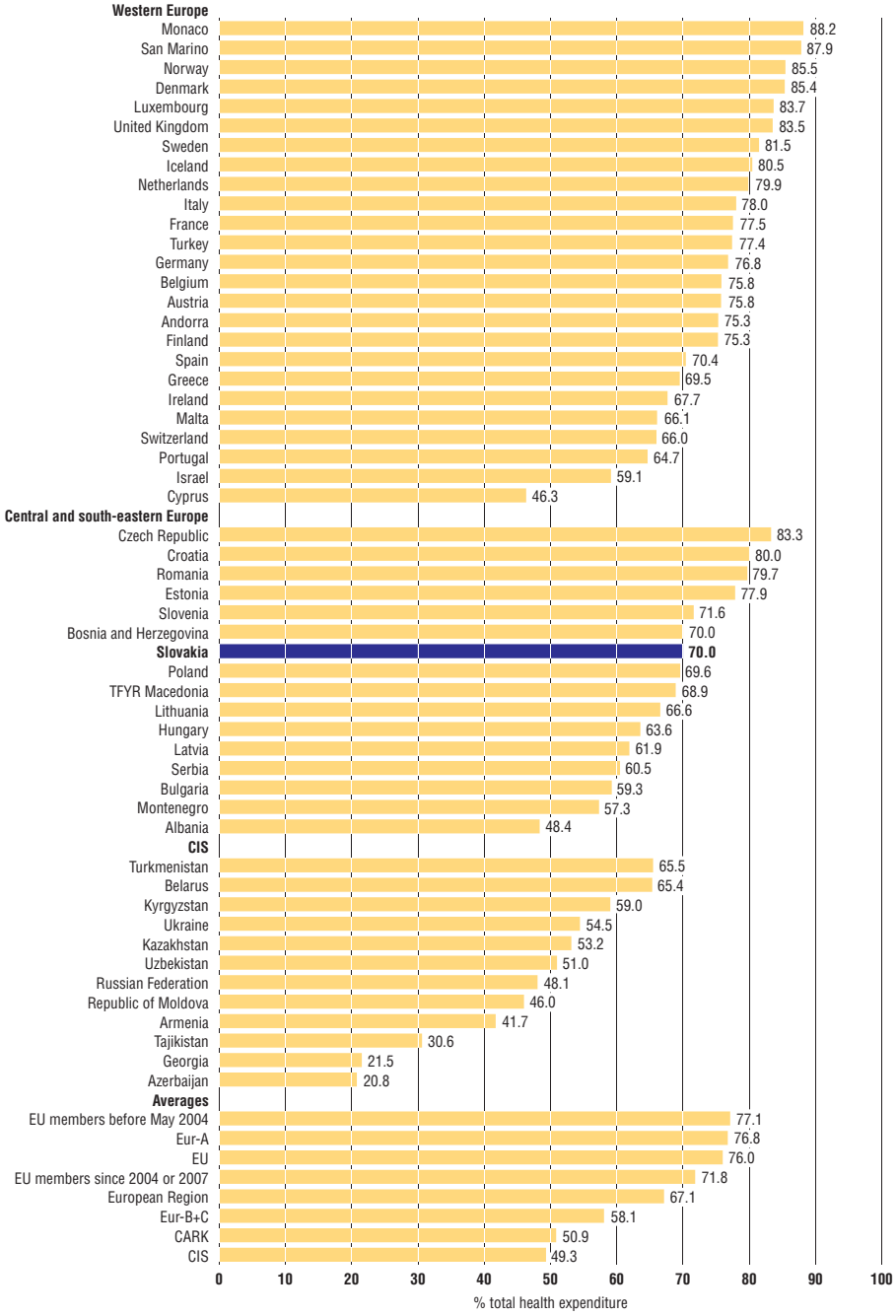
Health expenditure in US$ PPP per capita in the WHO European Region, 2013



Source: WHO estimates, WHO HFA, 2015.

Fig. 3.5

Public sector health expenditure as a share of total health expenditure in the WHO European Region, 2012 or latest available year



Source: WHO HFA, 2015.

3.2 Sources of revenue and financial flows

Public resources accounted for 74.5% of total financial means in the system in 2014, out of which contributions paid to the HICs accounted for 69.6% (see Table 3.3). Compulsory health insurance contributions are collected by three health insurance companies: the state-owned General Health Insurance Company (GHIC) with approximately two-thirds share of the market, the privately owned Dôvera exceeding one-quarter share and the rest is covered by privately owned Union. Contributions come from employees and employers, self-employed, voluntarily unemployed, state insured (comprising mainly economically inactive persons, e.g. retired, children, unemployed) and dividends. "State insured" is a term used for the significant group of mostly economically inactive persons for whom the state pays contributions from general tax revenue.

Table 3.3

Sources of health care revenues in total (in million EUR) and as a percentage of the total, 2009–2014

	2009	2010	2011	2012	2013	2014
Public sources	**3 716.9**	**3 839.3**	**4 108.9**	**4 131.2**	**4 151.9**	**4 267.3**
Social insurance income[a]	*3 342.4*	*3 575.0*	*3 584.9*	*3 818.9*	*3 892.8*	*3 984.9*
out of which contribution of employees, self-employed and others	2 184.1	2 233.8	2 377.3	2 460.7	2 616.0	2 773.4
out of which contribution of state	1 158.3	1 341.2	1 207.6	1 358.2	1 276.8	1 211.5
Budget of MoH, other ministries and SGRs[b,c]	*374.5*	*264.3*	*524.0*	*312.3*	*259.1*	*282.4*[e]
out of which debt settlement	195.0	0.0	310.0	0.0	0.0	0.0
Private sources[d]	**1 665.2**	**1 798.9**	**1 373.7**	**1 544.6**	**1 440.2**	**1 459.9**[e]
OOP	*1 456.5*	*1 520.0*	*1 235.0*	*1 289.5*	*1 302.1*	*1 319.9*
Sources total	**5 382.1**	**5 638.2**	**5 482.6**	**5 675.8**	**5 592.1**	**5 727.2**
Public sources (%)	**69.1**	**68.1**	**74.9**	**72.8**	**74.2**	**74.5**
Social insurance income[a] *(%)*	*62.1*	*63.4*	*65.4*	*67.3*	*69.6*	*69.6*
out of which contribution of employees, self-employed and others (%)	40.6	39.6	43.4	43.4	46.8	48.4
out of which contribution of state	21.5	23.8	22.0	23.9	22.8	21.2
Budget of MoH, other ministries and SGRs[b,c] *(%)*	*7.0*	*4.7*	*9.6*	*5.5*	*4.6*	*4.9*[e]
out of which debt settlements (%)	3.6	0.0	5.7	0.0	0.0	0.0
Private sources[d] **(%)**	**30.9**	**31.9**	**25.1**	**27.2**	**25.8**	**25.5**[e]
OOP (%)	*27.1*	*27.0*	*22.5*	*22.7*	*23.3*	*23.0*
Sources total (%)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Sources: [a]HCSA, 2015; [b]MoH, 2015a; [c]INESS, 2014; [d]Statistical Office of the Slovak Republic, 2016; [e]estimate.

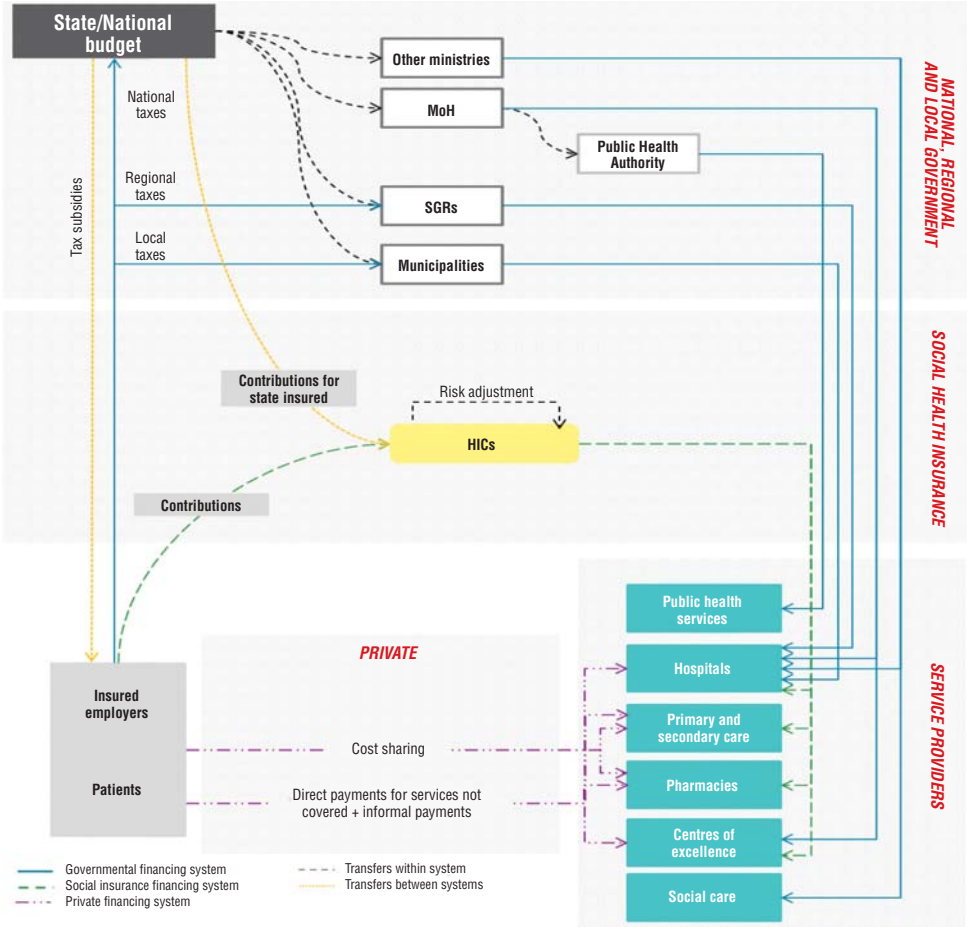
Apart from the state insured, the central government budget finances the activities of several ministries, most notably the Ministry of Health (total of 4.9% in 2014). This proportion fluctuates, partly due to the extra allocations

made for debt settlements of hospitals in 2009 and 2011. The Ministry of Health also funds several health agencies, such as the Public Health Authority and the state-run Slovak Health University. It also covers small capital investments in some state hospitals directly. Lastly, self-governing regions and municipalities are responsible for capital investment in their hospitals and outpatient centres, but their contribution is estimated to be a relatively small 0.1% of total resources.

Private resources accounted for 25.5% in 2014, which mostly (about 90%) consisted of OOP payments. The remaining private sources included investment activities of private entities and informal payments. Because of the very broad definition of the benefits package, voluntary health insurance plays only a very marginal role. See Fig. 3.6 for an overview of the system.

Fig. 3.6

Main financial flows in the Slovak health care system



Source: Compilation by Szalay et al., 2011, adjusted by authors.

3.3 Overview of the statutory financing system

3.3.1 Coverage

Breadth: who is covered?

All residents in Slovakia are entitled to SHI, with the exception of people with a valid health insurance in another country, which may be related to their job, business or long-term residence. People seeking asylum and foreigners who are employed, studying or doing business in Slovakia are also covered by SHI. Those insured are entitled to health care services according to conditions set forth in legislation. Every citizen has an equal right to have their needs met, regardless of their social status or income. The SHI system is universal, based on solidarity, and guarantees free choice of HICs for every insured. Payment of contributions is a condition for receiving health care benefits based on SHI. With the exception of the state insured, whose contributions are paid by the state, all insured are obliged to make monthly advance payments and to settle any outstanding balance on their total SHI contribution annually. If this obligation is violated, the insured are entitled only to emergency care and the health insurance company may require reimbursement of the costs. In practice, around 4% of residents are not covered. This group consists mostly of residents who are officially living and/or working abroad and pay their health insurance in a temporary place of residence.

Despite the strong regulations in the scope of covered services, HICs are eager to attract new insured by offering additional services such as medicine discounts, reimbursing co-payments for some medicines, vitamins or non-health care services; shorter surgery waiting times; broader preventive examinations or a variety of supporting electronical services.

Scope: what is covered?

The Slovak Constitution guarantees every citizen health care under the SHI system according to the conditions laid down by law. The law outlines a list of free preventive care examinations; a list of essential pharmaceuticals without co-payment; a list of diagnoses eligible for free spa treatment; and a list of priority diagnoses (roughly two-thirds of ICD-10 diagnoses). All health procedures provided to treat a priority diagnosis are provided free of charge. Non-priority diseases may be subject to co-payments. However, in practice many non-priority disease treatments are also provided free of charge. Services at a patient's request, not based on their health needs, or resulting from alcohol or drug abuse are not covered. However, the latter has only sporadically been acted upon.

Every provider is obliged to publish a price list which is visible to visitors and reviewed by a higher territorial unit. This price list must contain prices for non-medical services and is meant to improve transparency for patients.

Depth: how much of the benefit cost is covered?

Cost-sharing mainly takes place through a system of small user fees for prescriptions and certain health services (e.g. emergency care), as well as co-payments for pharmaceuticals and spa treatments. An act passed in 2006 lowered some of the user fees and in some cases abolished them completely by setting their price to zero. Additionally, recent efforts by the government have aimed to further limit space for doctors to charge for provided services. This effort culminated in April 2014, when a strict policy abolished the practice of HICs reimbursing co-payments for health service. Neither inpatient nor outpatient providers are allowed to demand payments once they have a contract with the patient's HIC with the exception of some premium services (e.g. an option to choose a surgeon in a hospital, etc.). See Section 3.4.2 for more information).

3.3.2 Collection

The SHI system is financed through a combination of contributions from the economically active population and state contributions on behalf of the state insured. SHI resources include (1) contributions from employees and employers; (2) contributions from self-employed persons; (3) contributions from voluntarily unemployed; (4) contributions by the state for the state insured; and (5) contributions from dividends. Contributions are collected and administered by HICs.

1. Employees pay 14% of their gross monthly income as a mandatory insurance contribution. Out of this percentage, employees pay 4% and employers 10%.
2. Self-employed people use 14% of the assessment base for income tax divided by a predefined coefficient. Self-employed people and employees with more serious permanent disabilities are entitled to discounts up to 50% on contributions, as are their employers.

   The maximum assessment basis for employed and self-employed is dependent on the average wage in the national economy, multiplied by five. The minimum assessment base is determined only for the self-employed and equals half of the national average wage two years before. For 2016 this corresponds with a minimum monthly contribution

of 60.6 EUR and a maximum contribution of 600.6 EUR. Contributions are paid directly to HICs, and in the case of multiple jobs there is an annual accounting for those insured. Disabled employees pay half the SHI contribution rate.

The introduction of the lower assessment base policy for low-income workers in January 2015 reduced the SHI contributions of approximately 600 000 workers, increasing in turn both their net income and labour costs. The policy enabled employees who earn below 570 EUR per month to have their assessment base for SHI reduced. Depending on the monthly income of employees, the maximum reduction of the assessment base can amount to 380 EUR per month. The expected loss of SHI revenue due to this policy is 180 million EUR for 2015. This amount should be fully compensated via higher contributions by the state for state insured.

3. Voluntarily unemployed are obliged to pay the same contribution as employed individuals. However, voluntarily unemployed pay the whole 14% themselves.
4. The contribution for state insured is paid on behalf of economically inactive individuals, i.e. predominantly children, students up to the age of twenty-six, unemployed, pensioners, persons taking care of children aged up to three years, and disabled persons.[5] These groups make up some three million residents in Slovakia. Contributions for the state insured, which are paid from general taxation by the MoH, were set by law at 4.2% (based on the average wage two years before) for 2015 and are estimated to average 4.3% in 2016. The 4.2% rate was in effect during January–October 2015, while in November and December there was an increased rate of 5.8% to cover extraordinary expenses due to the introduction of a lower assessment base for low-income workers and higher physician salaries. Indeed, to minimize the volatility of finances, state contribution rates have frequently been used to offset predicted losses in contributions of the economically active population (see Tables 3.4 and 3.5).
5. Dividend contributions from domestic or foreign activities are burdened with 14% SHI contributions, with the maximal assessment base set at 60x the average industry income from two years before, i.e. 41 480 EUR for 2016.

[5] Disability is assessed in process in competences of Ministry of Social Affairs.

Table 3.4

Resources of the SHI system, as a percentage of GDP and breakdown of economically active and non-active population

	2007	2008	2009	2010	2011	2012	2013	2014
Social Health Insurance as % of GDP (%)	4.8	5.0	6.1	5.3	5.1	5.1	5.2	5.3
Contributions from economically active population (in mil EUR)	2 038	2 255	2 180	2 178	2 374	2 428	2 573	2 770
Contributions for economically inactive population paid by the state (in mil EUR)	893	998	1 162	1 341	1 208	1 358	1 277	1 212
Contributions from economically active population as % of total SHI (%)	70	69	65	62	66	64	67	70
Contributions for economically inactive population paid by the state as % of total SHI (%)	30	31	35	38	34	36	33	30
Social Health Insurance (%)	100	100	100	100	100	100	100	100

Source: HCSA, 2015.

Table 3.5

SHI contributions paid by state for state insured, selected years

Year	% of average national wage two years ago (%)	Yearly state contribution in EUR per capita
2009	4.9	393
2010	4.8	415
2011	4.3	386
1–6/2012	4.0	369
7–12/2012	4.3	378
2013	4.25	401
2014	4.0	386
1–10 2015	4.2	412
11–12 2015	5.85	579

Source: HCSA, 2015.

3.3.3 Pooling of funds

Health insurance contributions are collected directly by HICs from employers, self-employed, voluntarily unemployed and the state on behalf of economically inactive persons. In order to compensate HICs for more expensive patients (i.e. higher risk portfolio), 95% of SHI contributions are redistributed among HICs using a risk-adjusted scheme.

The risk-adjustment scheme has been reformed many times and since 2004 has been administrated by the HSCA (see Table 3.6). Details of the redistribution procedure are regulated by the Ministry of Health on an annual

basis. The HSCA is also in charge of supervising the redistribution process. The HCSA is also responsible for administering the central register of insured. Risk-adjustment is performed on a monthly basis and is accounted annually.

Table 3.6

Development of redistribution mechanisms since 1999

Valid as of	Risk-adjustment factors	% of redistributed contributions (%)
1.7.1999	Insured were divided into 34 groups by gender and age in five-year cohorts; each group had a specific risk index with the lowest set to 1.0	100
1.8.2002		85
1.1.2005		85.5
1.1.2009		95
1.1.2010	Economic activity of insured persons is added to gender and age: insured are divided into 68 groups; each group had a specific risk index with the lowest set to 1.0	95
1.7.2012	24 PCG groups added to economic activity, gender and age. Risk index of PCG groups was set to be adjusted as of 1 January every year.	95
1.1.2013	List of PCG groups was updated; Glaucoma was replaced by Haemophilia	95
1.1.2015	List of PCG groups was updated; Type 2 diabetes was taken off and Glaucoma and Thyroid diseases were added. Altogether, there are 25 PCG groups as of 2015.	95

Source: Authors' own compilation based on the legislation.

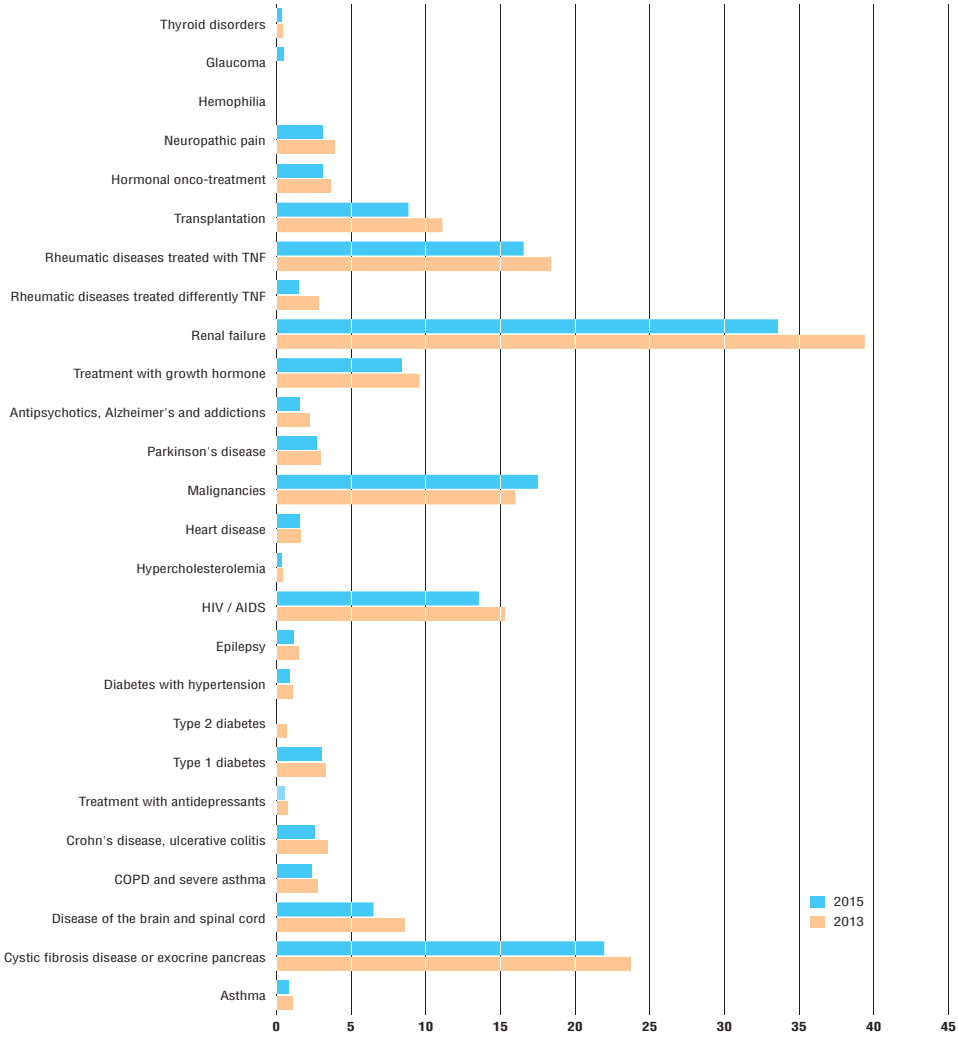
Until July 2012 the redistribution scheme between health insurance funds used the risk-adjusters' age, gender and economic activity of insured individuals categories. Predictive ability of this model was approximately 3% and hence "penalized" HICs that had chronic and expensive patients in their portfolios (HPI, 2014b). This was particularly true for the GHIC, which was the only insurer in 1994 and still covers a relatively large group of elderly and more complex insured (often state insured).

In order to improve the fairness of the redistribution, a new redistribution mechanism was implemented in July 2012. It added to the risk-adjustment system 24 pharmaceutical cost groups (PCGs), which are based on the consumption of certain amounts of daily defined doses of drugs within the Anatomical Therapeutic Chemical group classification over a 12-month period. Taking into consideration that approximately 30% of HICs' expenditure has been on pharmaceuticals, this model significantly improved the predictability and fairness of the redistribution scheme. As a result, the GHIC recorded a 7% increase in revenue in the first year of the new mechanism at the expense of the privately owned Union and Dôvera.

As of 2015, the risk-adjustment scheme in Slovakia has an estimated predictive ability (R^2) of 19.6% (HPI, 2014b). The risk-adjustment formula and indexes of PCGs is updated on a yearly basis. Given the change of redistribution after introducing PCGs and consequently the pattern of allocations among HICs, several adjustments have been made (see Fig. 3.7) that are often the subject of debate among HICs and the MoH.

Fig. 3.7

Comparison of risk index of PCG groups in the Slovak risk-adjustment scheme, 2013 and 2015*



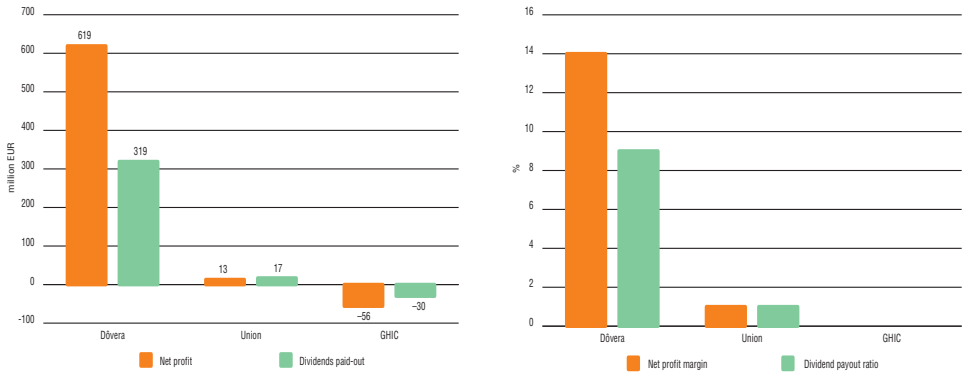
Source: Authors' own compilation based on decrees of the MoH.
Note: The diagram depicts the "risk index" of selected diseases, i.e. an index of estimated expenses caused by each disease, based on previous expenditures.

Regulation of HICs' profits

Since 2004 all three HICs competing on the health insurance market in Slovakia are joint stock companies. Across the three competitors, there has been a broad variation in profit and ability to pay dividends to shareholders. During 2009–2013 the proportion of dividends paid to shareholders of all HICs out of SHI contributions was roughly 3%, i.e. 377 million EUR. However, the majority of dividends are paid out by Dôvera, since the GHIC and Union have very low profits (see Fig. 3.8). Dôvera is owned by a private equity company that directly benefits from these dividends. It obtained the necessary cashflow to pay the dividends via long-term loans, while Union lowered its capital to create an accounting profit.

Fig. 3.8

Profits, dividends and ratios of HICs in Slovakia, 2009–2013



Source: Institute for Financial Politics, 2014.

3.3.4 Purchasing and purchaser-provider relations

Purchaser-provider relations are based on selective contracting under regulation of the MoH to ensure accessibility and quality of services. The MoH defines a minimum of clinical FTEs in ambulatory care and a minimum number of beds per specialty in acute care that a HIC has to cover in each of the self-governing regions. Furthermore, to ensure availability of health care for everyone, the MoH reintroduced in 2012 a list of selected state providers (i.e. a compulsory network) that has to be contracted by all HICs, irrespective of their quality and effectiveness. This minimum coverage requirement also applies to emergency services, GPs and pharmacies. The HCSA is responsible for monitoring purchasing of health care services.

Apart from these requirements, HICs are free to contract with other providers. Therefore, HICs may have different contracts with different providers and negotiate quality, price and volumes individually. A list of contracting criteria, which includes technical and personnel requirements, quality indicators, accessibility and other factors, is published every nine months by the HICs (see Table 3.7).

Table 3.7

Overview of contracting criteria as a percentage of total criteria in Slovakia as of 1 April 2016

Criteria	GHIC	Dôvera		UNION	
	for all	inpatient	outpatient	inpatient	outpatient
Accessibility (%)	20	25		30	
Personnel equipment (%)	20	25	25	30	30
Material and technical equipment (%)	20	25	25	30	30
Quality indicators acc. to the legislation (%)	20			20	20
"Own" quality indicators (%)	15	25	50		20
Other (%)	5				

Source: Authors' own compilation based on legislation and information from HICs.

Having met criteria set by a HIC, the contractual parties can settle on conditions, including the scope and price of health services. The minimum duration of a contract is one year, but in practice, contracts are negotiated on a regular basis even several times per year. HICs are required to publish rankings of providers, as well as a list of contracted entities as of 1 January every year.

In practice, tariffs and volume of contracted services are not constrained by the aforementioned criteria. It is open to individual negotiations, which has resulted in providers having different contracts with different HICs. In fact, according to the HCSA, differences in contracted prices of HICs between the same groups of inpatient specialties reached up to 180% (HCSA, 2015).

The freedom of HICs to set tariffs and prices and their oligopolistic market power has stimulated health professionals to group into networks to strengthen their negotiation position vis-à-vis HICs. Examples include the Zdravita association of outpatient physicians, which negotiates on behalf of approximately 2000 members or the Slovak Medical Chamber, which negotiates on behalf of some of its 18 000 members. In 2015 the Slovak Medical Chamber also founded the Union of Outpatient Providers to negotiate the contracts with HICs.

3.4 Out-of-pocket payments

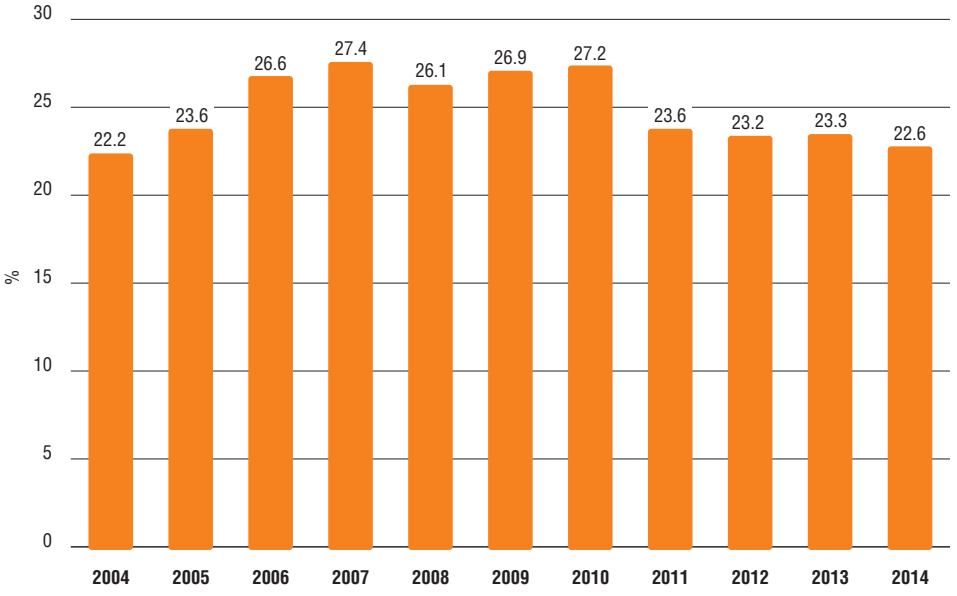
Private expenditure comprised approximately 25% of total health expenditure (1460 million EUR, according to national accounts) in 2014. It is primarily composed of private households' cost-sharing (90% of total expenses are OOP). Out-of-pocket payments in Slovakia mainly consist of (1) co-payments for prescribed pharmaceuticals and medical durables; (2) user fees for various health services, stomatology care and spa treatment; (3) direct payments for OTC pharmaceuticals, vision products and dietetic food; (4) above-standard care, preferential treatment and care not covered by SHI; and (5) a few standard fees – for 24/7 first aid medical services (1.99 EUR), ambulance transport (0.07 EUR/km), for prescriptions (0.17 EUR), for accompanying people during a hospital stay (3.32 EUR), as well as for food and accommodation in spas (1.66 EUR or more per day). See Table 3.8 for a comprehensive overview.

The Slovak system supports underprivileged residents in the form of maximum limits for co-payments for prescribed pharmaceuticals, waiving of ambulance transport fees for chronically ill, and a wide range of medical devices with individually reduced cost-sharing. Moreover, around one-third of all reimbursed medicines have no co-payment.

In 2014 Slovakia had a share of 22.6% of total health expenditures paid OOP. As illustrated by Fig. 3.9, the level of OOP payments grew from 2004 to 2007. This was the result of a tax policy change (an increase of VAT on pharmaceuticals from 10 to 19% over 2003–2005) and the introduction of a variety of co-payments. Other reasons for increasing out-of-pocket expenditure were higher spending on OTC drugs and new products offered in pharmacies, increased use of private providers, and an increase of different fees for non-standard health care services.

It is important to note that the provided OOP expenditure is based on estimations, as indicated in Box 3.1. The methodology of the Statistical Office of the Slovak Republic for calculating OOPs also includes, besides co-payments for prescribed drugs, items that are sold in pharmacies but are only marginally health-related, e.g. decorative cosmetics. However, due to the technical limitations of reporting receipts to the Ministry of Finance, these items cannot be split from medicine expenditures. This may overestimate OOP in Slovakia (see Box 3.1 for more information). On the other hand, OOP may be underreported given the weak reporting legislation for non-standard services by ambulatory and hospital visits, which include for example different

Fig. 3.9
Development of OOP payments in Slovakia as a percentage of total expenditure, 2004–2014[6]



Source: Statistical Office of the Slovak Republic, 2016.
Note: 2014 data are an estimation.

administrative fees, booking of the exact time of appointment, and specialists' examinations without referral from GPs. However, the providers are not obliged to report the entire sums of these payments.

Additionally, the Statistical Office overhauled the methodology of reporting private expenditure in 2010. This caused a significant reduction in private expenditure and a consequent decrease in the proportion of private expenditure. However, the office did recalculations only from 2011 onwards.

3.4.1 Cost-sharing (user charges)

A variety of policies were adopted to contain the increase in cost-sharing, such as the de facto abolishment[7] of co-payments for outpatient care and hospital stay or lowering co-payments for prescribed medicines. Nonetheless, the proportion remains high, since most OTC drugs are not regulated and a small number of services (e.g. dental care or ophthalmology care) remain cost-shared, along with

[6] There was a break in data due to methodology changes for 2011 onwards.
[7] Co-payments have never been abolished in practice, but their value was set in legislation to zero.

some anchored fees for emergency services, receipt processing, ambulance transportation and spa treatment. Table 3.8 gives an overview on current OOP in Slovakia.

Table 3.8

Cost-sharing in the Slovak health care system, 2015

Element	Co-payments	User fees
Pharmaceuticals, medical devices, dietary food	Co-payments for 2800 items out of 4500	0.17 EUR per prescription
Primary ambulatory care	No co-payment	0 EUR
Secondary ambulatory care	No co-payment	0 EUR
Inpatient care	No co-payment	0 EUR
Spas and other rehabilitation services	According to categories, diagnoses in category B are partially covered by HIC	1.66 EUR and more
24/7 first aid medical service	–	1.99 EUR
Transport health service	–	0.07 EUR/km

Source: Authors' own compilation based on legislation.

3.4.2 Direct Payments

Direct payments in the Slovak health sector comprise mainly payments for OTC pharmaceuticals and dietetic food and care not covered by SHI.

In 2015 the MoH introduced new legislation restraining possibilities for providers to charge for health care and health-related services. This was a response to the fact that although cost-sharing for medical services was regulated gradually, the providers were free to charge fees related to care (e.g. a payment for air-conditioning in the waiting room, a payment for administrative tasks, payment for printed documents, etc.). These payments were identified as one of the key drivers of increasing OOP expenditure but were virtually outside legislative control. The new legislation since 2015 defined which non-medical services can be charged for and enforced greater control by the self-governing regions. A brief overview of some of these direct payments is given in Table 3.9. However, the legislation has been heavily criticized by health professionals and the public, as well as the media, and an amendment is planned during 2016.

Table 3.9
Direct payments in the Slovak health care system, 2016

	Health services not covered by SHI	Non-medical services before 1 April 2015	Non-medical services after 1 April 2015
Pharmaceuticals, medical devices, dietary food	e.g. OTCs, dietetic food, vision products	–	–
Primary ambulatory care	e.g. some types of vaccination, medical examination required by an employer, etc	Direct payments for preferential appointments, timing of appointments, issuing certificates upon request of a third party, etc	No charges for appointments are possible[8]
Secondary ambulatory care	e.g. IVF (first three cycles are co-financed), circumcision, cosmetic plastic surgery, anaesthesia upon the patient's request, etc	Direct payments for preferential appointments, timing of appointments, issuing certificates upon request of a third party, etc Membership fees, registration fees for individual management of a patient	No charges for appointments nor other supporting services are possible Direct payments for issuing certificates
Inpatient health care	e.g. induced abortion upon request of the patient, sterilization, plastic surgery, etc	Membership fees, registration fees for individual management of a patient Above-standard accommodation and meals	No membership fees are possible Above-standard accommodation and meals
Spa	e.g. medical procedures not covered by HIC or stay upon the patient's request	Above-standard accommodation and meals	Above-standard accommodation and meals
Laboratory diagnostics and radio-diagnostic (x-ray, CT, MR, PET)	e.g. medical examinations upon the patient's request, e.g. paternity test	Preferential medical examination upon patient's request	Preferential medical examination upon patient's request

Source: Authors' own compilation.

3.4.3 Informal payments

According to a survey by Mužík & Szalayová, 2013b, 71.4% of respondents (843 out of 1181 respondents) reported making an informal payment in the form of cash or presents. More up-to-date research by Transparency International did not confirm this high percentage, but concluded that almost 27% of respondents made informal payments. The total value of such payments is virtually impossible to estimate (Transparency International Slovakia, 2015).

[8] Please note that in practice some providers overcome this legislation by setting up new entities that provide administrative cover for provision of health care services, and hence are exempt from the law and can charge for services.

3.5 Voluntary health insurance (VHI)

The role of VHI, which is offered by commercial insurance companies, is still marginal in Slovakia. The surveillance of private VHI is the responsibility of the National Bank of Slovakia. Common areas of VHI are insurance in case of accident or disease, medical costs incurred abroad or costs of mountain rescue in emergency cases. See Table 3.10 for a brief overview of VHI in Slovakia.

Table 3.10
Individual health insurance overview, 2012–2015

	2012	2013	2014	2015
Number of insurance contracts	30 170	31 059	30 681	34 157
% of population covered	0.56	0.57	0.57	0.63
Number of insurance claims	2 993	1 659	1 167	1 591
Value of insurance claims in EUR	1 002 114	1 031 077	1 082 885	1 352 995

Source: National Bank of Slovakia, 2016.

3.6 Other financing

3.6.1 Parallel health systems

There are some physicians, dentists and ambulatory specialists without contracts with any health insurance fund. These providers are not entitled to any reimbursement from HICs but only from emergency cases. Furthermore, there are three minor parallel health systems in Slovakia: military medical services (one hospital); the Ministry of Interior runs health care facilities for security forces; and prison services. The financing mechanism and all other rules and legislation are the same as in the general health insurance system.

3.6.2 External sources of funds

Self-governing regions, municipalities and also some private companies invest in the health infrastructure and medical devices of providers under their management. The key external source of financing is EU structural funds. For the period 2007–2013 the health care sector had its own EU-funded oerational programme called “Healthcare” with a budget of 294 million EUR.

The aim of the programme was to improve the quality, accessibility and efficiency of health care services for five key diseases groups (i.e. cardiovascular diseases, oncological diseases, external causes of diseases and deaths, respiratory system diseases and digestive system diseases). The programme allocated funds to three priority areas.

One specific objective of Priority 1 was to invest in the construction, reconstruction and modernization of the infrastructure of general hospitals and hospitals that specialized in the treatment of the aforementioned five disease groups. The specific objective of Priority 2 was to secure the reconstruction and modernization of the infrastructure of outpatient health care with a focus on disease prevention and health support in the treatment of the five disease groups. Priority 3 consisted of technical support for the MoH and building up the administrative capacities needed to run the programme. After fulfilling general criteria, all providers except those from Bratislava region could apply. Altogether, 89 submitted projects received financial grants, amounting to 285 million EUR, as captured in Table 3.11 and Fig. 3.10.

Table 3.11

Financial indicators for Operational Programme "Healthcare", 2007–2014 (as of March 2016)

Priority axis	Beneficiary	Number of projects	Average size of project (EUR)
1: Hospital health care system modernization	Specialized hospitals	11	2 047 000
1: Hospital health care system modernization	General hospitals	17	11 656 000
2: Health promotion and health risk prevention	Outpatient facilities	59	1 088 000
3: Technical support	MoH	–	9 205 000
Total			**294 128 000**

Source: Internal documents of the Ministry of Health (MOH SR, 2016).

In the period 2014–2020 there is no dedicated programme for the health sector. All available EU funds will be allocated via a programme operated by the Ministry of Agriculture and Rural Development. There is one integrated regional operational programme with an estimated budget of 300 million EUR that should be invested in supporting primary care and capacity of key acute care hospitals. Furthermore, the sector will be able to draw resources from other EU structural funds that are governed by other ministries, especially focused on research and innovation. Exact allocation is, however, not yet clear.

Fig. 3.10
Visual representation of beneficiaries of external sources in Slovakia, 2007–2013

Source: Authors' own compilation.

3.6.3 Other sources of financing

Chronically ill patients receive in-kind and cash benefits from the Ministry of Social Affairs to cover their social care needs. Institutional long-term care targeted at seniors or disabled belongs to a wide range of residential social services and requires annually approximately 300 million EUR. In 2014 the number of severely disabled reliant on home social care was approximately 60 000, while the number of personal care attendants caring for them was just a little smaller. Monthly allowances are available (mounting to 100 million EUR in 2014), which average around 200 EUR for the carer and around 400 EUR for the disabled. Yet this is often inadequate to pay for living costs, travelling to hospitals, buying pharmaceuticals, etc. Therefore, there are several non-governmental organizations that help some of the most vulnerable groups. Some target families suffering from a cancer case, such as "*Dobrý anjel*" (Good Angel), "*Liga proti rakovine*" (League against Cancer), "*Nadácia pre výskum rakoviny*" (Foundation for Cancer Research) and "*Nadácia Kvapka Nádeje*" (i.e. The Foundation of Paediatric Oncological Patients).

3.7 Payment mechanisms

As explained in Section 3.3.3, providers are paid by HICs according to individual contracts, which determine the amount, the nature and quality of services. The guiding principles of payment mechanisms differ for primary and specialized ambulatory care, inpatient care, diagnostics, emergency and pharmaceutical services, as illustrated in Table 3.12.

Table 3.12
Overview of payment mechanisms (as of March 2016)

Type of health care	Mechanism	Description
Primary care (GPs, paediatricians, gynaecologists)	1. Fixed capitation payment	Fixed monthly payment for each insured registered for primary care with given provider
	2. Variable capitation payment	Monthly payment for each insured registered for primary care with given provider; amount set based on performance criteria
	3. Fee for service	Extra payment for a few specified services, e.g. preventive services, vaccinations or pre-operative examinations
Specialized outpatient care	1. Fee for service	Based on list of services with weights (in points), issued by MoH, but used voluntarily; negotiations on price per point between HICs and providers
Inpatient care	1. Per diem payment	A few types of hospitalization are paid with per diem payment, mostly long-term hospitalizations in internal medicine or psychiatry
	2. Payment per completed hospitalization	Most hospitalizations are paid per completed hospitalization: HICs negotiate prices for each specialization; the prices differ between providers and should reflect the case mix index of hospitalized patients; within the payment everything is included except for laboratory and imaging services and a few expensive medical materials
	3. Fee for service	One-day surgeries and surgeries with short-term stay (less than three days) are paid based on list of fees for provided services
Diagnostic examinations	Fee for service with monthly budget	Based on list of services with weights (in points), issued by MoH, but used voluntarily; negotiations on price per point between HICs and providers
		HICs limit monthly revenue of providers paid as fees

Source: Authors' own compilation based on legislation.

3.7.1 Paying for health services

Inpatient care

Inpatient care is defined as an overnight stay longer than 24 hours in any licensed health care institution (not only hospitals but also sanatoriums or nursing homes). Around 95% of all hospital revenues come from HICs. There are three different types of inpatient payment mechanism:

1) Inpatient care is predominantly compensated via per case payment for a completed hospitalization related to the department of admission. A hospital will receive the same amount for a patient with colorectal cancer hospitalized in the surgical department as for a patient hospitalized with appendicitis. However, the hospital will receive different amounts for different patients hospitalized in the internal medicine or neurological wards. Per case payments differ not only among departments, but also among hospitals. This is due to a lack of objective pricing mechanisms that would enable HICs to dictate the value of per case payments (see Table 3.13 for an overview of pricing differences among hospitals).

   In case of a difficult or special inpatient treatment there is an opportunity to adapt the case payment in advance with a HIC. In fact, two HICs (GHIC and Dôvera) already use compulsory software that pre-approves such complex inpatient treatments. If a hospital performs above contracted limits, HICs will pay lower or no price for that care in a given period of time. In 2014 roughly 0.92% of total inpatient claims were regarded as above-limits. Except for volume limits, some HICs also imposed limits on the monthly revenues for hospitalizations.
2) A few types of hospitalizations are paid with per diem payments, mostly long-term hospitalizations in internal medicine and psychiatry, as well as balneal treatment.
3) Certain short-term hospitalizations, especially one-day and short-stay surgeries (i.e. inpatient stay of 24–72 hours) are reimbursed as a fee per service.

Pharmaceuticals, medical devices and dietary foods are included in hospitalization costs. In the case of expensive medical devices, health insurance covers the price above the limit set for hospitalization.

The introduction of DRGs in inpatient care is expected to bring increased harmonization in payments. The process of implementation is governed by HCSA and the German DRG was chosen as the basis. Since the beginning of 2016, the system has been used virtually; this means that a provider is provided with information on his DRG payment, but still receives reimbursement through the “old” payment scheme. It is expected that during 2016 all the implementation issues surrounding the introduction of SK-DRG can be settled before the system becomes operational.

Table 3.13

Prices of completed hospitalizations of selected specializations (in EUR), 2013

Specialization	Faculty hospitals			General hospitals		
	Average price	Minimal price	Maximal price	Average price	Minimal price	Maximal price
Internal medicine	707	423	1 050	534	323	780
Neurology	770	440	1 110	536	393	704
Paediatrics	677	385	1 050	445	332	618
Gynaecology and obstetrics	764	368	910	516	322	718
Surgery	935	300	1 340	667	383	965
Orthopaedics	1 002	691	1 450	845	428	1 200
Urology	847	250	1 200	590	534	706
Emergency surgery	1 297	758	1 450	707	600	970
Anaesthesiology and intensive medicine	5 448	2 453	8 925	2 810	250	5 197

Source: HCSA, 2015.
Note: differences in hospitalization related-expenditures do not reflect on the effectiveness of individual hospitals; disparities do not necessarily mean the institutional individualities of covering appropriately all hospitalization-related expenditures; however, these can originate in historical settings and between providers and HICs.

Outpatient care

The payment mechanism for primary outpatient health care is a combination of capitation (see Table 3.14) and fee for service. Fees apply to certain medical services not covered by the capitation but included in SHI benefits, such as preventive care, some costly examinations like C-reactive protein, ECG or colorectal cancer screening, pre-surgical examinations, laboratory testing and treatment of essential hypertension.

Table 3.14

Average contracted capitation amounts per month of GP practices (in EUR), 2013

	Age group	GHIC	Dôvera	Union
Paediatricians	0–1	5.7	5.6	5.7
	1–5	4.1	3.8	3.9
	6–14	2.9	2.7	3.0
	15–18	2.04	1.9	2.1
	19–28	1.9	1.8	2.1
GPs for adults	19–50	1.9	1.8	2.1
	51–60	2.1	1.8	2.1
	61–80	2.4	2.2	2.5
	81 <	2.7	2.5	2.8

Source: HCSA, 2015.

The amount of an insured person's capitation payment is mostly age-dependent, but some HICs try to motivate GPs and offer them higher capitations after fulfilling some quality criteria. The system of capitation payment allows HICs to control costs but it does not motivate GPs to perform costlier or additional medical procedures since they bear all the risk.

Specialists in outpatient care are paid on a fee-for-service basis. Each medical procedure has an assigned number of points and HICs negotiate the fee for one point (point value) with health care providers. With this system, specialists have an incentive to treat patients, but the system may not motivate them to cure patients. This makes it difficult to control the volume and cost of provided services.

Therefore, most HICs negotiate a maximum volume of points to be reimbursed. If a health care provider exceeds the negotiated volume, the health insurance company does not have to reimburse the extra points. Whether the HIC will cover the costs or not depends on the negotiated contract. Alternatively, a differentiated point value may be applied after exceeding the monthly volume of points. In these cases, the point value decreases with the increase in number of procedures performed (degressive point value).

Like physicians in primary care, specialists may receive additional financial rewards from HICs, for example when there is positive feedback from patients or they prescribe rationally. Lastly, pharmaceuticals given to patients during outpatient visits are reimbursed to a physician in addition to the capitation and fee-for-service payments.

3.7.2 Paying health workers

Prior to 2005, health care personnel in inpatient care facilities were paid according to a uniform system for public servants. Since January 2005 the financing of personnel in inpatient health care facilities has been governed according to the Labour Code, allowing for individual agreements. Salaries depend on the outcome of collective agreements between the employees or employees' representatives (trade unions) and the employers' representatives. These agreements are decentralized, and consequently the salary level varies across the country.

In 2011 doctors' dissatisfaction with their salaries led to strikes comparable to those in the Czech Republic in the same years and the mass resignations of physicians from hospitals. The government was forced to adopt a memorandum that legally declared the minimum threshold of salaries, both for certified and non-certified hospital doctors.

Complying with the new legislation, hospital physicians' wages have been gradually increasing. As of January 2015 hospital physicians without specialization earn a minimum of 1.25 times the national wage average of the industrial sector, while those with a specialization earn at least 2.3 times the average sector wage. The process of increasing salaries was divided into four stages from January 2012 to January 2015 to make sure that providers had sufficient time to prepare for budgetary pressures (see Table 3.15 for more information).

Table 3.15

Changes to the minimum threshold of salaries of doctors

Phase	Year	Coefficient of multiplication for doctors without specialization	Coefficient of multiplication for doctors with specialization
1st tranche	January 2012	1.1	1.6
2nd tranche	July 2012	1.2	1.9
1st part of 3rd tranche	2014	1.3	2.1
2nd part of 3rd tranche	2015	1.3	2.3

Source: Decree no. 512/2011.

Nurses and midwives, perhaps inspired by the success of the physicians' strike, successfully demanded a similar legislative guarantee of a minimum salary in 2012. This guarantee was approved by the government in February 2012, but revoked in June 2013 by the Constitutional Court as it was deemed discriminatory against other branches of health personnel. In 2015 the MoH prepared legislation that aimed at standardizing the minimum salaries of not only nurses and midwives, but all paramedical staff in public hospitals. Minimum salaries were to be set in relation to national wages two years prior, with the applicable coefficient depending on specialty and achieved education. The trade union of nurses and midwives and the Slovak chamber of nurses and midwives criticized this draft because the proposed coefficients did not take into account experience. The MoH refused to alter the legislation, which led to a second wave of strikes of nurses and midwives in November 2015.

The strike saw 1374 nurses and midwives from seven public hospitals handing in their notice of resignation. However, only roughly 4% of nurses and midwives were represented. Although the Slovak president placed a veto on the minimum wage legislation in December 2015, the parliament re-approved the act and it came into effect from 1 January 2016. The strike did not accomplish the goals the nurse and midwives were aiming for. See Table 3.16 for an excerpt from the act.

Table 3.16

Excerpt from the legislation on minimal wages of paramedical staff

Profession	Non-certified profession	Certified profession	Specialized profession
Pharmacists	1.3	1.3	2.1
Nurses and midwives	0.8	0.9	1.0
Physiotherapists	0.8	0.9	1.0
Public health workers	0.8	0.9	1.0
Nutrition assistants	0.8	0.9	–
Dental hygienists	0.8	–	–
Radiological technicians	0.8	0.9	1.0

Source: Decree no. 578/2004 (novelized on 1 January 2016).
Note: coefficients are multiples of the national wage average of the industrial sector two years prior.

According to an official publication by the MoH (MoH, 2015b), the average salary of health professionals[9] employed in the public sector increased on average by 25.5% over the period 2010–2014. Compared to the average national monthly salary in the industrial sector for 2014 (i.e. 858 EUR), the average salary of a health professional was 19.2% higher (i.e. 1023 EUR, see Table 3.17).

[9] Information includes all public providers of health services; information from private providers is not available in the required level of detail. Public providers employed 56% of all personnel active in the health care sector (see Section 4.2).

Table 3.17

Development of average salaries, 2010–2014, for employees in the public health care sector

	Ø average monthly salary in EUR						Change 2010/ 2014
	2010		2012		2014		
	Ø salary	comparison with NW%	Ø salary	comparison with NW%	Ø salary	comparison with NW%	
National industrial wages (NW)	769	100.0	805	100.0	858	100.0	111.57
Employees of the public health sector	815	106.0	926	115.1	1 023	119.2	125.48
out of which: health care professionals:	906	117.8	1 040	129.2	1 134	132.1	125.14
Out of which: doctors	1 663	216.2	1 972	244.9	2 221	258.8	133.55
Nurses	763	99.3	879	109.2	929	108.3	121.68

Source: MoH, 2015b.

4. Physical and human resources

The number of acute care beds in Slovakia's health sector has decreased by roughly 30% since the 1990s until reaching an average of 4.2 beds per 1000 population in 2014. Despite the decrease in acute care beds, occupancy rates have fallen due to improvements in ALOS and a shift to day surgeries. This hints at a persistent surplus of beds and facilities that should be further reduced by 2030 to roughly 11 000 acute care beds. Outdated hospital infrastructure remains a challenge. The current investment gap is estimated to range between 3.9 and 8.3 billion EUR to align with EU averages.

Compared to neighbouring countries and the EU-28 average, Slovakia still has a relatively high number of physicians. However, there remains a substantial number of vacant physician job openings in the system, although estimates vary. Ageing poses a further threat to accessibility in care; in 2013 roughly 45% of doctors were 50 years of age or older. The combined effects of this imminent staffing shortage remain to be seen, but will most likely disproportionately affect rural areas and certain specialties. Whether increased salaries for medical doctors will slow down this decline is uncertain. The number of dentists per 100 000 population is comparable to Hungary, but well below the EU-28 average. As in the other V4 countries, the number of pharmacists is steadily growing. Overall, medical personnel are unevenly distributed over the country.

This contrasts with a low and decreasing proportion of nurses when compared to the EU-28 average. The tendency of providers to substitute nurses with auxiliary staff is expected to continue. Additionally, ageing is threatening the remaining nurse workforce in Slovakia with only 16.2% of all nurses aged 35 years or younger in 2013. The proportion of nurses older than 50 years of age increased from 5.1% in 2003 to 33.6% in 2014. New legislation governing the minimal salaries of nurses and other non-medical personal might improve this situation, but its effects are difficult to foresee. Furthermore, there is an increasing outflow of (young) health personnel out of the Slovak health

system due to migration, although exact data is lacking. The increase in recent enrolments in Slovak medical faculties is only partially able to compensate for the lack of medical personnel.

4.1 Physical resources

4.1.1 Capital stock and investments

In 2014 there were 10 141 outpatient and 174 inpatient facilities in Slovakia (see Table 4.1). Inpatient facilities comprise two groups of providers: 73 general and 44 specialized hospitals. Whereas outpatient facilities are predominantly owned and managed by the private sector, the inpatient sector has mixed ownership, with key university and teaching hospitals being under the direct supervision of the Ministry of Health.

Table 4.1

Number of inpatient and outpatient facilities as of 31 December 2014

Founding body	Ministry of Health	Other Ministries	SGRs and municipalities	Private and mixed ownership	Total
Outpatient facilities	**24**	**69**	**25**	**10 023**	**10 141**
GP surgery	3	34	1	2 825	2 863
specialist outpatient care	5	19	5	6 128	6 157
emergency medical services	7	–	7	5	19
one-day surgery facilities	–	–	–	107	107
day care facilities	1	5	–	118	124
polyclinics	2	7	7	55	71
nursing home care agency	–	–	1	178	179
diagnostic and treatment unit facilities	5	4	1	514	524
mobile hospice	–	–	–	17	17
outpatient medical first aid	1	–	3	76	80
Inpatient facilities	**65**	**9**	**27**	**73**	**174**
general hospital	24	2	24	23	73
specialized hospital	27	4	1	12	44
sanctuary	9	–	1	7	17
hospice	–	–	1	6	7
nursing home	1	–	–	4	5
natural spa	1	3	–	20	24
sanatorium	3	–	–	–	3
biomedical research facility	–	–	–	1	1

Source: NCHI, 2016c.

Slovak hospitals suffer from underfunding, which leads to a deterioration in their infrastructure owing to poor maintenance. Several investments made by the Ministry of Health and relevant EU programmes targeted outdated facilities, which continue to require even higher levels of capital renovation (see Section 2.8.6). The Slovak health care capital formation was found to be only 59.3% of that of the Czech Republic and just 30.8% of Austrian gross capital volume. Estimates of additional investments needed in order to meet EU-15 averages range from 3.9 billion EUR by the MoH (MoH, 2013a) up to 8.3 billion EUR in the worst case scenario by HPI (Pažitný et al., 2014).

Although the Ministry of Interior built a new hospital in Bratislava in 2016 (costing more than 50 million EUR), the Ministry of Health does not envisage any funding for similar projects in the foreseeable future. The MoH has since looked to the private sector as an alternative source of needed capital. Since June 2013 the MoH has been involved in public-private partnerships (PPPs) to replace three existing public hospitals in the city; the new university hospital in Bratislava is the first project to be realized through a PPP. The realization of the project is expected to be finished by the end of 2016, with estimated initial capital expenses of 250 million EUR.

Almost all outpatient facilities are in private hands. A proportion of outpatient specialists are employed by hospitals and provide ambulatory care in polyclinics attached to hospitals. The number of specialists increased due to a reform in 2005 enabling all specialists to enter the market after fulfilling the obligatory criteria (see Table 4.2).

Table 4.2

Outpatient specialized providers (excl. GPs and other categories under Table 4.1)

	2005	2014	Difference	in %
Number of providers that operate in a medical facility	5 104	5 648	544	10.6%
Number of health facilities	5 420	6 157	737	11.9%
Number of posts of independent health professionals	5 378	6 137	759	12.4%

Sources: NCHI, 2006; NCHI, 2016c.

4.1.2 Infrastructure

In 2014 there were 22 959 acute, 4431 psychiatric and 3158 long-term beds in the Slovak health care system. Roughly 46% of these beds were owned by the state, regions or municipalities, 37% by private companies, 8% by mixed entities and 9% by others (Pažitný et al., 2014).

Table 4.3

Inpatient facilities in Slovakia by ownership and legal status (general and specialized hospitals and selected other inpatient facilities), 2014

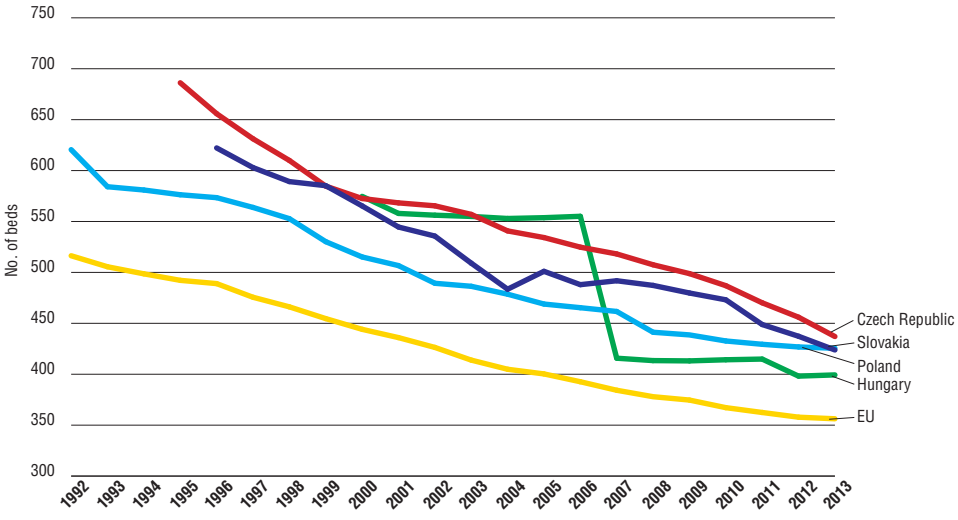
Legal form/ ownership	Contributory organizations	Non-profit organizations	Joint stock companies	Limited liability companies	Others	Total
State	31	10	7	0	1	**49**
Regional	7	4	0	0	0	**11**
Municipal	1	1	0	1	0	**3**
Private	0	8	19	25	1	**53**
Mixed forms	0	6	2	1	0	**9**
Others	0	8	1	0	4	**13**
Total	**39**	**37**	**29**	**27**	**6**	**138**

Source: Pažitný, Kandilaki, Loeffler, 2015.

In the late 1990s Slovakia had one of the highest numbers of acute beds per 100 000 population in Europe. By 2013 the number of acute beds had decreased by 30% and reached a comparable level to that of Poland, but was still above the EU-28 average (see Fig. 4.1).

Fig. 4.1

Number of acute care beds per 100 000 population in Slovakia and selected countries, 1992–2013



Source: WHO HFA, 2015.

The gradual decline in beds was conceptualized in the Bed Reduction Plan of 2002 which has since then cut roughly 6000 beds. Additionally, the GHIC decided on another 3000 bed reduction during 2010–2011 by not contracting with selected departments in hospitals. Over the same period the number of long-term beds dropped by roughly 50%, whereas psychiatric beds were only marginally reduced (Table 4.4). In the Strategic Framework for Health 2014–30 acute care beds are to be further reduced to roughly 11 000 beds. This would translate into a further reduction of acute beds by 52% compared to 2014. Simultaneously, occupancy rate should reach 85% by 2030.

Table 4.4

Number of beds per category, 2000–2014

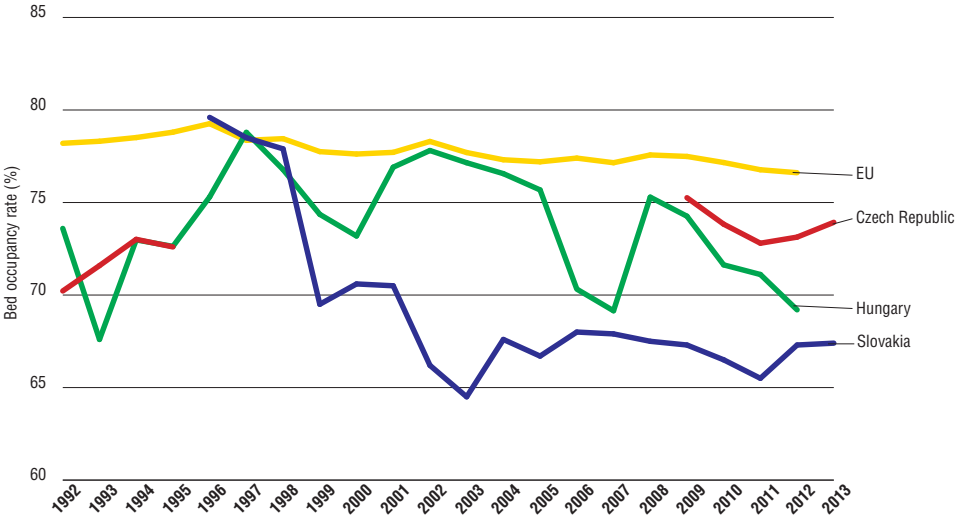
Year	Acute		Psychiatric		Long-term		Other*	
	Total	per 1 000	Total	per 1 000	Total	per 1 000	Total	per 1 000
2000	31 101	5.8	5 031	0.9	6 201	1.2		
2005	27 003	5.0	4 502	0.8	5 124	1.0		
2009	25 995	4.8	4 336	0.8	4 001	0.74	1 151	0.21
2010	25 693	4.8	4 316	0.8	3 974	0.73	1 124	0.21
2011	24 229	4.5	4 148	0.77	3 451	0.64	1 114	0.21
2012	23 647	4.4	4 199	0.78	3 272	0.61	1 107	0.20
2013	22 944	4.2	4 417	0.82	3 269	0.60	1 090	0.20
2014	22 959	4.2	4 431	0.82	3 158	0.58	1 063	0.20

Source: NCHI, 2015c.
Note: * including day care beds, sanatorium, hospice and nursing care beds.

In 2014 occupancy rates of acute beds had declined to 67%, despite only marginal declines in numbers of hospitalizations. This is on a par with V4 countries but about 9 percentage points lower than the EU-28 average (see Fig. 4.2 and Table 4.5). Reductions in the average length of stay (see Fig. 4.3) facilitated by growing numbers of day surgeries (see Section 5.4.1) account for these declines. Indeed, ALOS for acute beds was recorded as 10.2 days in 2000 (i.e. roughly two days higher than the EU-28 average) and 6.1 days in 2013 (i.e. significantly lower than the EU-28 average), reaching lower levels than those in Poland and the Czech Republic or the EU-28 average.

Fig. 4.2

Occupancy rate of acute beds in Slovakia and selected countries, 1992–2014



Source: WHO HFA, 2015.

Table 4.5

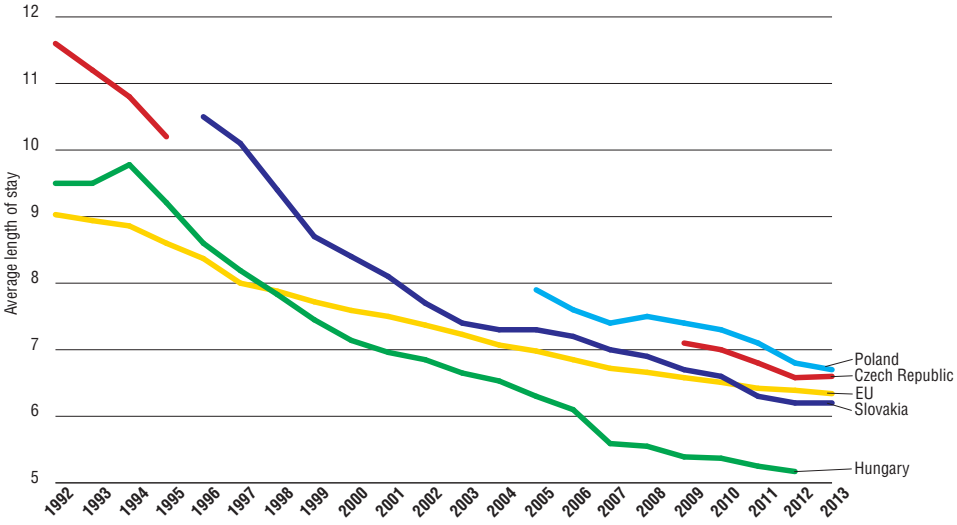
Utilization of bed capacities in Slovakia, selected years

	2000	2005	2009	2010	2011	2012	2013	2014
Number of physician posts	6 143	5 008	5 609	5 823	5 704	6 085	6 174	6 268
Hospitalized patients (thousands)	1 074	995	1 020	1 009	1 007	1 007	986	989
Number of days of stay (thousands)	10 991	8 840	8 533	8 309	8 074	7 970	7 833	7 758
Occupancy rate of beds total in %	70.5	67.5	68.8	68.1	67.7	70.0	70.2	69.7
Occupancy rate of acute beds %	70.6	66.7	67.3	66.5	65.5	67.3	67.4	67.1
ALOS total (days)	10.2	8.9	8.4	8.2	8.0	7.9	7.9	7.8
ALOS acute beds (days)	8.4	7.3	6.7	6.6	6.3	6.2	6.2	6.1

Source: NCHI, 2015c.

Fig. 4.3

Average length of stay in acute-care hospitals in Slovakia and selected countries, 1992–2013



Source: WHO HFA, 2015.

A minimum network of providers regulates capacity in terms of density and accessibility in the Slovak health sector. In primary care, a GP is entitled to a contract as soon as a patient registers with them. In ambulatory secondary care, the minimum network is defined as a minimum number of contracted specialists by type in a given region. In inpatient care, the minimum network is defined in terms of the minimum number of contracted beds per specialty. The health insurance company may contract more capacity if resources are available. In 2007 the Ministry introduced another regulation – a concept of "compulsory network of providers" – which mandated that certain state-owned hospitals must be contracted, even if quality and price did not match those of their competitors. The idea was that hospitals included in the compulsory network are the ones needed to ensure the provision of acute care services in Slovakia. However, some perceive this regulation as deforming the market, regionally misbalanced and established just to improve the bargaining power of public providers (Szalay et al., 2011). In fact, as of 2016, 36 out of 37 hospitals in the compulsory network are state-owned. This limits available options for health insurance companies in contracting capacities selectively.

Regional variance in the number of beds per 100 000 population, as well as occupancy rates, prove that the minimal or compulsory network does not ensure regional equality in access to inpatient services (see Table 4.6).

Table 4.6

Regional variance of distribution and efficiency of bed capacities, 2014

	Number of beds		ALOS	Bed occupancy
	number	per 100 000	(days)	(%)
Slovak Republic	31 619	583	7.8	69.7
Bratislava	4 745	759	8.1	74.1
Trnava	2 408	431	6.8	62.8
Trenčín	2 860	484	7.8	68.1
Nitra	3 588	524	8.4	73.8
Žilina	3 955	573	7.6	70.3
Banská Bystrica	3 916	597	7.8	71.7
Prešov	4 596	561	7.7	64.6
Košice	5 554	698	8.0	69.2

Source: NCHI, 2015c.

4.1.3 Medical equipment

The Slovak health care system is relatively well equipped with diagnostic imaging technologies (see Table 4.7). It has by far the highest number of RTGs per million inhabitants among V4 members and a relatively high number of CTs, MRIs, PET scanners and Angiographs. Only Poland has more Angiographs and CTs and the Czech Republic more MRIs. The total number of devices has grown rapidly since 2007 due to the prioritization of the availability of medical equipment in the operation programme "Healthcare" (KPMG, 2013).

Table 4.7

Number of diagnostic imaging technologies per million inhabitants, selected countries and years

	CT		RTG equipment		MRI		PET		DS Angiograph	
	2005	2013	2005	2013	2005	2013	2005	2013	2005	2013
Czech Republic	12.3	15.0	8.6	8.0	3.1	7.4	0.5	1.0	5.8	8.5
Hungary	7.1	7.9	2.7	4.8	2.6	3.0	0.5	0.4	2.9	3.7
Poland	7.9	17.2	n/a	4.7	2.0	6.4	n/a	n/a	n/a	10.6
Slovak Republic	11.4	15.3	9.9	12.2	4.3	6.7	0.6	1.1	7.8	9.1

Source: OECD, 2015.

The purchasing of large medical equipment and technologies is not regulated by legislation or by a minimum provider network guarantee. HICs decide whether to contract a new diagnostic service by medical providers. HICs use a variety of indicators to evaluate their contracting decision. According to the General Health Insurance Company, there are only few gaps left in the market (as Box 4.1 shows).

Box 4.1
Contracting methodology of CTs and MRIs used by GHIC since 2015

In May 2015 the General Health Insurance Company (GHIC) introduced a strategy for purchasing CT and MRI diagnostic services for Slovakia to make the contracting process more transparent. To receive a contract, specific technical and personnel requirements have to be met. At the same time, the insurer requires CT and MRI facilities to fulfil two criteria:

- *Access to facility* (geographical coverage): access to the nearest provider with equipment up to 60 (CT) and 120 minutes (MRI)
- *Capacity usage* (capacity-to-demand ratio): facility needs to cover at least 90% of the calculated demand for the region.

A current overview of geographical access and capacity usage is shown in Figs. 4.4 and 4.5. In most cases there are sufficient or higher capacities in particular areas (red circles) with few regions needing further expansion (green circles). Geographical coverage of CTs and MRIs is nearly complete (i.e. within a 60 minute reach) (GHIC, 2015). Thus, GHIC is unlikely to contract new facilities within the system.

Fig. 4.4: Access to facility with CT and MRI in Slovakia, 2014

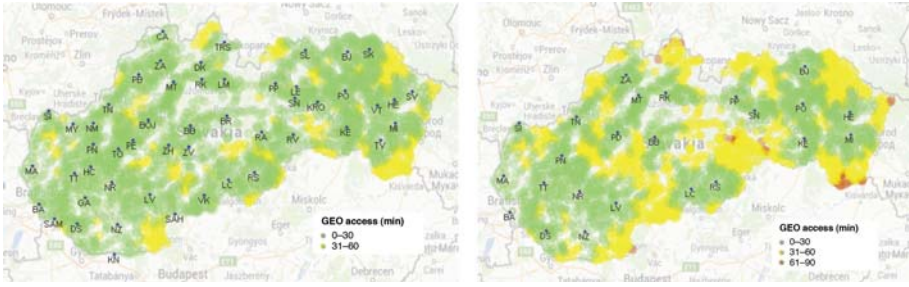
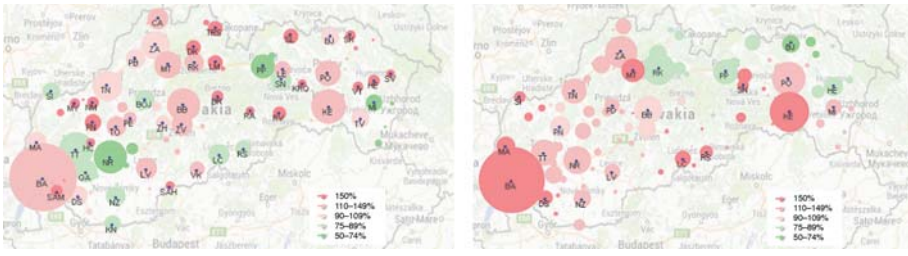


Fig. 4.5: Capacity usage of CT and MRI facilities in Slovakia, 2014



Source: GHIC, 2015.

4.1.4 Information technology (IT)

In 2014, 82% of Slovakia's population had access to the internet, which is comparable to neighbouring countries but slightly less than the EU-28 average of 84% (Eurostat, 2015a). A national e-health project launched its initial phase in 2008 and aims at creating e-health capacities and initiatives such as electronic medical books, electronic prescriptions and medication, electronic allocation (i.e. waiting times management), and a national portal of e-health (i.e. all relevant information about service provision and an entry point into services of e-health for patients). However, the implementation has been delayed three times. Already more than 1500 days past the original due date, its current deadline for completion is January 2017. The initiative is mainly financed from European structural funds with anticipated costs of 47 million EUR. Several analysts expect a fourth delay of the project given a variety of corruption allegations (Beňová, 2015). In 2015 a pilot phase started in four hospitals (see Section 2.7.1).

The aforementioned uncertainty over the nationwide introduction of e-health services resulted in HIC-driven initiatives and a wide fragmentation of electronic systems in use. Dôvera developed its own mobile application for an electronic medical card offering online access to medical information, e-prescriptions, costs of treatment and other information. A system called "HospiCOM" allows Dôvera to schedule planned hospitalizations for its insured. Other HICs are also using their own versions of quasi e-health systems.

ICT systems in both inpatient and outpatient settings are diverse and rarely applied to improve value in hospitals via utilizing information on HR processes or logistics. The GESITI study (Šoltés, Gavurová & Balloni, 2014) mapped ICT in 20 hospitals in Košice and Prešov region and concluded that:

a) clinical, management and patient information systems varied across mapped hospitals;
b) there was a minimal use of systems that aimed at human resources management, ERP systems, logistic and application solutions, process management solutions and customer relationship management systems;
c) only 12 facilities regularly used ICT to evaluate customer satisfaction; and
d) only seven hospitals had a solid IT security plan.

According to Šoltés, Gavurová & Balloni (2014) this partly contributes to insufficient quality of care in hospitals, poor patient responsiveness, and low value creation in hospitals.

4.2 Human resources

As of 2015, 105 382 people were employed in the health care sector, representing 4.5% of the Slovak workforce. Of the total employed health personnel 75.7% were medical staff, and the rest were non-health related, i.e. technical, educational and administrative staff. A detailed breakdown of the health workforce is shown in Table 4.8, while an overview of the proportions is provided in Fig. 4.6. The workforce remains dominated by women, with females accounting for 78% of all health care employees and nurses are almost exclusively women (98%). Females accounted for 57% of physicians and dentists.

Only 47.8% of health workers are employed by non-state providers. After reclassification of health care facilities in 2008 and the gradual expansion of publicly owned hospitals, the proportion of state-employed health personnel increased to 52.2% in 2014.

In total, the health care workforce has decreased by 3.1% since 2004 (see Fig. 4.7) for various reasons. Changes to legislation by the Labour Code in 2007[10] restricted the number of hours that health employees can work per shift, partially resulting in an increase in total workforce in 2007 and 2008. On the other hand, contrary to the expectations, the decree defining minimum staffing levels in health facilities in 2008 led to a shift in personnel structure towards meeting the minimum ceiling. However, for a majority of providers this level was not sufficient to meet health care demands. Additional hiring led to an increase in workforce in 2010.

The total number of physicians has been gradually rising, whereas numbers of nurses and other health personnel are decreasing. Due to the introduction of minimum wages for hospital doctors, the profession is growing more attractive. Complying with the new legislation, general and specialized doctors' wages increased by stages from January 2012 to January 2015 (see Section 3.7.3). The average monthly salaries of doctors increased by 34.2% in 2011–2014 (compared to 7.8% for 2008–2011) (MoH, 2015).

[10] Which transposed the EU Working Time Directive (2003/88/EC).

Table 4.8

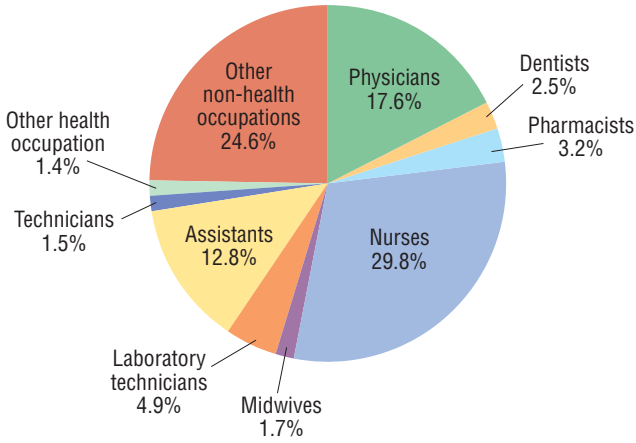
Total workforce employed in Slovak health care by occupation, 2004–2014

	2004	2008	2010	2012	2013	2014
Total	108 752	109 874	108 079	105 397	104 312	105 382
Out of which health occupations:	77 581	79 134	79 551	79 234	78 683	79 729
physicians	16 707	18 121	18 110	18 193	18 355	18 574
dentists	2 870	2 745	2 663	2 665	2 586	2 642
pharmacists	2 828	2 777	3 267	3 522	3 333	3 644
nurses	34 007	33 778	32 745	31 478	31 128	31 166
midwives	1 739	1 761	1 874	1 765	1 775	1 795
laboratory technicians	5 684	5 377	5 605	5 488	5 152	5 354
medical laboratory assistant	n/a	n/a	3 303	3 190	3 063	3 175
pharmaceutical laboratory assistant	n/a	n/a	2 291	2 271	2 065	2 161
laboratory assistant for medical devices	n/a	n/a	11	27	24	18
assistants	9 639	11 061	12 328	13 073	13 333	13 578
physiotherapist	n/a	n/a	1 730	1 709	1 726	1 818
emergency medical rescuer	n/a	n/a	1 300	1 755	1 779	1 773
community health worker	n/a	n/a	123	112	100	108
medical assistant	n/a	n/a	1 430	1 735	1 969	2 213
radiologist technician	n/a	n/a	1 327	1 315	1 314	1 291
dental hygienist	n/a	n/a	163	226	216	225
nutrition assistant	n/a	n/a	287	278	276	267
masseur	n/a	n/a	538	506	532	527
hospital attendant	n/a	n/a	5 430	5 437	5 334	5 250
dental assistant	n/a	n/a	n/a	n/a	87	106
technicians	1 540	1 861	1 624	1 612	1 538	1 437
dental technician	n/a	n/a	1 041	942	888	864
optometrist	n/a	n/a	81	92	92	84
optician	n/a	n/a	362	368	342	268
orthopaedic technician	n/a	n/a	140	210	216	221
other health occupation	2 567	1 653	1 335	1 438	1 483	1 539
logaoedics	n/a	n/a	152	150	156	157
psychologist	n/a	n/a	441	491	528	537
laboratory diagnostician	n/a	n/a	617	701	697	733
special education teacher	n/a	n/a	62	40	41	43
health physicist	n/a	n/a	62	50	53	56
electro-technician	n/a	n/a	1	6	8	13

Source: NCHI, 2016c.

Fig. 4.6

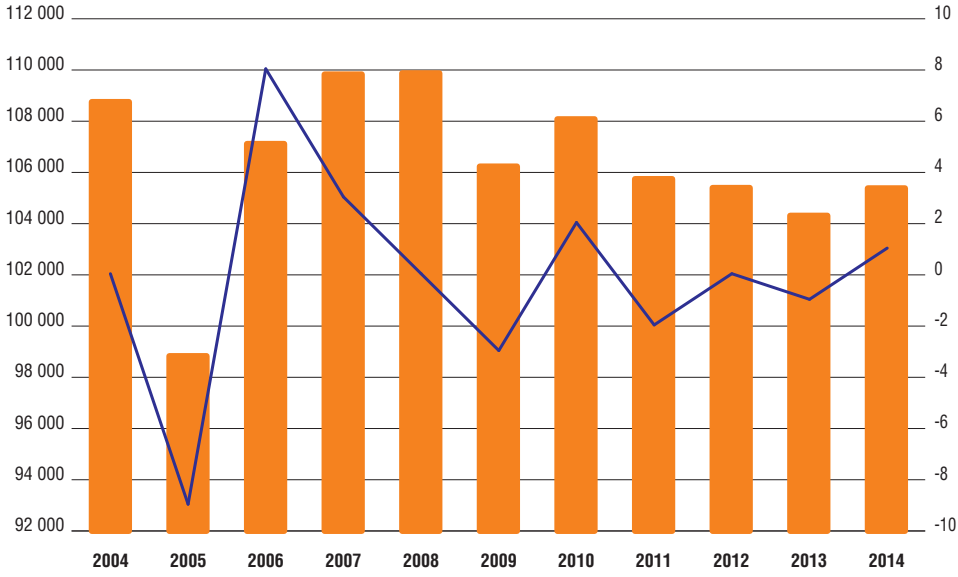
Structure of health care professions in Slovakia as of 2014



Source: NCHI, 2016c.

Fig. 4.7

Total workforce employed in Slovak health care (and change in percentage), 2004–2014



Source: NCHI, 2016c.
Note: In 2005 a change in methodological data collection was applied.

Some indicators hint towards a positive impact of the minimum salary on the future health personnel of Slovakia, as the number of applicants to study medicine increased (see Section 4.2.3). Secondly, the outflow of physicians from Slovakia has slowed down (see Section 4.2.2). Thirdly, the minimum wage will help to counteract the ageing of the health workforce in Slovakia. The proportion of young doctors below 35 years increased from 19.8% in 2010 to 21.6% in 2014. Additionally, the rising attractiveness of medicine as a career choice in Slovakia may help to ameliorate the 970 vacant positions for physicians throughout the health care system (as of 2013 and estimated by the MoH) (NCHI, 2014a).

After nurses organized a petition entitled "*When we will not take care of ourselves, who will take care of you?*" the National Council adopted a resolution that required the government to prepare equivalent legislation on minimum wages for nurses and midwives. In March 2012 the policy was presented to the Ministry of Health, but only four months later it was reversed. A majority of providers raised the wages of nurses and midwives to comply with the legislation despite its short-lived nature, which resulted in an increase of 18.8% between 2010 and 2012 (SOZZAS, 2013). Even if this proved beneficial for nurses, it led towards the substitution of nurses with auxiliary staff, such as hospital assistants or attendants. Since 2004 the total number of nurses has decreased by almost 10% (see Table 4.9 and Section 3.7.3).

Table 4.9

Structure of the health workforce per 100 000 population as of 31 December 2014

	2004	2008	2010	2011	2012	2013	2014
Health care occupations	1 440.7	1 462.1	1 475.2	1 458.9	1 464.4	1 452.8	1 470.6
physicians	310.3	334.8	335.8	330.3	336.2	338.9	342.6
dentists	53.3	50.7	49.4	48.4	49.3	47.7	48.7
pharmacists	52.5	51.3	60.6	62.6	65.1	61.5	67.2
nurses	631.5	624.1	607.2	592.9	581.8	574.7	574.9
midwives	32.3	32.5	34.8	34.0	32.6	32.8	33.1
laboratory assistants	105.6	99.3	103.9	103.2	101.4	95.1	98.8
assistants/attendants	17.9	20.4	22.9	23.1	24.2	24.6	25.0
technicians	28.6	34.4	30.1	30.0	29.8	28.4	26.5
other health workers*	47.7	30.5	24.8	26.1	26.6	27.4	28.4
Other occupations	575.5	568.0	529.0	497.8	483.5	473.2	473.2

Source: NCHI, 2016.
Note: * see Table 4.7 for included professions.

The missed opportunity to standardize minimum wages across the medical professions further exacerbated the shortage (Hunková, 2013). Moreover, younger professionals are attracted to higher wages abroad, thus advancing the ageing nursing workforce (SKSaPA, 2014). In 2010, 24.8% of nurses were younger than 35, but by 2013 this figure had declined to 16.2%. The proportion of nurses older than 50 years increased from 5.1% in 2003 to 33.6% in 2014. Since January 2016 new legislation governing minimum salaries of nurses and other non-medical personnel could improve this situation. However, strikes preceding this act make it difficult to estimate its impact on the nursing workforce and the attractiveness of the profession (see Section 3.7.3).

Since 2008 Slovakia has shown large disparities in the distribution of personnel. For example, Bratislava has 1.4 to 2.7 times more health workers on average per 100 000 population than other regions, and this has even increased slightly since 2008 (see Table 4.10).

Table 4.10

Geographical differences in the distribution of health workers per 100 000 population, 2014

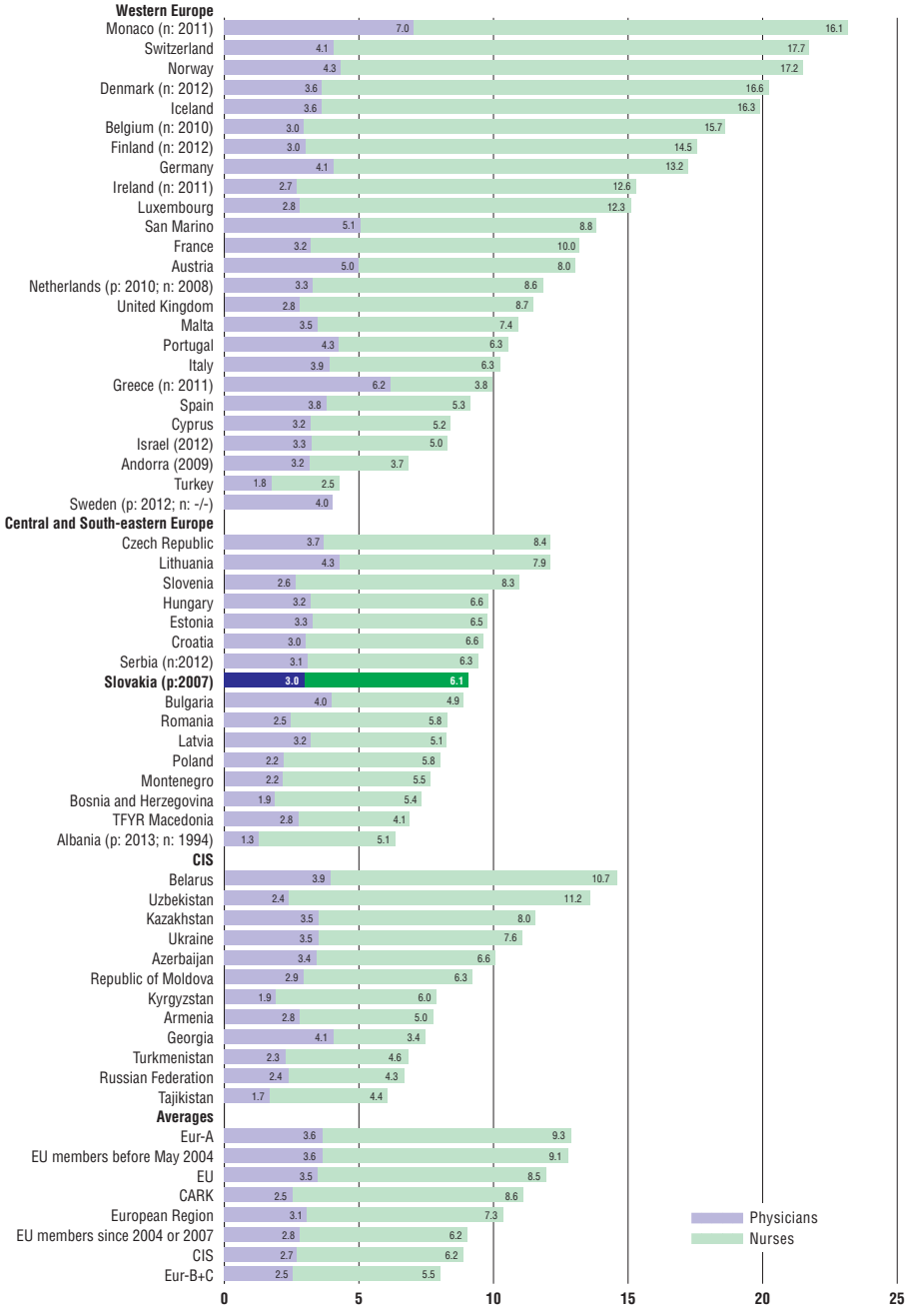
Region	Physicians per 100 000		Dentists per 100 000		Nurses per 100 000	
	2008	2014	2008	2014	2008	2014
Bratislava	652.5	674.5	84.3	78.9	1 035.2	990.6
Trnava	255.0	256.9	43.4	39.0	509.5	470.2
Trenčín	256.7	269.6	42.7	45.0	494.8	464.1
Nitra	259.6	263.4	39.8	37.8	488.8	473.5
Žilina	314.5	366.6	44.5	46.1	606.0	573.1
Banská Bystrica	296.3	275.9	46.1	39.8	620.6	503.5
Prešov	261.5	274.8	44.5	44.1	570.3	506.6
Košice	394.9	394.6	61.4	58.4	678.1	621.9
Slovak Republic	344.8	342.6	50.7	48.7	624.1	574.9

Source: NCHI, 2016d.

From an international perspective, Slovakia's number of physicians was below the EU-28 average in 2013 (see Fig. 4.8). In the same year Slovakia had 30% fewer nurses than the EU- 28 average and the second lowest number in the V4. Despite averaging slightly below the EU-28 average, the number of dentists is increasing (see Fig. 4.9). The number of pharmacists is also steadily growing, with a 29% increase since 2004. Only the Czech Republic had fewer pharmacists employed (see Fig. 4.10). A change of methodology in data collection in 2007–2008 resulted in a peak across professional groups and limits comparability.

Fig. 4.8

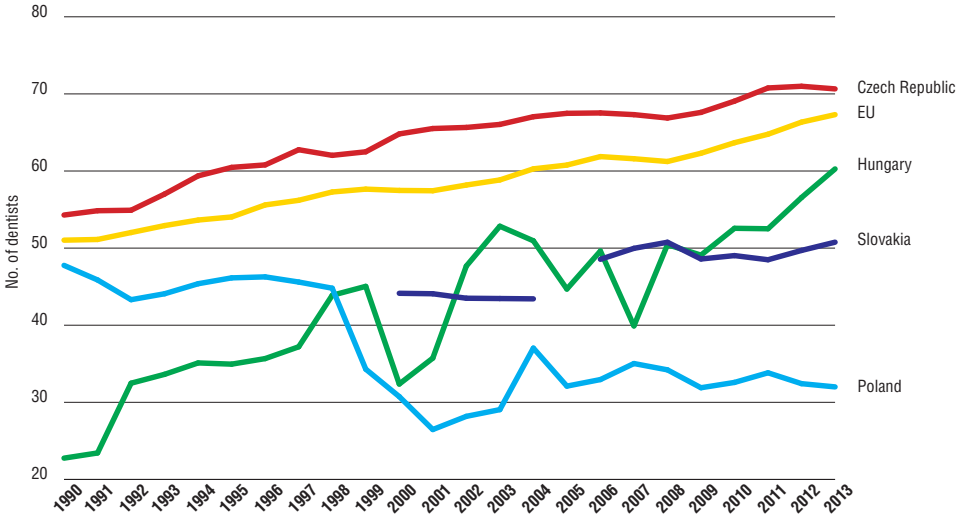
Number of physicians and nurses per 100 000 population in selected countries, 2013 or latest available year



Source: WHO HFA, 2015.

Fig. 4.9

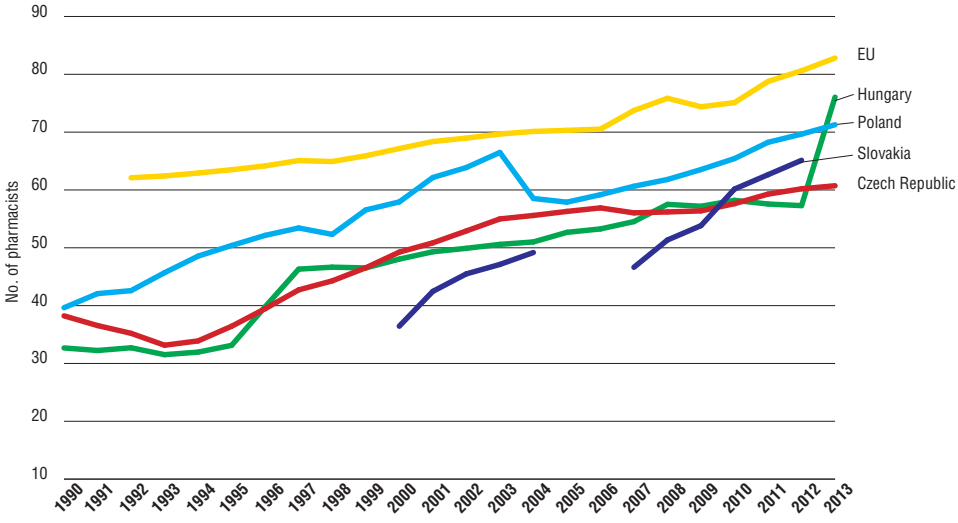
Number of dentists per 100 000 population in selected countries, 1990 to latest available year



Source: WHO HFA, 2015.

Fig. 4.10

Number of pharmacists per 100 000 population in selected countries, 1990 to latest available year



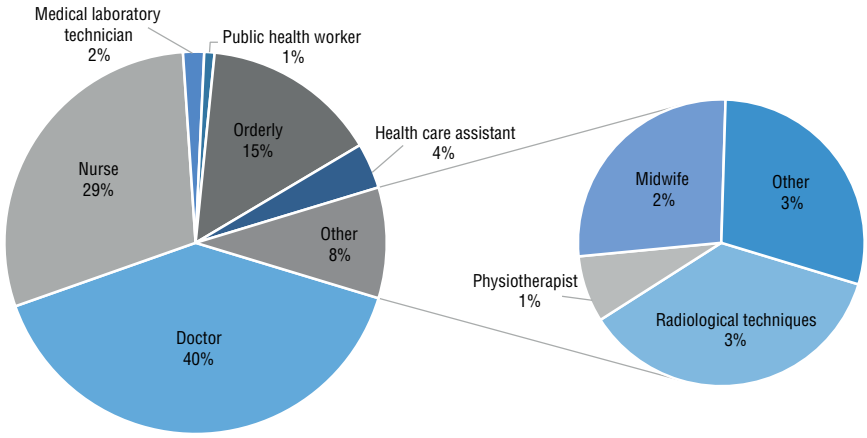
Source: WHO HFA, 2015.

4.2.2 Professional mobility of health workers

After implementing EC Directive 2005/36, Slovak health workers were allowed to work across EU countries. Higher remuneration in neighbouring countries like Germany or Austria and good language capabilities among Slovak professionals have favoured mobility. The migration of Slovak health workers will likely causes shortages in the health care system despite increases in training capacities. As of 2013, about 2414 vacant positions existed in Slovakia's health sector, with further deterioration expected in the future (Tiruneh et al., 2014) (see Fig. 4.11). This projection did not include outpatient private providers of care, so the total number of shortages could be even higher.

Fig. 4.11

Shortages in health care workforce in Slovakia as of 31 December 2013[11]



Source: NCHI, 2014a.

Robust data on Slovak health professional mobility is lacking. Although a certificate of conformity of study issued by the Ministry of Health to health workers (see Table 4.11) is required to work in a foreign country, it does not capture actual migration or migration outside the EU. Thus it only provides an indication of individuals willing to work abroad.

Between May 2004 and December 2014 the Ministry of Health issued 8087 certificates (7.7% of the total workforce), with a majority issued for nurses. The total number of certificates has decreased with the implementation of minimum wages. A threat to strike for increased salaries by doctors in 2011

[11] The figure comes from a statistical finding of the NCHI. However, the values are deemed to be underestimated, due to the methodological weakness of the finding.

Table 4.11
Number of certificates of conformity of study issued by the Ministry of Health to health workers

Occupation category	2005	2008	2010	2011	2012	2013	2014
Physician	595	250	192	340	316	235	202
Dentist	32	18	30	47	29	30	45
Pharmacist	43	61	43	59	99	98	90
Nurse	506	183	283	289	374	228	217
Midwife	21	5	7	6	3	4	1
Physiotherapist	–	–	10	24	18	5	2
Other health worker	86	44	34	43	51	25	43
Total	**1 283**	**561**	**599**	**808**	**890**	**625**	**600**

Source: MoH, 2015b.

coincided with an all-time high of 340 certificates requested. A similar development occurred in 2012 with nurses. Despite the suspension of nursing minimum wages, salaries still increased (SOZZAS, 2013). In 2013 the Ministry of Health began charging 250 EUR for issuing certificates.

According to a 2007 statistical survey, Slovak physicians are most interested in working in Germany, the UK and the Czech Republic, while nurses preferred Austria. The Ministry of Health estimated that a total of 1620 Slovak doctors are pursuing their careers in other countries – Czech Republic (1000), Germany (300), UK (200) and Austria (120) (Beňušová, 2007).

Efforts to lessen the emigration of Slovak health professionals vary greatly and focus primarily on subsidizing study, improve working conditions and professional skills, and the aforementioned salary changes to raise the attractiveness of the Slovak health care system. In 2008 a pilot scholarship programme provided three-month grants to 110 doctors in specialized training. Following its initial success, the programme was extended in 2009 in order to provide longer scholarships and include nurses. Candidates signed a contract requiring them to either work in a relevant Slovak health facility or region at the end of their specialized studies for a period equivalent to the grant duration (typically one to three years, with a maximum of five years) or having to repay the grant. By 2012, 481 doctors and 864 nurses (including midwives) had benefited from the scheme, which cost 9.3 million EUR and was mostly financed by the European Social Fund (ESF, 2016). Other ESF-funded projects have aimed to improve health professionals' clinical and managerial skills. From 2008 to 2012 the ESF and Ministry of Health invested over 40 million EUR towards the education and training of Slovak health professionals. Similar projects are currently in place for general practitioners (see Section 6.2).

The majority of foreign professionals wanting to work in Slovakia come from the Czech Republic, Germany, Austria and France. The number of certificates of conformity of study issued to foreign professionals in Slovakia gives an indication of the inflow of doctors from abroad (see Table 4.12). These figures are significantly lower than on the side of outflows.

Table 4.12

Number of certificates of conformity of specializations in individual categories issued to non-Slovaks

Occupation category	2005	2010	2011	2012	2013	2014
Physician	44	52	63	68	69	76
Dentist	5	1	2	0	1	1
Nurse	13	1	1	2	4	3
Pharmacist	6	1	0	1	1	2
Midwife	3	0	0	1	0	0
Physiotherapist	–	0	0	1	1	0
Other health worker	18	4	4	1	7	2
Total	**89**	**59**	**70**	**71**	**83**	**85**

Source: MoH, 2015b.

4.2.3 Training of health care personnel

A professional qualification to perform medical services can be conducted in universities, colleges or high schools. After the completion of a basic qualification, a student can obtain one of the following:

- Bachelor (Bc) degree
- Master (Mgr) degree
- Doctoral (PhD) degree
- Leaving certificate after completing secondary medical school
- Diploma on discharge to higher vocational education at a secondary medical school
- Certificate of final examination after completing secondary education
- “Doctor of Medicine” or “Doctor of Dental Medicine” title

Doctors and dentists in Slovakia are educated in one of three universities (Comenius University in Bratislava, PJ Safarik University Košice and Slovak Medical University in Bratislava) and at four faculties (Faculty of Medicine in Bratislava, Jessenius Faculty of Medicine in Martin, Faculty of Medicine at UPJŠ Košice and the Faculty of Medicine at SZU Bratislava) which provide

an accredited study programme in general medicine and an accredited degree programme in dentistry. Graduates receive either a "Doctor of Medicine" (abbreviated "MUDr") academic degree or the academic title "Doctor of Dental Medicine" (abbreviated "MDDr") for dentistry. Study programmes are comparable to those in other EU countries and are carried out in accordance with Directive 2005/36/ EC (the recognition of professional qualifications).

Pharmacists are educated at two universities (Comenius University in Bratislava and the University of Veterinary Medicine in Košice). After completion of the master's programme, graduates in the pharmaceutical programme undergo a rigorous examination to earn the title "Doctor of Pharmacy" (abbreviation "PharmDr").

Nurses can study in an accredited nursing programme in accordance with Directive 2005/36/ EC at eight universities or one private high school (Slovak Medical University in Bratislava, Faculty of Nursing and Health Professional Studies and Faculty of Health in Banska Bystrica, Catholic University, Faculty of Health, University of Health and Social Work of St Elizabeth in Bratislava, Constantine the Philosopher University in Nitra, Faculty of Health and Social Sciences, University of Presov, Faculty of health care disciplines, Alexander Dubcek University, Faculty of Health, University of Trnava, Faculty of Health and Social Sciences, Comenius University in Bratislava, Jessenius Faculty of Medicine in Martin and UPJŠ Košice, Faculty of Medicine). After completing their education, nurses receive an academic bachelor degree comparable to those in other EU countries and the professional title of nurse. Graduates have the opportunity to pursue a master's degree and earn the title of "Master" (abbreviated "Mgr").

Midwifery is taught at three universities (Comenius University in Bratislava, Jessenius Faculty of Medicine in Martin, Prešov University, faculty of health professions, Slovak Medical University in Bratislava, Faculty of Nursing and Health Professional Studies) in accordance with Directive 2005/36/EC.

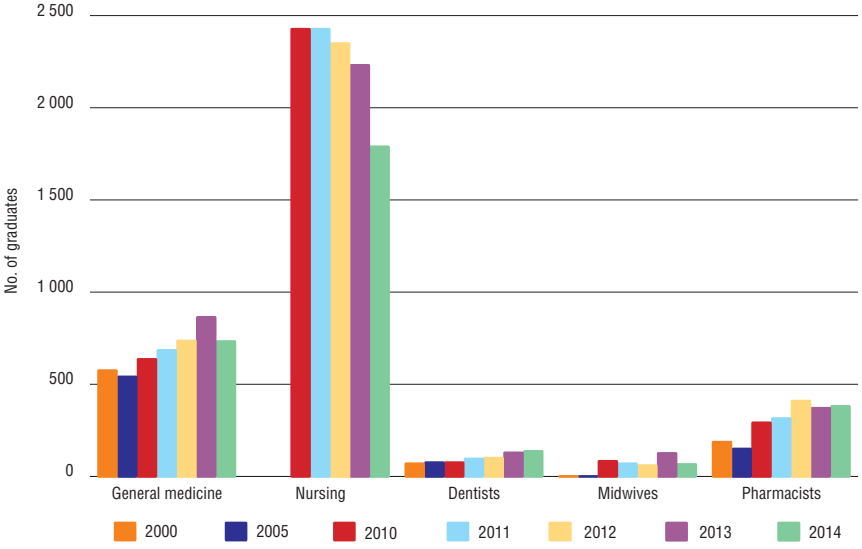
Since 2004 further education of health professionals is provided by educational institutions other than the Slovak Medical University in Bratislava, which still educates the highest number of health workers in Slovakia. In 2014 the Slovak Medical University conducted training in more than 130 accredited programmes for specialized training, certification training and continuing education for all health professions. Doctors can specialize in 49 accredited specialized study programmes which are eligible for automatic recognition in other EU Member States that comply with the requirements of Directive 2005/36/EC, as well as 46 programmes of specialized training (lasting

three years) and 33 certified activities. A dentist can pursue further education in two specialized programmes eligible for automatic recognition in other EU Member States and six additional specializations. Health workers may also pursue the third level of higher education (PhD) to continue towards a scientific and teaching career (i.e. associate professor or professor at a university).

The number of graduates and enlisted students of medicine and dentistry has steadily increased while the number of nursing graduates has gradually declined. The number of graduates for selected years is depicted in Fig. 4.12.

Fig. 4.12

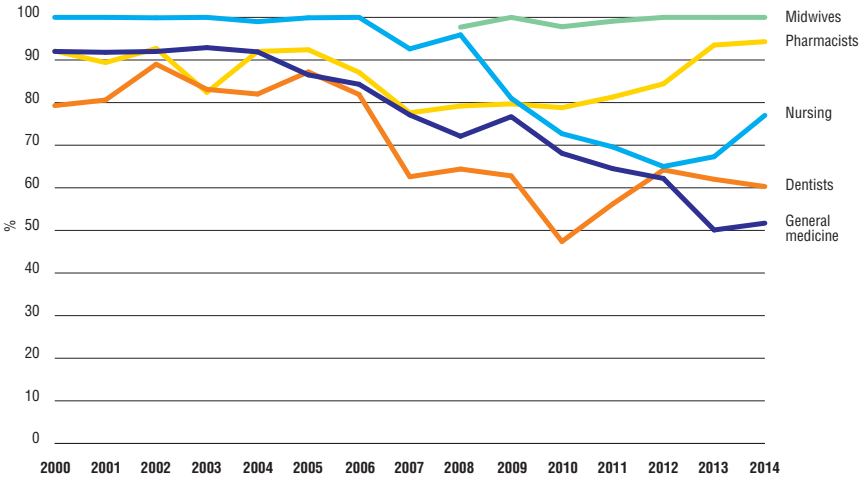
Number of health care graduates of full-time and external study in Slovakia, 2010–2014 (excl. PhD students)



Source: UIaPS, 2016.

Although these changes might seem to be a consequence of the aforementioned changes in legislation on minimum wages and the restructuring of health care providers, a main driving factor is an influx of foreign students into Slovakia. As Fig. 4.13 shows, the proportion of Slovak graduates has significantly decreased since 2006. In fact, in 2014 only 51.7% of new students of medicine were Slovak and 40.5% of new graduates of nursing were foreign students (UIaPŠ, 2016). In 2012, for the first time in history, one of the medical universities – Jessenius University in Martin – had more foreign than domestic enlisted students. A majority of foreign students come from Greece, Norway, Poland or Israel (Pažitný et al., 2014).

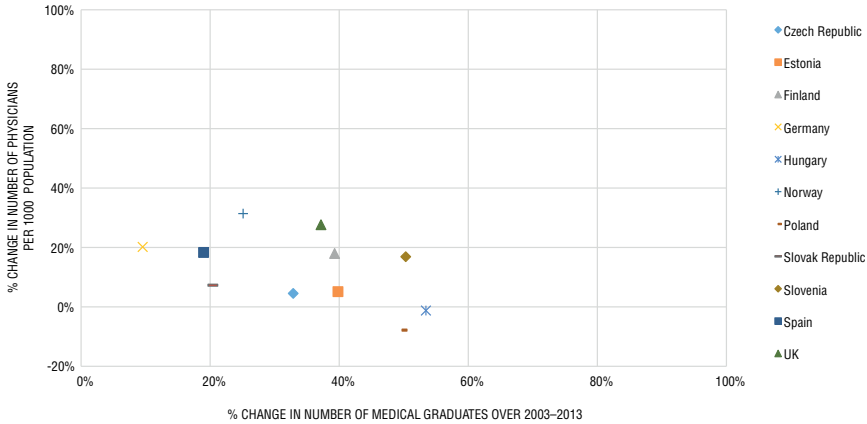
Fig. 4.13
Proportion of graduates of full-time and external study that have Slovak nationality, 2000–2014



Source: UIaPS, 2016.

Increasingly, foreign students leave Slovakia after graduation to pursue their careers elsewhere. The increase in medical graduates will not broaden the health workforce in Slovakia nor reverse the lack of health professionals (as depicted in Fig. 4.11). This phenomenon is shared amongst the V4 countries (see Fig. 4.14) and other EU Member States. Slovakia had a 20% increase in

Fig. 4.14
Comparison of number of new graduates and number of physicians, selected countries, 2003–2013



Source: OECD, 2015b.

total number of graduates, but only a 7% increase in total number of physicians, whereas Hungary experienced a 57% increase in the number of graduates and a slight decrease in the number of physicians (OECD, 2015b).

4.2.4 Doctors' career path

Professional development for doctors depends on individual motivation and ambition which leads to variations in possible nationwide career paths:

1) Doctors can stay without further specialization and work in a hospital with limited scope of practice;
2) Doctors can obtain a specialization in one of the specialty fields, acknowledged by the EU (e.g. surgery, internal medicine, obstetrics and gynaecology) and practise across all EU states without limitation on their scope of specialization. Certain requirements exist for each specialization in terms of length of training, rotations and numbers of procedures performed.
3) In hospitals, doctors can progress from senior physician to assistant medical director and medical director. In university hospitals, doctors may combine clinical duties with research activities.
4) Doctors can obtain a licence that enables them to provide medical services as sole proprietor or become sponsors of another entity that provides medical guarantees for provision of care.
5) Doctors can pursue research and conduct pure biomedical research or focus on lecturing at one of the medical universities while receiving a PhD degree.

4.2.5 Other health workers' career path

Unlike medical doctors, there is no binding nationwide career path for other health workers. Pharmacists can decide to pursue a career in the private sector or choose to run a private pharmacy. Nurses can work in a hospital and progress to different specializations and levels of patient responsibility. Furthermore, nurses can choose to work in ambulatory settings or obtain a licence to provide either nursing services as a sole proprietor or run a nursing home and nursing care services. Other health care professionals, such as hospital auxiliary staff, do not follow a defined career path either.

5. Provision of services

A key feature of the Slovak health system is the clear institutional separation between public health and the provision of health care services. Historically, the Slovak Public Health Authority was responsible for hygiene and sanitation, surveillance of communicable diseases, and environmental and occupational health. Since 2007 the Slovak Public Health Authority also assumed responsibility for health prevention and promotion with the rising prevalence of non-communicable diseases (NCDs).

Primary care services are provided by physicians predominantly working in private practices. Patients register with a GP or a specialist of their choice. Health insurance companies are required by law to contract each GP and paediatrician licensed by the self-governing regions. Since 2013 patients need a referral by a GP to see a specialist. The many sub-specializations in secondary care have led to a fragmented system with prolonged length of care for patients with multiple morbidities. Slovakia has a high number of outpatient contacts despite decreases over the years (11.0 contacts per capita in 2013 compared to 13.6 in 2008). For specialist care, legislation defines a minimal number of doctors in each speciality, but ultimately the HICs determine the quantity of specialized health services by individually contracting them.

Inpatient care is provided in general and specialized hospitals, which are owned and managed by a range of actors, including ministries, regions, municipalities, private entities and NGOs. The MoH grants permits for specialized hospitals, while all other permits are given by the self-governing regions. In both cases, pre-defined requirements have to be met. Providers included in the minimum network of providers, defined by the MoH, are automatically contracted by SHI companies. All other inpatient providers need to fulfil criteria set individually by all SHI companies and agree on a contract.

Providers of emergency services are licensed by the Ministry of Health. Pharmaceutical care is largely regulated, but drug expenditure containment remains unrealized. Recently, the re-export of drugs has become challenging. The demand for long-term and palliative care has substantially grown, but the system still relies on informal care. The fragmentation of long-term care over the social and health care systems remains an unresolved issue and has created confusion among patients and led to extra bureaucracy. The Slovak endowment of psychiatric beds is rising but is insufficient to cope with the increase in incidence of mental health disorders. Only some dental care procedures are fully covered by SHI, whereas the majority of procedures are partially or fully covered by the patient. Special programmes exist for the 10% Roma minority who experience poorer health and living conditions.

5.1 Public health

Public health operations are traditionally organized separately from health curative services and focus on the surveillance of communicable diseases. The Ministry of Health oversees the public health network in Slovakia, which is solely financed from the state budget. The Public Health Authority (PHA) is the coordinating and supervising body of the network of 36 regional Public Health Institutes (PHI) throughout the country that act as executive bodies of the PHA. The PHA is headed by the chief hygienist, a post which is nominated and appointed by the Minister of Health.

The PHA conducts research, provides advice on methodology, and closely cooperates with the 36 PHIs in accordance with Act no. 355/2007. The PHA is also responsible for international cooperation in public health, initiating legislation (also harmonization with EU norms) and adopts measures for health promotion, health protection and disease prevention. The PHA has two main tasks that are kept separate:

- Firstly, it is responsible for monitoring environmental factors and population health status, as well as the promotion of healthy lifestyles through administration of prevention programmes for both communicable and non-communicable diseases.
- Secondly, PHA focuses on epidemiological surveillance of communicable diseases and the health status of the population and conducting epidemiological and laboratory investigations. It also initiates containment

or preventive measures as necessary. The PHA collaborates closely with the state veterinary authorities in incidences of food contamination and food poisoning.

Traditionally the PHA was mostly focused in the past on the second task, e.g. the prevention of communicable diseases, hygiene and sanitation. With the Act on Protection, Support and Development of Public Health in 2007 (Act 355/2007), the tasks of the PHA were broadened to reflect also the rising prevalence of non-communicable diseases.

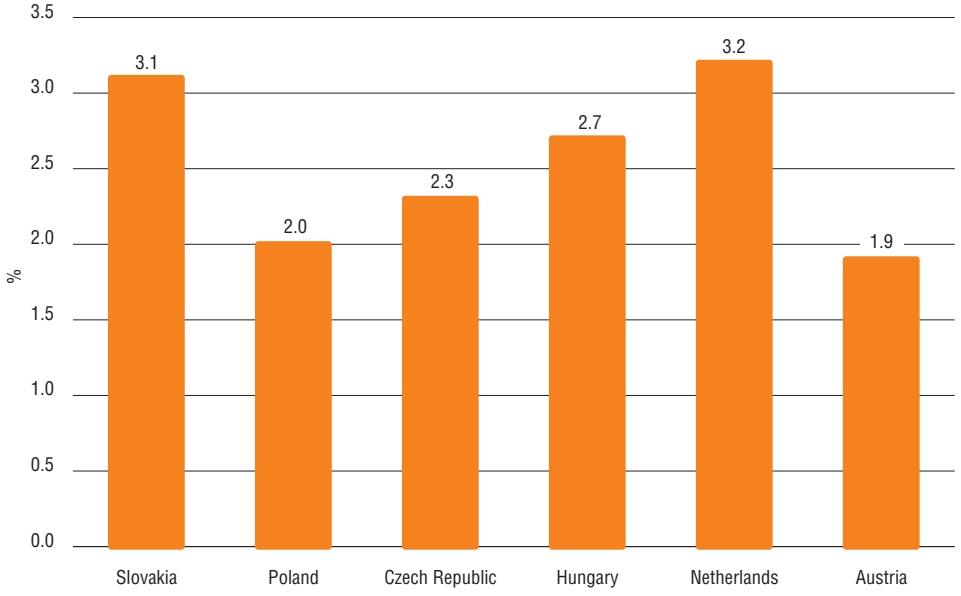
This marked a substantial change in the PHA's position and role. Given the high prevalence of NCDs (e.g. cardiovascular, oncologic, metabolic and mental disorders, etc.), the new responsibility is of great importance to population health (see Section 1.4).

With allocations less than 4% of the total health budget for public health, Slovakia has a comparable budget to other European countries (see Fig. 5.1). But a broader set of responsibilities coupled with a fixed budget (and a cut during the 2008 financial crisis) hindered progress in developing public health. The financial situation has been improving recently thanks to EU structural funding and linking new competences to financial means.

In the current strategic national health programme, an intersectoral approach of care for individual patients' and population health involving all relevant public and private actors is a key priority. This requires active involvement of the population in public health programmes aimed at non-medical prevention of diseases by mitigating risk factors. PHA-led activities include smoking cessation programmes, community care or people-centred projects. Additionally, dedicated programmes target worsening public health indicators of socially disadvantaged communities in Slovakia (see Section 5.14).

The basis for this key strategic document was the health policy framework "Health 2020" provided by the WHO Regional Office for Europe in 2012, which guides policy-makers in priority setting for public health. The Strategic Framework for Health 2014–30 lists three strategic objectives that need reform to meet common objectives. These include (1) improved health status and well-being of the population, (2) reduction in health inequalities, and (3) universal people-centred health systems that are sustainable, equitable and of high quality (see Section 2.5).

Fig. 5.1
Expenditure on public health as a percentage of total expenditure on health, selected countries, 2013



Source: OECD, 2015b.

Since 1991 a register for communicable diseases run by the PHA has been a part of the epidemiological information system of communicable diseases (EPIS) that supplies data to WHO and ECDC. This register is the focus of infection control for Slovakia.

Enforced since 1986, the National Immunization Plan aimed to eliminate and eradicate vaccine-preventable communicable diseases by targeting children. It is updated annually based on WHO recommendations and reported incidences in the previous year. Vaccination against diseases listed in the plan remains compulsory as stipulated by Act no. 355/2007. The current list includes vaccinations against diphtheria, pertussis, poliomyelitis, pneumococcal pneumonia, *H. influenzae*, type B viral hepatitis, rubella, morbilli and parotitis. Vaccines and vaccination under the valid immunization plan are fully covered by HIC.

Historically, vaccination rates against major communicable diseases varied between 98–99% and low or zero incidences of vaccination-preventable diseases have been reported. The last registered case of poliomyelitis was recorded in 1960 and of diphtheria in 1980.

Since 2012 vaccination rates have been falling (see Table 5.1), driven by the Bratislava region, which recorded a low 90.1% MMR vaccination rate for 2015 (PHA, 2016). In 2014 a group of vaccination opponents filed a case against this compulsory vaccination at the Constitutional Court of the Slovak Republic. The court ruled in favour of maintaining the policy as it does not breach human rights to privacy and integrity, but protects public health. Thus, parents who refuse to have their children vaccinated can be penalized (SITA, 2014). Between 2013 and 2014 the PHA registered 6209 refusals of compulsory vaccinations, of which 369 cases were charged a fine (PHA, 2014). This represents a 263% increase in fines compared to 2012 (Krempaský, 2015).

Table 5.1

Immunization rates in Slovakia, selected years

Immunization	2005	2010	2011	2012	2013	2014	2015*
% of infants vaccinated against diphtheria	99.0	99.1	99.0	98.7	97.9	96.8	96.0
% of infants vaccinated against tetanus	99.0	99.1	99.0	98.7	97.9	96.8	96.0
% of infants vaccinated against pertussis	99.0	99.1	99.0	98.7	97.9	96.8	96.0
% of children vaccinated against measles	98.0	98.5	98.0	99.0	98.2	96.6	95.2
% of infants vaccinated against poliomyelitis	99.0	99.1	99.0	98.7	97.9	96.8	96.0
% of infants vaccinated against mumps	n/a	n/a	n/a	n/a	98.2	96.6	95.2
% of infants vaccinated against rubella	n/a	98.5	n/a	n/a	98.2	96.6	95.2
% of infants vaccinated against invasive disease due to *Haemophilus influenzae* type B (Hib)	99.0	99.1	99.0	98.7	97.9	96.8	96.0
Incidence of HIV per 100 000	n/a	n/a	0.9	0.9	1.5	1.6	1.35*
Incidence of tuberculosis per 100 000	13.15	7.53	7.0	5.94	7.4	6.2	n/a

Source: PHA, 2016.
Note: *as of 1 October 2015.

In 2012 compulsory vaccination against tuberculosis was taken off the list after tuberculosis incidence reached an all-time low at 5.94 per 100 000 inhabitants. The current increase to 7.35 in 2013 is worrying and is driven by an outbreak among the Roma minority. The incidence of type A viral hepatitis (VH-A) continues to decline thanks to childhood vaccination of children living in communities with low hygiene standards. In recent years viral Hepatitis C has been on the rise, especially among drug users. The cumulative number of HIV-infected persons since 1985 has plateaued at approximately 550, but a substantial increase of new cases in 2014 poses a challenge for the future.

Health promotion and prevention of major chronic diseases

The paradigm shift towards more health prevention and promoting healthy lifestyles to mitigate non-communicable diseases (NCD) in Slovakia is laid out in Act no. 355/2007. In 2014 the National Health Promotion Programme (NHPP) was adopted by the government in an inter-sectoral approach to minimize risk factors and consequences of risk behaviour.

The NHPP, through cooperation with health service providers, health insurance companies and other relevant institutions (e.g. patient organizations and relevant NGOs), aims at the continuous improvement of population health status (see Box 5.1). Based on health monitoring of the Slovak population through various national surveys, two priority areas were formulated to align with current WHO and EU strategies (Health for All, Health2020, EU public health policy, etc.)

Box 5.1
Main parts of the NHPP, 2014

A. Preventive measures to reduce incidence of chronic NCD

I. Measures to support healthy lifestyle
   1. Nutrition and dietary habits
   2. Physical activity
   3. Tobacco, alcohol and other drugs
   4. Healthy living and working conditions

II. Specific measures focusing on the major chronic NCD
   1. Nutrition and dietary habits
   2. Physical activity
   3. Tobacco, alcohol and other drugs
   4. Healthy living and working conditions

Implementation of these priority areas of intervention is realized through several national programmes and action plans, either on a regional level (children and adolescent health) or as an integral part of the Slovak-wide PH system. In priority area A, the chief activities are the National Action Plan for mitigating alcohol use and the Plan for tobacco control. In priority area B the National Plan for containing diabetes and CVD prevalence are the main tools. A full list is shown in Box 5.2.

Box 5.2
Full list of national plans under priority area A, 2014

- NP for health of children and adolescents
- NP for prevention of cardiovascular diseases
- NP for diabetes
- National action plan for problems with alcohol
- National action plan for tobacco control
- NP for prevention of injuries
- NP for mental health
- NP for prevention of overweight and obesity
- NP for active ageing
- NP for health promotion of disadvantaged communities

Additionally, screening programmes exist for cervical, breast and colon cancer. Screening rates in 2013 were around 48% for cervical cancer, and 38.9% for breast cancer (compared to over 80% in Slovenia, Denmark, Austria and the Netherlands) (OECD, 2015). A National Plan for Cancer is necessary to achieve comparable targets, but it is not yet developed. Costs of screening programmes are fully included in the Slovak benefits basket.

Health promotion counselling centres were established as an integral part of PHA and PHIs to advise on health risk factors, healthy nutrition and physical activity, smoking cessation, mental health and stress management, and occupational health. They also provide non-pharmacological treatment for early stages of NCDs, advise on environmental factors, quality of housing, drinking and recreational waters, and can provide flu vaccinations. In 2015 the centres saw 10 384 clients, of whom 5964 were first-time users of these services. Altogether, the centres have seen more than 230 000 patients since 1993 (PHA, 2016). These centres organize various events to raise awareness about specific PH problems. Because of insufficient state funding of the government-adopted health promotion and primary prevention programmes, the activities and campaigns are often conducted and co-financed in partnership with non-governmental organizations and the private sector.

Evaluation of the PH system after the 2007 reform

With the reorientation from communicable to non-communicable diseases in 2007, a whole range of new competences, tasks and instruments was introduced. In 2013 an evaluation of the PH system in Slovakia was carried out in collaboration with the WHO Regional Office for Europe using the EPHO (European Public Health Operations) Tool, which mapped its strengths and weaknesses and proposed future measures (see Box 5.3).

Box 5.3
Strengths and weaknesses of the Slovak public health system, 2013

Strengths of the systems	Weaknesses of the system
• comprehensive legislation and institutional framework; • regular monitoring of health status, risk factors and recent surveys on social and economic health determinants; systematically published data and their accessibility; • well-established state hygiene surveillance and control system; • health protection principles embedded in national policies, intersectoral approach widely applied; • national immunization plan in line with WHO recommendations, vaccination rate up to 95%; • human resources for qualified PH work ensured by master study at several Faculties of PH; • population is timely and clearly informed about PH • political commitments to strengthen the system of public health.	• insufficient continual analysis and interpretation of the collected data and their utilization for policy-making; • independent environmental and epidemiological unit does not exist within the PH system; • lack of modern technologies in laboratories and IT equipment; • gradual reduction of specialized PH employees, mainly physicians, due to poor financial remuneration and administrative changes, lack of experts in epidemiology (especially NCD), for health statistics and scientific health analyses; • lack of directly allocated financial resources, coordination and synergic effect of implementation the existing health promotion and disease prevention programmes; • lack of funding to support research in PH, lack of cooperation between universities/research institutions and PH institutions.

Source: Katreniaková et al., 2013.

The evaluation proposed several measures to improve the PH system in Slovakia by strengthening the systematic monitoring of health, creating an independent institution for the coordination of health promotion and preventive programmes, and improving the educational standards of the PH workforce.

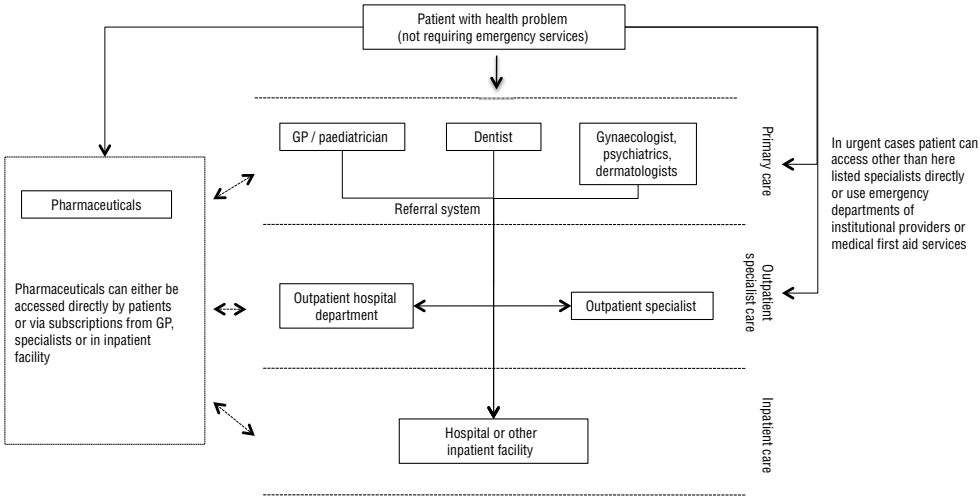
5.2 Patient pathways

The point-of-entry for patients into the system is either a general practitioner (GP) for adults or a paediatrician for children (see Fig. 5.2). If a patient's condition requires specialized care, GPs refer them to a specialist. Since 2013 patients cannot access specialists without such a referral, except for emergencies,

psychiatrists, gynaecologists, dermatologists, ophthalmologists and dentists. A patient is free to choose a specialist, providing that the specialist has a contract with the patient's HIC and sufficient capacity to see the patient. If a patient's condition requires immediate treatment, a GP can directly send a patient to a hospital. The pathway of patient documentation is compulsory and the patient is expected to share a summarizing report of performed diagnostics alongside recommendations of further action.

Fig. 5.2

Ambulatory care patient pathways in Slovakia



Source: Alexa et al., 2015, with modifications by the authors.

In urgent cases patients can access specialists without referral or use the emergency system. GP out-of-hours cases are covered by medical first aid services ("*lekárska služba prvej pomoci*" – LSPP) and by emergency departments of institutional providers. In the case of life-threatening diseases, emergency medical services are provided by a fast mobile medical doctor (ATM) or by an ambulance service provider. If a patient requires immediate hospitalization, hospitals are legally bound to provide care, regardless of whether a contract exists with the patient's HIC. If a patient's state is deemed non-life-threatening, a prior authorization for hospitalization from a HIC is required. After discharge from hospital, a patient can return to his contractual GP.

Box 5.4 shows a typical patient pathway for hip replacement in Slovakia in more detail.

Box 5.4
A typical pathway for hip replacement in Slovakia

In Slovakia a woman experiencing pain and having so far undiagnosed need of a hip replacement because of arthritis would take the following steps:

- During a visit to the GP with whom she is registered, the GP refers her to an ambulatory orthopaedic specialist.
- She has free access to any specialist of her choice who has a contract with her health insurance fund. If she has been referred by her GP, the GP is likely to recommend a particular specialist. Since specialists have their monthly budgets capped by HICs, it is likely that there will be a waiting list.
- The chosen ambulatory specialist will assess the patient (usually requesting some form of diagnostic imaging) and then decide that an operation is needed and refer the patient to a hospital for treatment. The specialist prescribes any medication necessary in the meantime. The patient is free to choose a hospital. She will get information from the hospital about local waiting times for surgery. If she wants to wait less time, she might contact her health insurance company to inquire about other hospitals with shorter waiting times. However, since only one HIC (Dôvera) publishes information on waiting times (and only on selected procedures), she will have to call other hospitals to find this piece of information by herself. Depending on the hospital and her HIC, she can expect to have her surgery any time between tomorrow up to 490 days (Dôvera, 2015a).
- After she has chosen a hospital the patient will have to wait for inpatient admission and surgery. Informal payments, according to Mužík & Szalayová (2013a), are spread and patients use them to shorten waiting lists or bypass the public insurance system and pay OOP for a private physician/clinic.
- Following surgery and primary rehabilitation at the hospital, the patient returns home, where she might need home care (home nurse and/or home assistance); this is usually prescribed by her GP and provided by a homecare agency contracted by the patient's health insurance fund. These services are free of charge.
- The GP receives a discharge summary and full documentation of performed procedures from the hospital.
- A follow-up hospital visit is very likely to take place to check the treatment's outcome.

5.3 Primary/ambulatory care

Ambulatory care consists of general and specialized care provided by GPs and specialists respectively. Permits for the operation of ambulatory health care facilities are issued by the Regional Authority (self-governing region) or, in special cases, by the Slovak Ministry of Health. Ambulatory providers are required to demonstrate that they own or rent facilities where they plan to operate their practice. These facilities need to fulfil specified hygienic

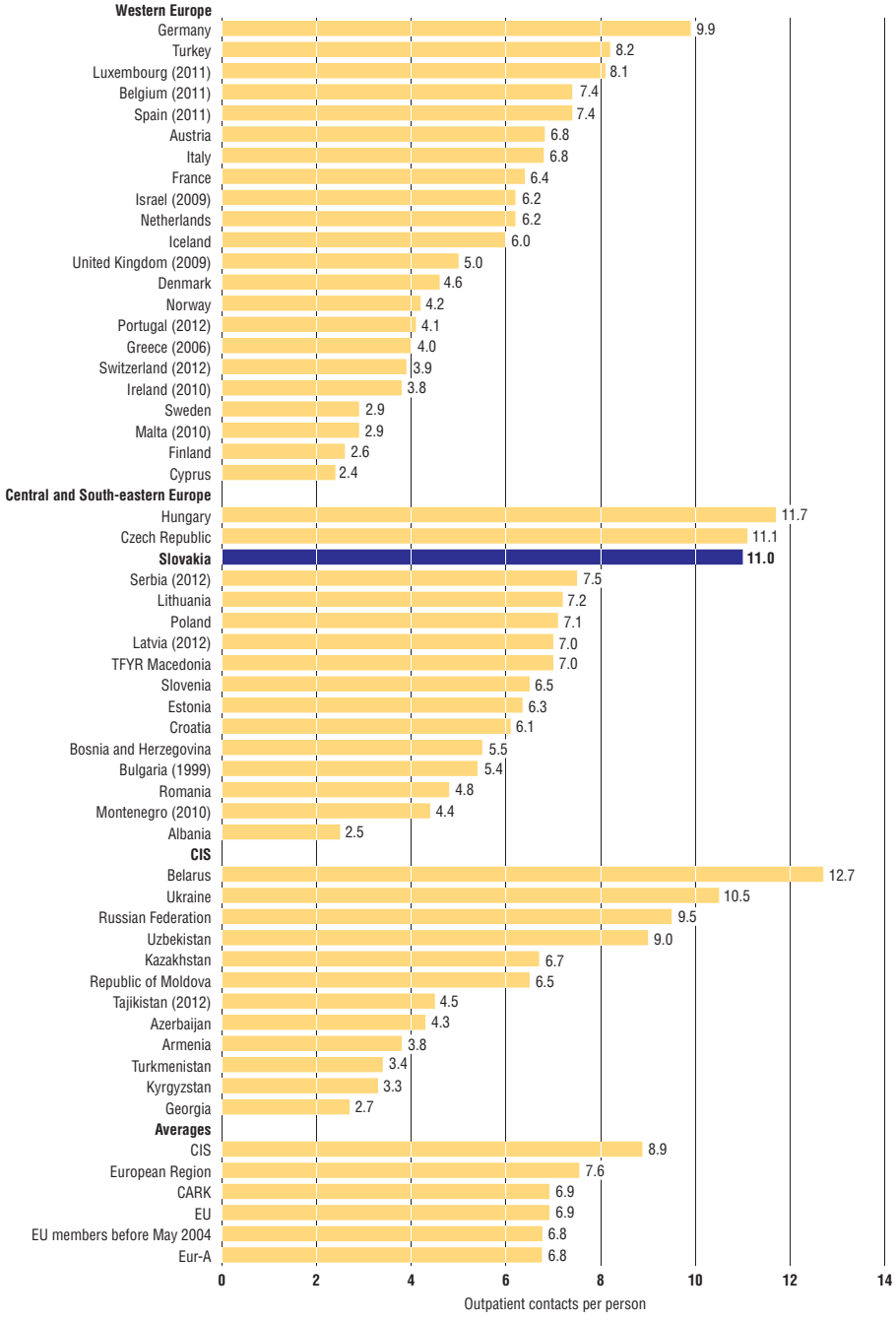
requirements. Furthermore, every professional needs a licence for medical practice provided by the respective medical chamber (see Section 2.3). Neither a permit from a regional authority nor a licence guarantees a contract with HICs. HICs use their own requirements on personal, technical and geographic conditions relating to quality and price to evaluate whether to contract a given ambulatory care centre.

Patients have the freedom to choose their health care provider both for general and specialized care. Ambulatory providers can refuse a patient only if their capacity and workload prevents them from providing quality care, they have a personal relationship with a patient, or the service required is against their belief (i.e. contraception and abortion, assisted reproduction and sterilization). Furthermore, GPs have to accept all patients who have a temporary or permanent residence within their pre-specified district, regardless of their current workload.

Compared to other new EU Member States and averages, Slovakia has a very high number of outpatient contacts (see Fig. 5.3). However, there has been a decrease in contacts per capita from 13.6 in 2008 to 11.0 in 2013 (see Fig. 5.4). It should be noted, however, that the data are collected through various national systems, which may limit their comparability. The reason for the decline has not been analysed. There is a professional consensus that an introduction of user fees to see ambulatory care providers in 2002 caused the "2002–2006" decline. The fees were abolished in 2006, which then facilitated a growth in outpatient contacts. A slight decline recorded since 2008 can be attributed to a variety of factors such as increased GP competences and a higher number of pharmaceuticals that GPs can prescribe, resulting in fewer consequent specialist visits. The comparably high number of outpatient contacts is expected to decrease due to the 2013 introduction of referral notes and a variety of reform measures (see Section 6.2). The government has set a target of 6.4 outpatient contacts per capita by 2030 (MoH, 2013b).

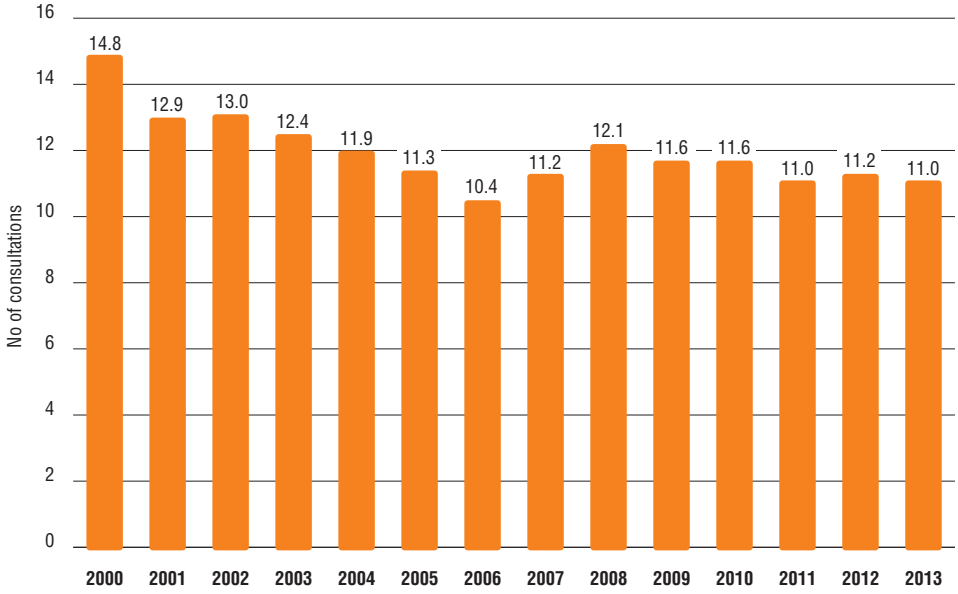
Fig. 5.3

Outpatient contacts per person in the WHO European Region, 2013 or latest available year



Source: WHO HFA, 2015.

Fig. 5.4
Outpatient contacts per person in Slovakia, 2000–2013



Source: OECD, 2015b.

Primary care is provided predominantly in privately owned health care facilities. In cities GP practices are often linked to a local polyclinic with specialists. In rural areas GPs often work in solo practices.

Currently, the minimum primary care availability per region is defined as the minimum number of physician FTEs in each of the eight regions of Slovakia. It is up to the self-governing regions to ensure this value and an equal distribution of practices. In practice, there is geographical inequality in access to GP and paediatric practices in Slovakia (see Section 7.2). Shortages due to physician ageing are becoming a worrying trend in provision of care, especially in rural areas where more than 46.3% of Slovaks live. As a result, GPs often have to provide services to patients from different villages within a radius of several kilometres.

Health insurance companies are required by law to contract each GP and paediatrician licensed to provide ambulatory care. A GP is required to register each insured individual. For each patient the GP receives a fixed capitation from the patient's HIC. Patients choose their primary care providers and can change GPs every six months. Reforms in 2013 strengthened GP competences and increased payments for certain services, such as preventive examinations,

electrocardiographic examinations, colorectal cancer screenings, pre-surgery examinations, etc. (see also Section 3.7.1). These measures aim to increase the effectiveness of primary prevention and improve timely diagnosis of illnesses. Some health insurance companies continuously evaluate the cost-effectiveness of primary care providers (number of patients treated, cost of medication, preventive activities, number of hospitalizations, etc.) and reward these providers for rational cost-management through so-called additional capitation payments (Dôvera, 2015b).

5.4 Specialized ambulatory care/inpatient care

Providers of specialized ambulatory care have a specified district, but patients may still freely choose their medical doctors outside that district. Hospitals with attached polyclinics represent a significant market share of specialized ambulatory care. They are remunerated based on contracts with SHI companies, through a mix of capitation fees (e.g. gynaecologists) and fee-for-service payments (e.g. preventive examinations, ultrasonography examinations, etc.). Some specialists share time between their practice and working at inpatient health care facilities where they can continue to assist their own patients (i.e. gynaecologists assist in giving birth and perinatal health care).

A referral from a GP is required for each examination except for gynaecologists, dentists, ophthalmologists, dermatovenerologists and psychiatrists, and for immediate cases of health deterioration that have occurred in the past 24 hours. Although legislation defines the minimal number of doctors in each speciality, health insurance companies via contracting procedures ultimately determine the number of specialized departments in each region.

As a result, regulation in the market of specialized ambulatory health care is exercised by health insurance companies and directly affects specialists' distribution over the country. This results in long waiting lists for examinations in some specializations and difficulties in accessing such examinations, especially for patients living in rural areas. However, patients may ask for transportation by ambulance services to take them to specialized departments if they are not able to use other modes of transportation. These transport services are partly funded by HICs. At the same time each health insurance company sets a procedure limit or financial limit for providers, who are then reimbursed for procedures offered to the insured individual in a specified time frame according to their mutual contract. If emergency health care above

the specified limit is provided, providers may approach the health insurance company in writing and request reimbursement for the procedure through a special compensation measure.

Payments unrelated to health care provision (for example for a work competency permit, or a document of competency to drive a motor vehicle, etc.) are also charged in the practices or departments of health provision. The health care facility is required to display a list of fees and payments in a visible place within the department itself. A list of such services and the related price list is kept by the self-governing region. However, in April 2015 legislation was put into practice that ruled on the limited rights to bill for fees outside the scope of health insurance to patients (see Section 6.1). Since then, all ambulatory health care providers are required to have electronic cash registers to keep records of their payments.

Inpatient care

In Slovakia inpatient care is defined as care for patients who require continuous treatment for over 24 hours. Hospitals are divided into general and specialized hospitals (e.g. cancer institutes, stroke centres) depending on the services they offer. Hospitals have an ambulatory component, in which hospital-based specialists provide specialized ambulatory care. Other inpatient health care facilities include sanatoriums, hospices, day care centres, natural healing spas and balneotherapy institutions (see Section 4.1).

The MoH grants permits for specialized hospitals, while all other permits are given by the self-governing regions. In both cases pre-defined requirements have to be met. Providers included in the minimum network of providers, defined by the MoH, are automatically contracted by SHI companies. All other inpatient providers need to fulfil criteria set individually by all SHI companies and agree on a contract. In some cases the quality and performance of a hospital can account for up to 35% of the weight of the total decision criteria that insurers use. This remains controversial due to a lack of a commonly agreed framework for hospital performance and quality. If the state-adopted quality indicators are insufficient to provide reliable information on quality of care for contracting, insurers use their own quality or performance indicators. In some cases this is further enabled by close ties between some HICs and privately owned inpatient care providers. For instance, Dôvera is owned by private equity firm PENTA Investments, which also owns the largest chain of private hospitals in Slovakia – *Svet Zdravia* (having 14 general hospitals). In 2014 INEKO attempted to introduce a unified and objective quality and performance matrix. This matrix is in a trial phase and yet to be widely acknowledged.

Hospital management is held accountable only by its owner(s). Owners are responsible for the management of hospitals and they are rewarded depending on financial results. In a state-owned hospital, director positions are vulnerable to political opportunism because they are directly appointed and dismissed by the Minister of Health. Even though the Ministry runs 18 of the largest general and specialized hospitals in the country, these hospitals do not share resources, do not procure goods and services together and are run as separate entities. Conversely, the largest private provider of hospital services, *Svet Zdravia*, centralizes all supporting and administrative services, creating a virtual network of organizations.

Roughly 37% of the population can access a general hospital near their place of residence (HPI 2006). It is estimated that this has not changed significantly since 2006. Inpatient care is accessible in all basic medical specialties within 45 minutes by car. Since the majority of the treatments that inpatient institutions provide is fully covered by SHI, long waiting times are a typical feature of the system. A 2013 study indicated that patients will wait on average nine months for hip replacement and three months for cataract removal (Mužík & Szalayová, 2013a). These figures vary according to provider, as illustrated in Box 5.5. Therefore transparency in quality indicators and waiting times remains work in progress in Slovakia.

Cooperation between ambulatory and inpatient care is often limited to an exchange of health records (mostly in paper form, rarely by electronic patient dossiers). Lack of trust in medical test results from other health care facilities often results in physicians ordering duplicate diagnostic examinations within affiliated institution. Cooperation with social care institutions is complicated due to the fact that social care institutions belong to the social sector, which is the responsibility of the Ministry of Social Affairs. For these reasons, inpatient services are disconnected from the rest of care provision, which may lead to duplications in medical care provision.

Box 5.5
Waiting times for inpatient services

Since 2010 (decree no. 412/2009 of the MoH), all insurance companies have been obliged to operate and disclose a waiting list for defined diagnoses and interventions. The aim of the decree was to increase transparency in the waiting times of elective interventions and create pressure on insurance companies and hospitals to decrease average times for patients to receive demanded care. The table below illustrates a waiting list for hip replacement of Dôvera patients for 2015. The average waiting times for patients that received hospitalization during 2015 ranged from 101 up to 490 days. The impact of this decree is difficult to estimate precisely, but according to HCSA the average waiting times in 2014 decreased compared to 2013 by 14–53%, depending on the category of the intervention (HCSA, 2015).

Development of waiting times for hip replacement for Dôvera patients, 2015

Name of inpatient facility	Hospitalizations (2015)	Av. waiting time (days)	Patients on the waiting list as of February 2016
Dolnooravská nemocnica s poliklinikou	1	128	6
Fakultná nemocnica J. A. Reimana Prešov	24	142	20
Fakultná nemocnica Nitra	0	0	2
Fakultná nemocnica s poliklinikou BB	62	165	1
Fakultná nemocnica Nové Zámky	1	490	3
Fakultná nemocnica s poliklinikou Skalica	2	138	2
Fakultná nemocnica s poliklinikou Žilina	23	221	39
Fakultná nemocnica Trenčín	2	462	2
Nemocnica Alexandra Wintera, n.o.	4	101	2
Nemocnica Košice-Šaca a.s.	1	412	0
Nemocnica s poliklinikou Dunajská Streda	0	0	1
Nemocnica s poliklinikou Prievidza	23	127	10
Nemocnica svätého Michala, a. s.	2	125	1
Nemocnice s poliklinikami n.o. – Topoľčany	10	347	23
Univerzitná nemocnica Bratislava	102	162	38
Univerzitná nemocnica L. Pasteura Košice	57	125	13
Univerzitná nemocnica Martin	62	386	83
Ústredná vojenská nemocnica Ružomberok	51	253	27

Source: Dôvera, 2016.

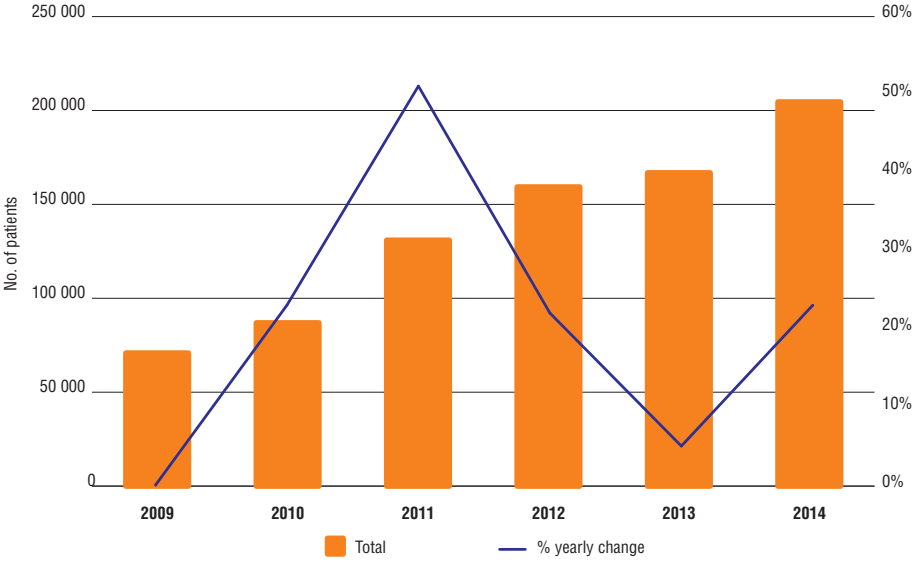
5.4.1 Day care

In Slovakia day care is defined as continuous care for no longer than 24 hours. Established in 2002, the Slovak Association of Day-care Surgeries is the main driver in establishing and developing day care. The 2002–2006 government made an effort to improve cost-effectiveness of inpatient care.

Initially, day care was hindered by differing payment mechanisms in ambulatory and hospital care for the same procedures. Hospitals are paid for completed hospitalizations (i.e. an episode of care), but day care is reimbursed only for undertaken procedures. As a result, until 2009 providers were not shifting to day care leading to low total volumes of day care. The MoH published new professional guidance for day care and defined 450 cases of surgical procedures that could be officially undertaken as day care. This led to an increase in the number of day surgeries in Slovakia since 2009 (see Fig. 5.5). Nonetheless an in-depth analysis by Gavurová et al. (2013b) revealed that only four procedures (cataract surgery, dilatation, extirpation of skin tumours and knee bend arthroscopy) comprised on average 40% of the total day care cases illustrating the underdevelopment of day surgery in Slovakia.

Fig. 5.5

Development of day care surgeries in Slovakia, 2009–2014



Source: NCHI, 2015a.

A comparative evaluation of the performance and potential of day care in Slovakia is not possible due to inconsistent data collection methodologies across EU countries (Lafortune, Balestat & Durand, 2012; Gavurová et al., 2013b). Less than about 6% of all procedures are performed in day care which shows substantial underutilization when measured against its potential (Gavurová et al., 2013a). Poor financial incentives for providers and fears of hospitals of losing patients to less lucrative day care have hindered the growth of day care capacities.

5.5 Emergency care

Emergency care provides urgent care in sudden life-threatening situations or care during childbirth. Two different emergency call-centres, operated 24/7, are the primary method of accessing emergency care:

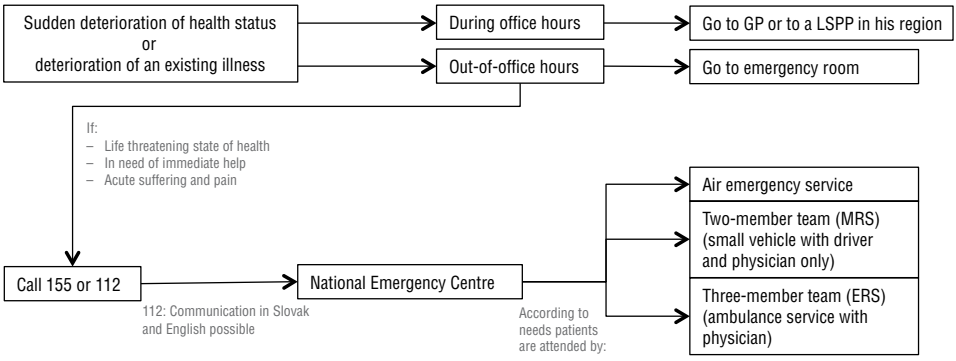
- domestic patients dial the 155 hotline which is staffed by non-physician health care personnel who have undergone emergency care training;
- the international 112 line is serviced by universal operators, who offer consultancy in Slovak and English.

Emergency calls are received at the state-run National Emergency Centre, which dispatches ambulances. The National Emergency Centre is fully financed by the MoH and has eight regional centres. A special training programme for emergency phone operators was accredited in 2014. A physician who specializes in urgent medicine or anaesthesiology and intensive care is also on call for consultation 24/7 on the emergency hotline.

In 2004 a reform of emergency medical services (EMS) led to the design of a nationwide network of 273 stations to ensure the availability of urgent health care within 15 minutes after receiving an emergency call for 95% of Slovak territory. Emergency departments, dispatching ambulance services, are provided by both public and private entities and are subject to a procurement process administered by the Ministry of Health. They work 24/7 either with a physician-led team (with three members, ERS) or by a two-member team of non-physicians (MRS). Licences for the provision of emergency medical services are issued for a period of six years based on a public tender announced by the Ministry of Health. The last round of procurement occurred in 2013–2014 and has since increased the required number of stand-by ambulance services. Licensed providers are awarded with SHI contracts and monthly payments of 28 426 EUR for the three-member ambulances or 16 343 EUR for the two-member ambulances, 30 749 EUR for stand-by of mobile intensive care units, and additional fees per kilometre.

In 2016, 92 out of the 274 emergency departments consist of a three-member and physician-led team. Seven emergency medical service helicopters exist. These services are operated by 14 companies, of which eight are private entities and six are regional or municipality-run hospitals (AZZS, 2015). The law requires ambulances to dispatch within two minutes of dispatch notice. See Fig. 5.6 for an overview.

Fig. 5.6
Emergency care options in Slovakia



Source: Authors' own compilation.

In 2013 the total number of emergencies was slightly above 500 000 and the average response time was 11.3 minutes. However, only 75% of cases were reached by an ambulance within 15 minutes (see Table 5.2).

Table 5.2
Key emergency care statistics, 2011–2013

Year	Average response time	% reached within 10 minutes	% reached within 15 minutes	Total number of events	Primary events	Secondary events	Events per 100 000
2011	11.30	–	–	477 369	448 394	28 975	8 783
2012	11.20	51.86	76.75	499 617	466 915	32 702	9 234
2013	11.37	–	–	503 625	465 076	38 549	9 307

Source: Takáčová, 2013.

The minimum requirements for material, technical and human resources of ambulances and emergency centres are determined by law. Inpatient health care facilities within the contracted network establish the emergency care framework. They are required by law to provide emergency care at least in the following departments: (a) urgent admission department, (b) anaesthesiology and intensive care, (c) surgery, (d) internal medicine or cardiology, (e) neurology, (f) gynaecology and obstetrics, (g) neonatology, (h) paediatric medicine and (i) a hospital pharmacy. The providers in the network must ensure 24-hour accessibility of the above-mentioned specialized departments, common diagnostic and treatment facilities in radiodiagnostics (a CT scan is essential), clinical biochemistry, haematology and transfusion treatment. Secondary transports, e.g. between hospitals because adequate treatment cannot be

guaranteed, play an increasing role in Slovakia, although EC regulations require transport only to hospitals with adequate diagnostics and necessary follow-up treatment care.

In 2006 user fees for ambulatory health care were abolished with the exception of a medical first aid service fee of 1.99 EUR regardless of where care is given.

5.6 Pharmaceutical care

Before entering the market in Slovakia, all pharmaceuticals must have an authorization from the European Medicines Agency (EMA), the national State Institute for Drug Control (SIDC) or any other similar entity operating in EU countries (see Section 2.8.4).

As of 1 October 2015, 48 280 pharmaceuticals and preparates, of which 4220 are over the counter (OTC) medicines, are registered for use in Slovakia. Approximately 90% of all medicines are not fully covered by social insurance, but are categorized into co-payment groups (Štátny ústav pre kontrolu liečiv, 2015; LiekInfo, 2014). Since November 2015 the limit for pharmaceuticals cost-sharing was set at 25 EUR for retired and disabled individuals and 8 EUR for children up to 6 years of age per quarter (see Section 3.4).

The Slovak pharmaceutical sector has undergone several reforms in the last few years. Many of these reforms were reversed as soon as a new government took power. This has resulted in an unstable legislative framework. To provide an example, Table 5.3 depicts changes in legislation on ownerships of pharmacies.

Table 5.3

Key legislative changes covering provision of pharmaceutical care since 1998

Act no. 140/1998	Only a natural person (a pharmacist) can provide pharmaceutical care, which is limited to one pharmacy and one subsidiary of the pharmacy
2004 amendment of Act 140/1998	Legal persons can also receive permission to own and run a pharmacy, granted by the self-governing regions
Act no. 578/2004	Act made the licence and the permit for the pharmacies eligible after fulfilling statutory criteria
Act no. 362/2011	The new legislation does not limit the number of pharmacies that one person can own and run, i.e. pharmacy chains can emerge
2013 amendment of Act 362/2011	Liberal rules on ownership of pharmacies were reversed. Since 2011 one natural/legal person can own only one pharmacy and one subsidiary. Existing chains are forced to disband by 1 January 2015

Source: Authors' own compilation from the legislation.

The 2011 market liberalization led to a strong increase in new pharmacies. In 2005 Slovakia had 1152 pharmacies (1 pharmacy per 4678 people), but by 2014 there were 1931 pharmacies (1 pharmacy per 2805 people) (NCHI, 2016d; Szalayová et al., 2014). Almost all of the 1931 public pharmacies are in private ownership. Only a few are owned and operated by state-owned hospitals. Out of 1931 public pharmacies, 1375 are operated as a network, 374 are operated as pharmacy chains and 182 are autonomous (solo) pharmacies (Szalayová et al., 2014). The increase in the number of pharmacies contributed to reductions in regional disparities compared to 2007. In 2014 the densest network of pharmacies remained in the Bratislava region (1 pharmacy per 2824 people), while the highest number of people per pharmacy is in the Prešov region (1 pharmacy per 3863 people) (see Table 5.4).

Table 5.4

Number of inhabitants per pharmacy in self-governing regions, 2000–2014*

Region	2000	2005	2012	2013	2014
Bratislava	3 532	3 503	2 888	2 863	2 824
Trnava	4 805	4 633	3 174	3 638	3 115
Trenčín	5 455	5 029	3 558	3 595	3 464
Nitra	4 591	4 897	3 347	3 604	3 285
Žilina	5 313	5 299	3 748	3 989	3 692
Banská Bystrica	4 225	4 355	3 511	3 679	3 386
Prešov	4 691	4 763	3 866	4 149	3 863
Košice	5 197	5 006	3 654	3 693	3 517

Source: NCHI, 2016.
Note: * figures represent number of legal entities, some entities have more than one pharmacy branches but the NCHI does not collect this level of detail.

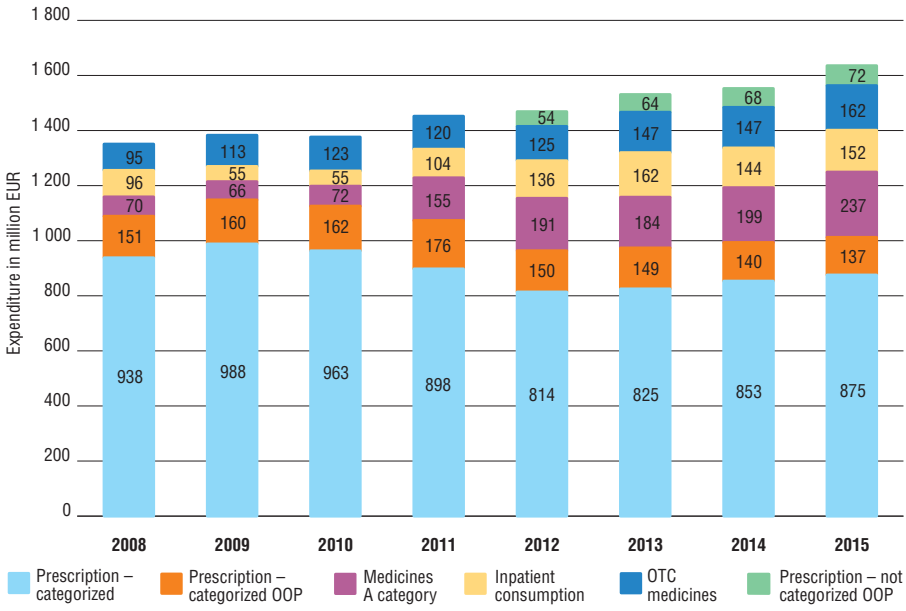
Cost-containment policies targeting price reductions have had some unintended consequences. Specifically, a boom in parallel exports of medicines has developed. The Slovak State Institute for Drug Control (SIDC) observed parallel exports and hinted towards the occurrence of pharmaceutical shortages. As a consequence, in late September 2012 the Slovak government introduced measures intended to limit parallel exports of particular medicines in order to stop the re-export. From January to October 2015 the SIDC received 23 851 notifications to allow re-export, and refused 516 of them, comprising a total of 20 different drugs. However, shortages in the supply of medicines used in the treatment of psychiatric and neurological disorders for which there are no substitutes continue to persist.

In 2015 the total expenditure on pharmaceuticals in outpatient and inpatient care from public and private resources was 1635.3 billion EUR (i.e. 301 EUR per capita; see Fig. 5.7).

Categorized medicines (i.e. those covered fully or partially by HICs) comprised 61.9% of total expenses and 51.3% of all issued packages. This translated into 1012.1 million EUR (187 EUR per capita), accounted for primarily by cardiovascular, antineoplastic and immunomodulating medicines. This is below the EU-15 average, but accounts for more than 30% of public expenditure on health (one of the highest shares of pharmaceutical expenditure of all OECD countries) (OECD, 2015b). For more information on pharmaceutical spending see also Section 7.5.

Fig. 5.7

Expenditure on medicines, according to type and form of payment in Slovakia, 2008–2015



Source: NCHI, 2016d.

Total expenditure on medicines has been rising at a steady pace since 2008 despite the 2011 implementation of referencing prices for categorized medicines (see Section 2.8.4). This facilitated a decrease in expenditure on prescribed categorized medicines. However, some growth was driven primarily by an increase in consumption of medicines in hospital and ambulatory settings and rising OTC consumption.

5.7 Rehabilitation/intermediate care

Rehabilitation facilities provide professional physiotherapeutic services as well as various therapeutic procedures and techniques. Physiotherapeutic services are provided as ambulatory and inpatient care. Ambulatory care includes specialized services in psychiatry, balneology and treatment rehabilitation. Inpatient care is provided in rehabilitation facilities, highly specialized facilities or spas. Balneotherapy, a regional tradition that combines spa visits with various therapeutic treatments, is provided in natural healing spas or balneal facilities. Based on the recommendations of the Balneal Committee, the Ministry of Health grants permits to provide these particular services.

Rehabilitation and balneal facilities have two main sources of funding:

- HICs pay for treatment stays and associated services. Illnesses partly covered by SHI are by law divided into two groups:
  - Group A diagnoses require cost-sharing by a patient, but are capped at 1.5% of a monthly living wage per day (up to 1 July 2016 set as 198.1 EUR per month)
  - Group B diagnoses are covered by health insurance with the exception of accommodation expenses
- Direct out-of-pocket payments for accommodation and associated services

In 2014 balneal treatment was provided in 21 natural healing spas and six balneal facilities which treated 148 804 patients (112 331 Slovaks and 36 473 foreigners; see Fig. 5.8). The share of treatment stays covered by SHI has decreased over the years from 64% of all patients in 2000 to 41.6% in 2014. A shift of SHI resources to other therapeutic procedures has caused this decrease. Of the people treated in spas, 74.4% of patients came with musculoskeletal diseases, 10.3% with respiratory diseases, 5.2% with cardiovascular diseases, 2.8% with skin disorders and the remaining 7.4% with other diagnoses.

Fig. 5.8
Number of registered patients in Slovak spas, 2004–2014

Source: NCHI, 2015b.

5.8 Long-term care

The supply of long-term care (LTC) in Slovakia is relatively underdeveloped, mainly because of a lack of financing. Spending in this field is around 6.5% of total health spending, or 0.5% of GDP, which is half the OECD average. However, the proportion of those over 65 benefiting from long-term care is comparable to OECD country averages. The majority of services (around 60%) are delivered through informal home care, generally by the beneficiary's friends or family, who receive a small financial allowance as compensation. In 2013 there were 59 000 informal carers and 61 000 people in informal home care (financed by state financial compensations). Furthermore, social care is separated from health provision, regulated by different legal frameworks, and their competences fall into different sectors. The systems are not well coordinated. Long-term care is partially provided in both these systems and lacks integrated models of provision (see Table 5.5). Social care aims at reducing social deprivation and reducing or preventing mental, physical and social developmental disorders. There is a lack of in-home care capacity (e.g. institutional care and residential

services provided by professional carers) which has led to long waiting lists for places in state-owned institutions. Additionally, anecdotal evidence suggests that the few care homes in existence are perceived as sub-standard, because of inadequate human or financial resources.

Table 5.5

Overview of the division between social and health care system services

LONG-TERM CARE	
Health care system	**Social care system**
Outpatient care • Home care nursing agencies • Ambulatory care • Day care	Social services • Community care • Social consulting and social rehabilitation • Supported living homes • Home nursing care • Facilities for nursing care
Inpatient care • LTC departments • Sanatoriums • Homes for nursing care	Day centres
	Respite services • Institutional care • Retirement homes (facilities for elderly) • Social services homes • Special care homes
	Social compensation of disability • Financial compensation to informal carers

Source: Authors' own compilation.

LTC in the social care system

The main goals of the Slovak social services are the prevention and reduction of unfavourable social situations of persons, families and communities; the retention, rehabilitation and development of a person's ability to live an independent life and support their inclusion in society; securing necessary conditions to satisfy a person's basic needs and prevent social exclusion. Social services are provided by a mix of public (funded by the self-governing regions and municipalities) and private providers (non-governmental organizations, private companies and church organizations, private persons). It is financed from the self-governing region, the municipality and the state budget. However, since these resources are not always sufficient, client contribution is required (averaging 320–350 EUR per month). Social workers and health professionals at the municipality and self-governing region levels assess eligibility for LTC. LTC in social services can be provided in retirement homes (facilities for elderly), social services homes, special care homes, supported living homes, home care, facilities for nursing care, day centres, social counselling and rehabilitation, respite services, etc. (see Table 5.6). Although nursing care is provided as part of social services, since 2014 nine nursing service categories can be reimbursed by SHI.

Social care offers different financial compensations for disability. These include allowances for nursing (to informal carers) and other cash benefits for support in mobility, communications, orientations, ADL skills, etc. These benefits are provided and financed by the state budget via the Ministry of Labour, Social Affairs and Family.

Table 5.6

Number of providers of social services according to category, 2015

No.	Type of provided social service	Count	%	Cumulative %
1.	Nursing service	959	27.3	27.3
2.	Social services homes	542	15.4	42.7
3.	Facilities for elderly	355	10.1	52.8
4.	Day care centre	182	5.2	57.9
5.	Dining services	142	4.0	62
6.	Specialized centre	138	3.9	65.9
7.	Social counselling – basic	134	3.8	69.7
8.	Social counselling – specialized	123	3.5	73.2
9.	Nursing care facilities	119	3.4	76.6
10.	Day care services	103	2.9	79.5
11.	Shelter	93	2.6	82.2
12.	Transportation services	92	2.6	84.8
13.	Supported living home	66	1.9	86.6
14.	Equipment hire	52	1.5	88.1
15.	Emergency housing	51	1.5	89.6
16.	Rehabilitation centre	48	1.4	90.9
17.	Other services	319	9.7	100.00
	Total	**3 518**	**100.00**	**100.00**

Source: Gavurová, 2016.

5.9 Palliative care

Palliative care, adopted in 2006, is provided in outpatient departments, hospital-based departments of palliative medicine or in hospices and by mobile palliative/hospice teams in the home setting. Palliative care is covered by health insurance. The amount reimbursed by health insurance is often insufficient and additional financing from clients, sponsors or donations is necessary. Restrictions to care for terminally ill patients in hospices are not defined. A terminally ill patient is eligible for palliative care if their state of health is deteriorating and requires constant monitoring. The eligibility criteria set by health insurance companies are as follows: chronic, untreatable and progressive disease with time-limited survival.

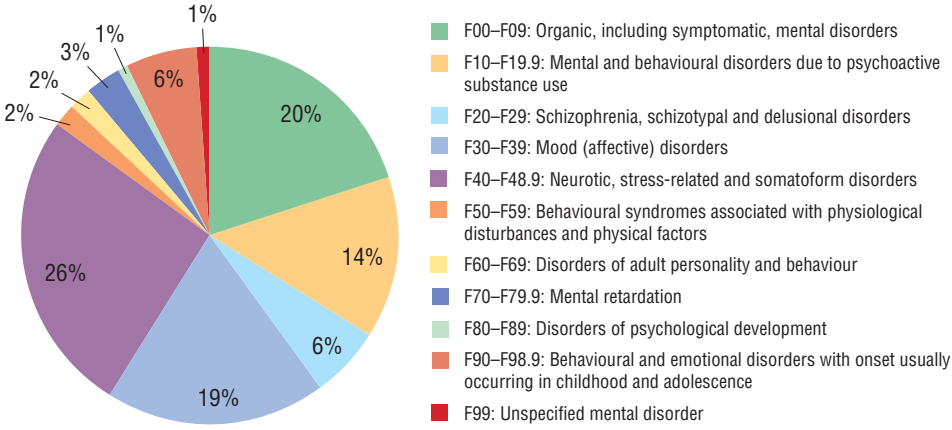
In 2014 hospice care was provided in eight facilities with 154 beds in hospices, 94 beds in hospital-based departments of palliative care (chronic not acute) and a mobile palliative/hospice team for children (4.6 beds per 100 000 population). Mobile hospices provide specific, complex home care in cases of untreatable, progressive diseases that do not respond to causal treatment.

5.10 Mental health care

Mental health care is provided in outpatient and inpatient settings, is covered by SHI and regulated by general health care legislation, also for forced hospitalization by criminal law (since 2005), social welfare law (since 2008) and for occupational health by employment Services Act no. 5 (since 2004).

According to the latest available data, there were 64 365 newly diagnosed cases of mental and behavioural disorders in 2014 (i.e. 119 cases per 10 000 population in Slovakia.). This represents an 8.9% increase compared to 2013. In 2014 newly diagnosed cases in Slovakia were led by neurotic and stress-related disorders (F40–49), followed by organic disorders (F00–09) and mood disorders (F30–39) (see Fig. 5.9).

Fig. 5.9
Classification of newly diagnosed cases according to ICD–10, 2014



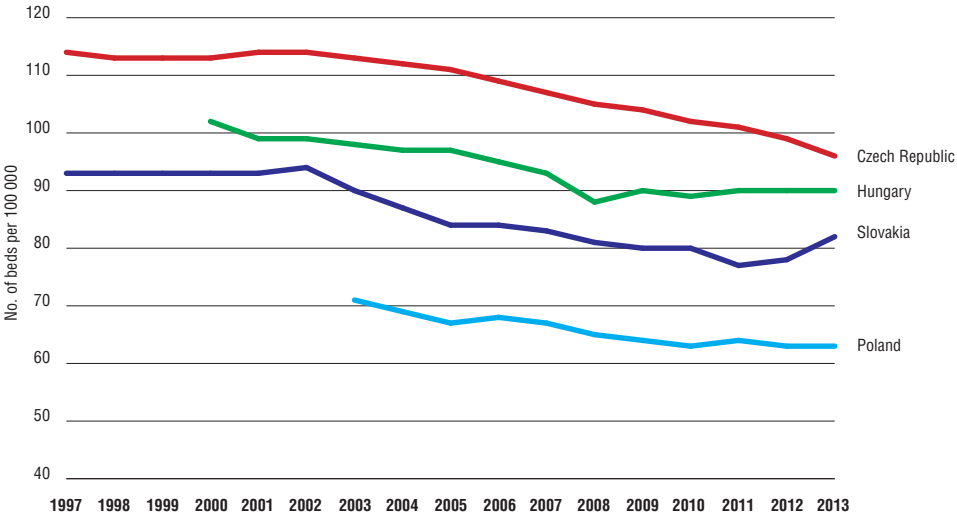
Source: NCHI, 2015d.

Altogether, 387 psychiatric outpatient clinics carried out 1.7 million examinations for 382 665 patients with a confirmed psychiatric diagnosis in 2014. The most common reasons for the ambulatory examinations were F40–48 neurotic – stress determined/somatoform disorders (26% of all diagnoses) and F00–09 organic and mental disorders (20% of all examinations). Specialized units of institutional psychiatric care hospitalized 44 100 cases, i.e. 81.2 hospitalizations per 100 000 population. This represents a slight (0.5%) increase compared to 2012 but a 13.6% difference compared to 2005. The major reasons for admission into inpatient care were mental and behavioural disorders due to the use of alcohol (F10), which comprised approximately 26% of all hospitalizations (NCHI, 2015d).

In 2014 the Slovak health care system had a total of 4431 institutional psychiatric care beds, of which 652 were allocated for drug addiction, 277 for gerontopsychiatry, 193 for children and 24 for neuropsychiatry (NCHI, 2015d). The proportion of psychiatric beds has been above that of Poland but below that of Hungary and the Czech Republic. In Slovakia the proportion had been steadily decreasing over the last two decades, but has gone up slightly since 2011 (see Fig. 5.10).

Fig. 5.10

Psychiatric hospital beds per 100 000 population, selected countries and years



Source: WHO HFA, 2015.

In 2004 the government adopted the National Mental Health Programme, which had been prepared in accordance with the European Mental Health Action Plan and WHO documents on mental health in Europe. It described measures in ten key areas aimed at improving the mental health of the Slovak population. The Programme finished in December 2015 and is yet to be replaced with a new programme.

Children's mental health policies are governed by the 2008 National Programme of Care for Children and Adolescents in Slovakia. The programme concluded in December 2015, and a new Strategy for Children was drafted predominantly by the Ministry of Social Affairs with the health sector responsible for a part of it.

Implementing drug prevention in Slovakia is the joint responsibility of the Ministries of Education, Health, Labour, Social Affairs and Family, and the Interior. Slovakia's National Anti-Drug strategy 2013–2020 was adopted in 2013. Its key objective is to prevent further deterioration in drug abuse and drug addiction while placing emphasis on children and young people.

Several other mental health prevention programmes are implemented in schools, workplaces and facilities for older people. These are mostly under the joint responsibility of the Ministries of Health, Education, Culture, and Labour, Social Affairs and Family, and are carried out by various governmental organizations and civil associations.

5.11 Dental care

Dentists are directly accessible for patients. They offer health care in independent practices for adults and children alike. Dentists focus both on prevention and curative care. Oral health care is provided by contracted and non-contracted dentists. Some preventive and treatment procedures are completely covered by SHI (e.g. preventive screening, raptures). A second group of procedures is partially covered by patients (e.g. specific tooth fillings, fixed dentures), and a third group requires full private coverage by the patient.

In most cases SHI only covers basic dental costs under the condition that the insured patient has had a periodic oral examination in the past calendar year. This condition was introduced in 2005 with the intention of promoting oral disease prevention. In 2014, a total of 2.2 million people received a periodic check-up, 24% of whom were children aged 0–18 (compared to 21% in 2008) (NCHI, 2015f). The improvement in paediatric check-up rates is

ascribed to the 2008 clinical guidelines (MoH, 2009), which set compulsory dental visits for children in their first year of life. There are some initiatives to complement these preventive check-ups by re-implementing dental check-ups in schools. Indicators like the DMFT indexes could be improved in Slovakia (see Section 1.4).

Table 5.7
Number of dental examinations, 1997–2014

	1997	2000	2008	2014
Dental examinations (million)	7.6	7.8	7.6	6.5
– per 1000 population	1 399	1 453	1 406	1 203
Preventive dental examinations (million)	2.0	2.3	3.0	2.8
– per 1000 population	374	433	557	526

Source: NCHI, 2015f.

Dental practices, except for few cases, are privately owned, providing good geographic coverage. Nonetheless, provision of oral health care is being threatened by the ageing of dentists in Slovakia (see Section 4.2).

5.12 Complementary and alternative medicine

Complementary and alternative medicine (CAM) is not included in the Slovak benefits basket and is neither publicly regulated nor monitored. However, there are some private providers offering CAM services. Data concerning usage of CAM do not exist.

5.13 Health services for specific populations

Many studies found differences in the health of Roma settlements compared to other Slovak population groups (Bartošovič & Hegyi, 2010; Hubková et al., 2014).

Root causes relate to infrastructural reasons such as low standards of personal and community hygiene (insufficient infrastructure and limited access to potable water), but also low awareness of preventive measures. According to the Atlas of Roma communities, only 42.2% of monitored Roma communities have a GP and only 31.1% have a paediatrician (OSN, 2014).

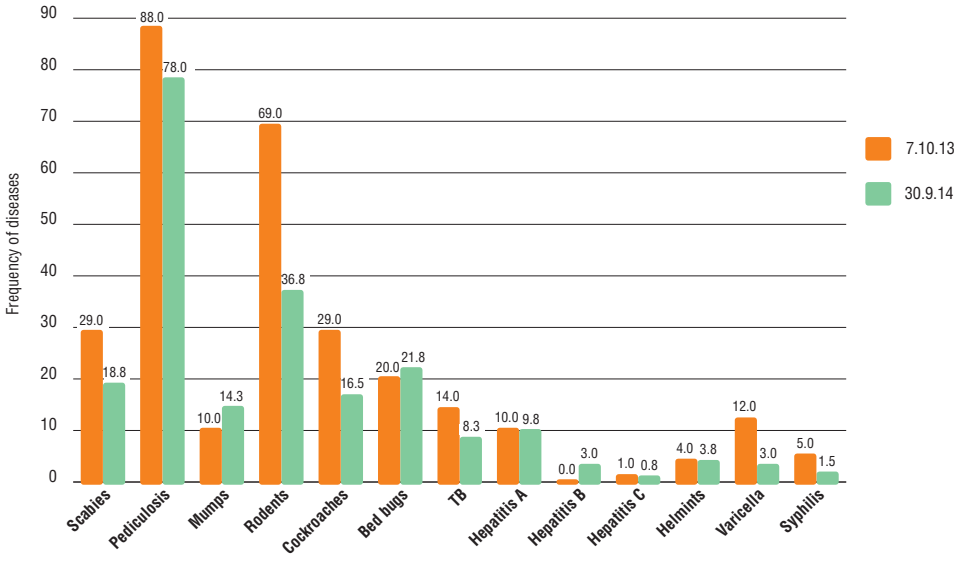
The Roma population has a disproportionately high representation in lower income groups and frequently suffers from inadequate access to health services for financial reasons. Local outbreaks of communicable diseases such as hepatitis, parotitis, scabies and tuberculosis have occurred with new cases mostly diagnosed in children up to the age of 14 years. Implementation of the national immunization plan is hindered by the high migration rate of Roma people. Migrants often lack documentation about received vaccinations and electronic data are not shared among the countries nor among health care providers. Additionally, indicators of morbidity have worsened due to poor living conditions, nutritional patterns and lifestyle choices (Šoltés, Šoltés & Gavurová, 2015; OSN, 2014).

Among several projects aimed at eliminating determinants of poorer health in Roma communities, the "Healthy Communities" project piloted by the non-governmental organization Association for Culture, Education and Communication is by far the most advanced. The project started in 2002 and aimed to educate and employ people directly from marginalized and deprived communities by enabling them to provide first aid, communicate with physicians and other health workers, and spread understandable health information to help facilitate access to health services. In 2013 this project evolved into a national programme with Roma health assistants (mediators) living and working in 120 communities. In 2014 their number increased to 170 assistants and by 2015 this number increased further to 288 assistants. These assistants work as an extension arm of primary care physicians. They help in obtaining sensitive information from patients for physicians to improve disease diagnosis and ensure proper treatment administration. They are also important in tracking affected persons in case of severe infectious diseases.

Between 2003 and 2014 the assistants carried out nearly 95 000 interventions for 800 000 clients, resulting in the regular monitoring of 93 000 chronic patients and the administration of 46 000 vaccinations. Significant outcomes for a broad range of communicable diseases of the assistants' work are depicted in Fig. 5.11.

Fig. 5.11

Frequency of diseases before and after the start of the Healthy Communities project, 2013 and 2014



Source: Internal data from the "Healthy Communities" project.

6. Principal health reforms

From 2002 to 2006 a shock-type reform replaced all health-related legislation with managed competition supported by strict regulation in the financial aspects of providing care. Health insurance funds were transformed into joint stock companies. They were set to operate under strict budgetary constraints while working in a liberalized market with selective contracting and flexible payment mechanisms. However, the basic benefits package became strictly regulated and HICS came under surveillance by an independent HCSA. On the provider side, hospitals should have transformed into joint stock companies operating under the same principles as health insurance funds, but this step was only partially achieved. User fees were introduced to make consumers aware of their health service consumption. These changes represented a mind shift from the previous system and are regarded as the foundation of modern Slovak health care. The reform's key principles and objectives have undergone several modifications. Depending on the government in charge, several different components have been targeted, such as the partial abolition of user fees, the limiting of selective contracting, constraints on the independence of the HCSA, halting ownership transformation of providers, and increasing or decreasing the role of the state. Several of these rather small measures were abolished and reintroduced, which perhaps questions the political feasibility of the 2002 reform's key elements. Similarly, the 2008 ban on profits and dividends for insurance companies was abolished after the Constitutional Court overruled this as unconstitutional.

With the 2008 financial crisis, cost containment became the main focus of Slovak health reforms. First, reference pricing and generic prescribing have helped manage high pharmaceutical spending. Second, the risk-adjustment system used to allocate funding between HICs was improved by the introduction of PCG to the redistribution formula in 2012. Third, the HCSA became responsible for the implementation of a DRG-based system to finance

inpatient care by 2016. However, following a physician strike, minimum wages for doctors were implemented (similar reforms were later reversed for nurses) and consequently health expenditures increased.

On-going and future reform efforts aim at a complete overhaul of the long-known inefficiencies in primary care. These include, in particular, unequal access, late treatment of NCDs, poor coordination and overburdened GPs offloading patients to specialists. Implemented projects such as incentivizing young medical doctors to work in rural areas are promising. However, most efforts in primary care reform (i.e. broadening GP competences, transforming medical education and establishing Integrated Care Centres) have remained partially conceptual or are yet to be implemented.

6.1 Analysis of recent reforms

The reform introducing more market mechanisms (or managed competition) in the Slovak health care system lies at the very core of each subsequent reform. Initially, it was perceived positively by experts (Zachar, 2005) but negatively by the public and professionals (Kováč, 2006), leading to a lack of political consensus compromising key principles (Zachar, 2014). The "Deform" period of 2006–2010 was named as such because the new administration started by repealing or adjusting several acts and reforms implemented over the period 2002–2006. The pro-market reforms changed in favour of more direct state involvement. The institutional and regulatory framework remained largely intact, but several critical parameters changed (for more details see Section 2.2; and Szalay et al., 2011). The government introduced a variety of countermeasures to eliminate the potential negative consequences of these changes. One of the examples was the reintroduction of an "exchange ticket" (i.e. referral ticket) required to see a specialist (except for emergency and primary care services) that countered the excess demand induced by restricted co-payments.

The 2010 elections brought in a new government (politically aligned with the one from 2002–2006) that reintroduced profits to the health insurance market, resumed the transformation of hospitals, abolished referral tickets, and increased the independence of the HCSA. The government was short-lived and in charge only until the autumn of 2011. The 2012 elected government is politically more aligned with the 2006–2010 administration and focused its reform activities on primary care and further refining risk-adjustment.

Table 6.1 provides a chronologically ordered overview of reforms to the Slovak health care system since 2002.

Table 6.1
Overview of key reforms and projects since 2003

Year	Reform	Purpose
2003	Introduction of user fees	To reduce demand for health care services. Fees were largely abolished after 2006 and another reform in 2015 further restricted fees that providers can charge for six most commonly charged items (see Section 6.1.1)
2004	Introduction of market competition concepts into health care sector	In order to stimulate efficiency and quality in the health sector via competition, several measures were introduced, two of which were critical: flexible contracting of HICs based on liberalized prices and defined criteria, and the concept of a minimal network of providers set by the MoH to ensure equal access to healthcare
2005	Transformation of health insurance funds into joint stock companies	To improve effectivity and halt debt-creation
2007/ 08	Introduction of a "compulsory network of providers"	The compulsory network comprises providers that are entitled to obtain a contract with the HICs as they are deemed crucial in guaranteeing geographical accessibility
2009	Pharmaceutical reform	To reduce spending on pharmaceuticals, price referencing of medicines started as an average of the six lowest prices in the EU. This was later reduced to the average of the three lowest prices, as described in Section 6.3
2011	DRG payment mechanism reform	In 2011 the HCSA was given the responsibility to start the preparation phase of implementing DRG as a payment mechanism of outpatient care. It is expected to be used as a payment mechanism from 1 January 2017
2012	Improvement in redistribution mechanism – PCG	In order to improve the fairness of the redistribution, a new redistribution mechanism was implemented in July 2012. It added an element based on an assessment of patients' eligibility to be classified into one of 24 pharmaceutical cost groups (PCGs), according to yearly consumption of certain amounts of daily defined doses of drugs within the Anatomical Therapeutic Chemical group classification
2014	Residential programme	A project that was aimed at students who wished to specialize in a speciality of general medicine or paediatrics but did not have the financial means and a practice to carry on with necessary studies, with the aim to close the gap of uncovered GP positions

6.1.1 Market liberalization

The 2002–2006 Slovak health care reform was part of a larger neo-liberal reform of public finances and business. The health system has suffered from indebted and perceived inefficient providers, rising dissatisfaction and several failed attempts to address these problems. This was intended to be overcome by a comprehensive health reform in 2004. First, hard budgetary constraints were introduced, aimed at a more effective utilization of resources and uncovering internal system reserves. A decentralized and contractual system of health service provision transferred responsibility from the state to the patient, health insurance companies and providers.

The health care reform had three parts that were supposed to follow each other (i.e. stabilizing, system and network measures) (see Szalay et al., 2011). First, stabilizing measures were supposed to be implemented to stabilize system finances by reducing moral hazard and settling existing system debts. System measures followed and aimed at creating an effective, fair and financially sustainable health system. Network measures were aimed at solving issues concerning accessibility of care. The new reformed system was supposed to be implemented in 2004, but due to various objections and issues the start was postponed multiple times (Szalay et al., 2011).

The implementation of the reforms was not completed before the 2006 elections, with some of the original intentions requiring alterations due to negative public and professional responses. Despite this, the reforms were regarded by experts as highly beneficial to Slovak socio-economic developments (Zachar, 2009). Experts welcomed efforts to establish an effective and financially sustainable system, but criticized the reform for never being fully implemented despite numerous compromises made ultimately weakened its outcome. Thus, 72% of the population disagreed with the reform and wanted its abolition (Institute for Public Affairs (IVO), 2006).

In summary, reforms to the Slovak health care system are caught between two rigid political positions, which have resulted in more than 145 modifications to the 2004 market reform to date (see Table 6.2). These modifications can be aligned along several political fault lines in the Slovak health care system and some will be described in more detail in the following sections (see Table 6.2).

Table 6.2

Overview of some of the constantly changing elements of the system

	2002–2006	2006–2010	2010–2012	2012–2016
Organization and stewardship				
Role of the state	Stewardship based on managed competition principles	Direct involvement and market regulation	Inclination towards market-based policies	Strong involvement of state and regulation
Legal structure and ownership of health care providers	Aim to privatize all providers and transform them into joint stock companies	Process stopped, no aim to change legal status of providers	Aim to finish privatization and transformation	Process stopped, no aim to continue the transformation
Financing				
OOP for receiving health care services	Introduced	Limited, replaced by "referral lists"	Reintroduced	Limited and about to be abolished completely
Dividend pay-out of insurance companies	Not regulated	Regulated – abolished	Not regulated	Not regulated, but aiming to be abolished

Source: Authors' own compilation.

Introduction of user fees

In June 2003 user fees were introduced, aimed at reducing demand for health care. Despite their low, perhaps symbolic, level, they gathered low public support and were subject to different alterations (see Table 6.3). In 2004 pressure from opposition members in parliament incited the Constitutional Court to inspect the conformity of user fees with the Slovak constitution. Since the fees were not directly related to providing health services, the court ruled out any discrepancies with the constitution (see Section 2.2).

Public support for user fees was low and fed into a topic of heated political debate. Following the 2006 parliamentary elections, the new government reduced the fees. However, the introduction of fees and the court's ruling had an unintended consequence. They also enabled health service providers to charge patients for services not directly related to providing health care. It was estimated that there were more than 200 different fees. Some of these were beneficial for patients (i.e. preferential treatment options or setting fixed appointment dates), but many were rather artificial (i.e. fees for air-conditioned rooms or fees for physician phone numbers).

In February 2015 an act was passed to regulate this chaos by clearly defining valid charges. This included six of the most commonly charged items: making appointments on a specific date, medication subscriptions, writing a proposal for spa treatment, doctor visit confirmations, referral tickets to see specialists, and fees for preferential treatment. Other fees and values have remained at the physician's discretion, providing that the respective self-governing region has approved them.

Table 6.3

Changes in user fees, in EUR, 2002–2015

Type of service	User fee 2002	User fee after 2006
GP visit	0.67	0.00
Ambulatory specialist visit	0.67	0.00
Out-of-office-hours ambulatory care visit	2.00	2.00
Hospital stay (per day)	1.67	0.00
Pharmaceuticals (per prescription)	0.67	0.17

Source: Authors' own compilation.

The (long-term) impact of introducing user fees is difficult to measure because they were greatly reduced in 2006. No methodologically sound evaluation was conducted. According to a 2004 survey, up to 58.4% of

respondents did not change their health care behaviour (FOCUS, 2004). According to GHIC data, the number of physician visits in primary care dropped by 10% in the second half of 2003 compared to the same period in 2002 and first aid visits by 13% (Pažitný, Zajac & Macinčin, 2004). If we consider data for all insurance companies, as reported to WHO and OECD, user fees seem to have impacted on the demand for services. But a lack of clear data makes it impossible to precisely determine this (see Section 5.2).

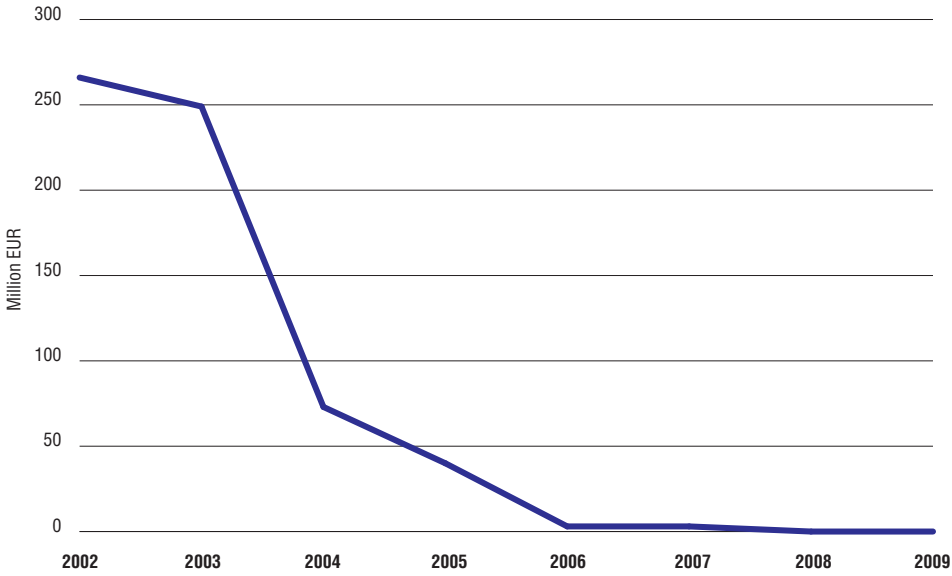
Transformation of health insurance funds into joint stock companies

The transformation of the health insurance funds into joint stock companies was intended to achieve efficient management and halt further indebtedness. Joint stock companies are subject to private commercial law, which means they can pay dividends to shareholders but can also go bankrupt. Each transformation was left to the individual discretion of each health insurance fund. According to law, if the fund decided against transforming into a health insurance company in 2005 it would be closed down. In the end, all five health insurance funds chose to become health insurance companies. Of the initial five health insurance companies in 2005, two were 100% state-owned and three were privately owned. Since 2010 one state-owned HIC and two privately owned HICs operate in Slovakia. The HCSA regulates them by issuing licences and reviewing their business plans (see Section 2.8.1).

After the reform and debt settlement, the transformation process stabilized the financial state of insurance funds since they produced virtually no payables after the due date (see Fig. 6.1).

The reported profits of the insurance companies in 2006 were 1.5 billion SK (i.e. 50 million EUR). Considering that significant numbers of patients were on waiting lists and that hospitals claimed HIC payments were not sufficient, the notion of “profit” in health insurance markets became a topic of heated debate. The 2006 elected government amended the health insurance act adopted at the end of 2007 so that all health insurance companies had to use their profits to purchase and reinvest in health care. The first regulation “required profits from health insurance to be used for healthcare purposes only, rather than at the discretion of the company and its shareholders” (e.g. a “ban on profits”). The second regulation provided for “a prohibition on the transfer of a portfolio of insurance contracts against payment” (e.g. a “ban on transfers”). Later on, the Slovak Constitutional Court stated that the ban on profits breached the Slovak constitution. The government that came into power in July 2010 re-enabled insurance companies to make a profit.

Fig. 6.1
Debt level of all insurance companies in Slovakia, 2002–2009



Source: Authors' own compilation from HCSA data.

Additionally, these bans resulted in private HICs starting international arbitration against Slovakia in 2008 for damages made to their investments in order to enter the Slovak health insurance market. Two of these companies (Apollo and Dôvera) had their claims refused, but Union won its appeal and claimed roughly 30 million EUR from Slovakia, arguing that both relevant provisions of the 1992 Bilateral Investment Treaty between the Netherlands and Slovakia and those of EU treaties had been breached. An international arbitrary court ruled that Slovakia has to compensate Achmea for its losses. In 2013–2014 several appeals by Slovakia's Ministry of Finance against the arbitrary court ruling in front of a higher ruling court in Frankfurt (*Oberlandesgericht*) and the Federal Supreme Court of Germany (*Bundesgerichtshof*) were unsuccessful (Lock, 2015). In the summer of 2016 the European Court of Justice was asked for a preliminary ruling on the compatibility of investor-state arbitration clauses in investment treaties of the 1990s in new EU Member States.

Debt settlement

As of 31 December 2002 reported health care debt was approximately 797 million EUR despite government payments during 1998–2002 amounting to 339 million EUR to clear debts. This intervention was in vain because no

clear rules on choosing creditors were established and many hospitals used the money to purchase new machinery or to cover operating expenses (Beer, 2009). Lack of reform allowed many inefficiencies to prevail.

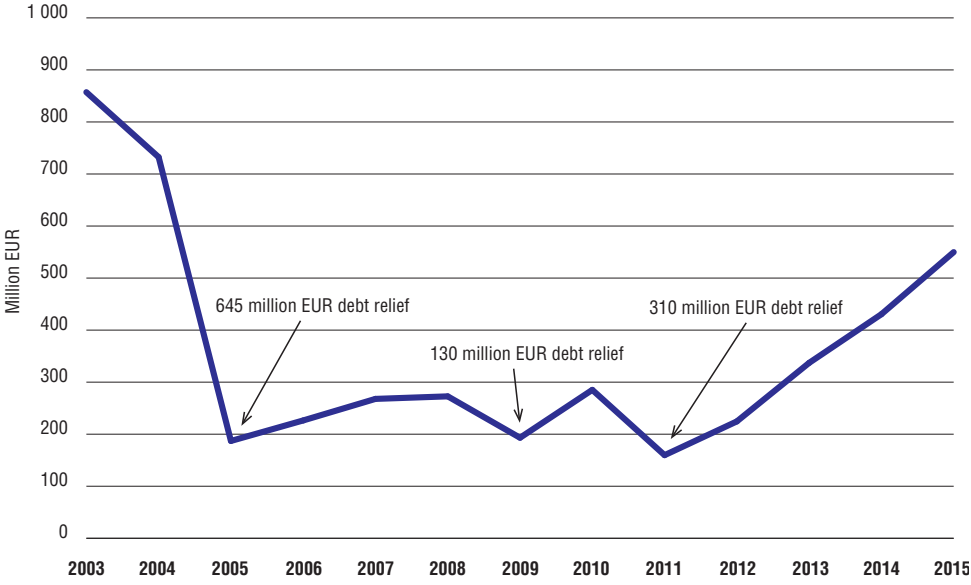
A new agency for the consolidation of health care debts, "Veritel", was established in 2003 to settle debts and introduce a variety of measures to improve efficiency. Previous experiences with debt liquidation showed that a proper debt-settlement technique was necessary.

The agency purchased receivables from suppliers valued at principal, verified them and negotiated a 3% cash discount. Veritel owned the receivables and creditors were finally paid for products and services delivered in the past. Next, hospitals could pay their debts to the agency using their receivables towards health insurance funds. After this step, hospitals were cleared of their debts and Veritel owned the receivables towards health insurance funds. In turn, the health insurance funds were allowed to repay their debts to the agency with their receivables towards non-payers of health insurance (amounting to 774 million EUR in 2003). This process enabled the health sector to settle debts in excess of 1100 million EUR (accounting value) at the cost of 644 million EUR in cash. After the Ministry of Health announced that this was the last health care bail-out, Veritel was abolished in 2006.

Despite the success of Veritel, accumulation of new debt was not prevented. State hospitals kept accruing debts, albeit at a slower pace than previously, after the implementation of the programme (debt grew in 2000–2002 by 766 million EUR compared to 219 million EUR in 2003–2005). Since 2006 there have been two rounds of debt settlement (see Fig. 6.2):

- The first settlement began in 2009 in the form of 15 years' repayable state loans to hospitals if they prepared a feasible transformation plan (130 million EUR was provided to 25 hospitals).
- Resembling the Veritel model, the second round began in 2011 with the expectation that hospitals would transform into joint stock companies, but this has not taken place as of 2016 (hospitals received a 310 million EUR grant later reclassified as a repayable loan). Therefore, another round of debt settlement is expected by the MoH.

Fig. 6.2
Chronology of debt settlement in the Slovak health care sector, 2002–2015



Source: Authors' own compilation based on MoH data.

Minimum network and selective contracting

Market competition was at the core of the 2004 reforms, with key systematic measures aimed at liberalizing the health insurance market and setting legislation to ensure that services are affordable and accessible despite a "free market".

This was translated into practice via two measures:

- first, HICs were allowed to selectively contract with providers on the basis of quality and cost, in line with their own structural, procedural and outcome criteria; and
- second, a "minimum network of providers" was introduced to make sure that services remained accessible. This defined a minimum number of contracted providers in all specialities in a given geographical area that HICs have to contract with.

The network was defined by the MoH in legislation, which unintentionally provided opportunities to distort market forces. Indeed, in 2007 the Ministry of Health changed the definition of the minimum network in tertiary care from "minimum capacity" to a "fixed network of specific inpatient facilities

(compulsory network)". These facilities, almost all state-owned, were entitled to a contract under all circumstances. This was contrary to the original idea, where health insurance companies had the freedom to contract hospitals in a given region using their own set criteria. Hence, the 2010–2012 government abolished the fixed network, but the 2012 government reinstated it.

Flexible basic benefits package

The ambition of the reform was to replace the practice of implicit, quiet rationing of care through explicit rules based on medical, economical and ethical criteria. The rationale was based on financial protection: scarce resources must be used to finance treatments that no individual could afford to cover individually. On the other hand, financial participation should be allowed for services that patients could cover individually without bearing catastrophic financial risk.

The identification of priorities was divided into two stages:

- in the first stage, a proposal was drafted on the basis of the Oregon priority list of diseases and treatments; and
- in the second stage, the proposal was adapted to a Slovak cultural and societal context by a group of 28 physicians (GPs, specialists and academics) who used the ICD-10 classification of diseases and identified the diagnoses that were considered priority diseases (approximately 6700 diseases out of 11 000).

In 2004 these priority diseases represented 41% of all cases and 67% of all costs. The remaining 4300 diseases are on the non-priority list and represented 59% of all cases and 33% of all costs. For these diagnoses, co-payments set by government decree may be required.

This benefits package was termed "flexible" since it was adjustable by a government decree (that does not require parliamentary negotiations). However, this reform was never put into practice due to the cultural shift for patients that were used to the pre-2004 universal benefit package. Touching upon explicit rationing poses a high political risk and, as of today, no distinction is made between priority and non-priority diseases: almost all treatments are free of charge.

Establishment of the independent Health Care Surveillance Authority

The Health Care Surveillance Authority (HCSA) was established in November 2004 to split the surveillance and control function from the legislative and executive function in the health care system. Until 2004 both functions were the responsibility of the Ministry of Health. After 2004 the MoH retained

responsibility for setting the legislative framework for the health insurance market, the health care purchasing market and the health care provision market. The HCSA was supposed to act as a system supervisor and intervene when violations occurred. Specifically, the HCSA's roles were to:

- license and monitor health insurance companies. The HCSA was to supervise the entry and exit of health insurance companies to the market, order recovery plans if HICs did not meet the solvency criteria, and introduce forced management;
- monitor the minimum network requirement and contracts between HIC and providers; and
- control the quality of care provided. The HCSA acts on patient rights. Every complaint from citizens is filed and investigated. Upon completion of the investigation, the citizen obtains an official document with a statement of "state of the art" or "non-state of the art". With this statement, the citizen can decide to litigate. The HCSA has the power to impose sanctions on providers.

The HCSA was created as an independent organization that could enforce legislation set by the MoH and referee disputes among the various parties in the health care system. However, the HCSA became more political in 2007 when the government nominated partisan candidates as members of the board and as CEO.

Improving risk-adjustment

A key component of insurance competition is a well functioning risk-adjustment mechanism (see Section 3.3.2). Until July 2012 the redistribution (risk-adjustment) scheme between health insurance funds used only age, gender and economic activity of insured individuals as risk-adjusters. The predictive ability of this model was approximately 3% and it "penalized" HICs that had chronically ill and expensive patients in their portfolios (HPI, 2014b). This especially impacted the GHIC, which covers the state insured (e.g. retired, elderly and medically complex patients).

To promote a fairer redistribution, a new mechanism prepared under the previous government was implemented in July 2012. It classified patients into one of 24 pharmaceutical cost groups (PCGs) according to daily consumption of defined drug doses within the Anatomical Therapeutic Chemical group classification over a 12-month period. With approximately 30% of HIC expenditure going to pharmaceuticals, the new model significantly improved overall fairness of the redistribution scheme. The Health Policy Institute

estimated that the new model could redistribute approximately 60 million EUR of contributions per annum (HPI, 2014b). The greatest beneficiary was the GHIC, with nearly 29.8 million EUR surplus (i.e. 1.2% of the total). In practice, the GHIC recorded a 7% increase from redistribution at the expense of the privately owned Union and Dôvera HICs.

As of 2015, the risk-adjustment scheme in Slovakia comprised a complementary set of indicators based on age, gender, economic activity and PCG. It has an estimated predictive ability (R^2) of 19.65% (HPI, 2014b).

6.1.2 Reforms to pharmaceutical spending

In 2009 pharmaceutical reference pricing was implemented (the legal basis for referencing was established in 2004). Reference pricing was set as an average price among six of the cheapest countries in the EU. From 2009 to 2010 the Ministry of Finance found that price referencing saved over 165 million EUR in expenses. This implied that pharmaceutical expenditures grew by only 1.1% in Slovakia, compared to 10.3% in the Czech Republic and 10.2% in Poland (Raši, 2010).

Due to the short-lived government from 2010 to 2011, the majority of reforms to pharmaceuticals remained only on paper. The key accomplishment was a large-scale reform of pharmaceutical policy which consisted of several interconnected smaller and larger changes:

- tightening up the referencing system by (1) setting price ceilings of no higher than the average of the three lowest in the EU (the previous being the average of the six lowest) and (2) introducing a cap on pharmaceutical OOP spending for seniors and selected socially vulnerable groups;
- introducing mandatory generic prescriptions. Doctors had to prescribe on active substance and pharmacists were supposed to offer patients equivalent generic options with the lowest co-payment. This legislation was loosened and doctors were allowed to add a generic recommendation for medicine along with the recommended active substance; and
- improvements in the flexibility of pharmaceutical assessment into a list of medicines/products covered by SHI by expanding the usage of pharmacoeconomic principles (i.e. HTA measured in terms of QALY, etc.).

6.1.3 Changes to reimbursement mechanisms

Implementation of a new DRG system modelled on the German DRG (G-DRG) was supposed to be adjusted to local conditions to create a Slovak DRG model (SK-DRG). The HCSA is responsible for DRG implementation. However, even though the project started in 2011, it is not yet used for inpatient reimbursements. Since the start of 2016 DRGs have been virtually used in practice, but reimbursements are still received through the "old" payment scheme. All parameters of SK-DRG that have remained open should be estimated during 2016.

Physician dissatisfaction with salaries led to the 2011 strikes which forced the government to establish a minimum salary for certified and non-certified hospital doctors (see Section 3.7.3)

6.2 Future developments

The government elected in 2012 was linked to the administration in charge during 2006–2010 and the key focus of its reform activities have been on primary care. Current reform initiatives aim at an overhaul of the current organization of primary care delivery in Slovakia.

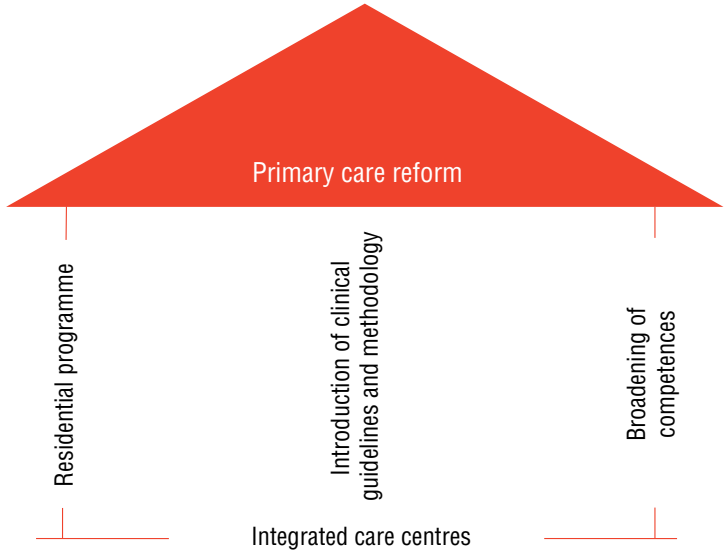
Primary care physicians in Slovakia are supposed to provide a broad range of accessible services to patients and act as "gate-keepers" of the system. In practice, only a few GPs exist in urban practice and even fewer in rural areas, which seriously threatens accessibility to care in Slovakia. Furthermore, physicians are unevenly spread over the country, which poses a problem in rural areas where practices are disappearing without suitable replacements due to ageing physicians. Thus practices are hard to access (see Section 5.3.1). Additionally, Slovak GPs play only a minor gatekeeping role since there are ways to see specialists without referrals. This is seen as a contributing factor in the high average number of outpatient contacts per patients (11.0 in 2013 compared to the EU-13 average of 7.5) (WHO Regional Office Europe, 2014). Before 2012 physician competency was limited to basic medical and administrative tasks. As a result, even light cases were referred to more expensive specialists. This caused a bottleneck for several non-communicable diseases such as cancer, hypertension and cardiovascular diseases and resulted in late treatment and insufficient prevention activities for chronically ill patients. These restrictions partially fuel the high proportion of specialists within the Slovak health system.

To tackle these inefficiencies, a complex primary care reform plan was introduced in 2014. The reform is based on a proposal by the Expert Panel of the European Commission that suggested that primary care is expected to play a central role within larger care teams or networks (referred to as integrated care models (ICMs) (The Expert Panel on effective ways of investing in Health, 2014). This integrated care approach should help achieve better results in patient management with significant reductions in duplicate referrals to outpatient specialists and hospitals while providing better patient access to health care (Rittenhouse, Shortell & Fisher, 2009; Saltman & Boerma, 2006).

The reform can only be accomplished if doctors learn to accept case managers as health care partners. This shift in physician behaviour will not occur without comprehensive primary care reform that (1) addresses the way clinicians behave, (2) provides them with appropriate education, (3) updates their responsibilities, and (4) provides them with necessary guidelines and protocols. However, clinician training and management need the support of a shared primary care infrastructure (i.e. electronic medical records and integrated care centres (ICCs)). Therefore, primary care reform in Slovakia is comprised of four elements (see Fig. 6.3).

Fig. 6.3

Overview of primary care reform as envisioned for Slovakia



Source: Authors' own compilation.

1. Integrated care centres

Integrated care centres (ICCs) should become one-stop shops for primary care services that include basic diagnostic, preventive and social services. It is envisioned as a hub that allows physicians from a variety of backgrounds (i.e. GPs, paediatricians and gynaecologists, as well as out-of-hours acute services) to cooperate more efficiently and provide complex services. These centres are expected to ease the burden on acute care hospitals since they would be oriented towards providing continuous care for chronic patients.

The ICCs project should be financed from EU structural funds with a budget of approximately 150 million EURs. The aim is to build up to 140 such centres.

2. Residential programme

Education of GPs is perceived as outdated and not compatible with complex patient needs. Since 2012 the MoH has introduced two initiatives to improve this state.

- First, the MoH significantly altered the length of study for specialties in general medicine from four to three years and in paediatrics from five to three years, as well as adjusting courses to better reflect current needs. Furthermore, the emphasis on theoretical education was shifted towards practical experience. As part of this approach, a new requirement was introduced where senior students must spend six months in an existing practice before opening their own surgical practice.
- Second, in 2014 the MoH started a project called the "Residential programme" that targeted students who wanted to specialize in general medicine or paediatrics but did not have the financial means to continue their studies. The first part of the residential programme started in October 2014 at three medical faculties in Slovakia. By April 2016, 202 young doctors under 36 years of age were enlisted in the programme. It is a successful programme that has secured funding for upcoming years. However, recruitment of medical doctors into the existing, still weak primary care system is only part of a broader reform.

3. Clinical guidelines

In order to promote the adoption of new GP roles, the MoH has planned to publish a set of standard diagnostic and therapeutic guidelines for key primary care diagnoses. These would be continually updated and prepared under the supervision of chief MoH experts and respective statutory medical organizations. This step is expected to produce a significant impact on physician behaviour and facilitate a transition to new competences and improve

coordination between GPs and specialists. In June 2014 the first primary care-related guidelines concerning pre-operative examinations were published, followed in December by guidelines on adult hypertension. The MoH plans to publish up to 90 guidelines by 2020 as part of a project co-funded by European structural funds.

4. Broadening of GPs' competences and responsibilities

A vital facilitator in primary care reform is the expansion of GPs' competences. Since July 2014 primary care physicians can conduct pre-operative examinations covered by SHI. This eases the burden on doctors in hospitals. Despite initial doubts on broadened GP involvement, more than 6500 examinations were carried out within the first six months. This convinced the MoH to consider expanding future GP competences, particularly in providing care for chronic patients.

Considering the high prevalence of hypertension in Slovakia and the overburdened specialists, the MoH decided to transfer the treatment of uncomplicated hypertension cases to GP practices in early 2015. The change aimed to shorten time between diagnosis and treatment, reduce the incidence of complications related to missing appointments, and reduce related health care expenditure. The GHCI fully compensates GPs for these procedures. The MoH is considering expanding these competences to patients suffering from lipid metabolism disorders and hyperuricaemia.

The new government elected in 2016 embarked on an ambitious path in the health care sector with several reform initiatives so far. Key projects are to further strengthen the role of primary care, but also to ensure that the DRG and e-health systems are implemented and to optimize the compulsory network of providers.

7. Assessment of the health system

The Slovak health care system is characterized by relatively low total health care expenditures as a share of GDP, by out-of-pocket payments distributed evenly over income quintiles, and by some favourable epidemiological indicators for health outcomes. Inequity in the distribution of health providers resulting in lengthy travelling distances, underfinanced primary and inpatient care, and limited competences of GPs were key drivers in the high incidence of avoidable deaths in Slovakia (fifth highest in 20 EU countries) in 2014. Specifically, cardiovascular diseases comprise a large share of avoidable deaths for Slovaks, followed by cancer. Additionally, Slovak life expectancy and HLY levels are worrying, especially when compared to the Czech Republic. This motivated many recent reforms and was first addressed by the MoH's Strategic Framework in 2014. The few available data on quality of care show good outcomes for inpatient care but room for improvement in primary care.

Allocative efficiency remains a challenge, but implementation of price referencing for pharmaceuticals achieved several cost savings. Weak hospital management, high numbers of unused acute beds, overprescribing of pharmaceuticals and poor gatekeeping of the system all lead to overutilization of services and system inefficiency. Additionally, the parallel systems of HICs and the lack of data sharing capacity promote repetitive testing leading to the second highest spending on ancillary services in the EU.

Health system accountability is regarded as low, since very few outcomes are measured. According to a 2013 FOCUS research group study, corruption is regarded as the third most important issue in Slovakia. Centrally organized public procurement, i.e. for emergency services, is seen as highly inefficient and not based on actual health needs.

7.1 Stated objectives of the health care system

Set out in the Slovak Constitution and a variety of legal acts, the health system should ensure universality, equity and free access to health services at the point of delivery. Interpretation of these objectives depends heavily on the ideological orientation of the government in charge. Additional guidance for Slovak health policy comes from the Strategic Framework for Health 2014–2030 which influences the long-term direction of Slovak health policy by defining goals and priority areas. Prior to the Framework, decisions were made without a comprehensive assessment of health needs (see Section 2.5).

The government that took office in March 2016 further emphasized the importance of access to care without cost-sharing. Its manifesto on health care consists of the following:

1. The patient should come first: ensure solidarity, shorten waiting times and improve equality of access
2. Improve transparency: ensure trustworthy and transparent hiring and procurement process
3. Improve effectiveness of spending: improve cost-effectiveness of care, rationalize the network of providers, implement e-health and DRG
4. Improve credibility of health care professionals: create payment structures that better align to goals and improve clinician training and education
5. Modernize the health care infrastructure and ensure that sufficient resources are allocated for continuous improvement in the future

The new government also pledged to prepare a new strategy for the health care system up to 2030, even though the Strategic Framework is still in place.

7.2 Financial protection and equity in financing

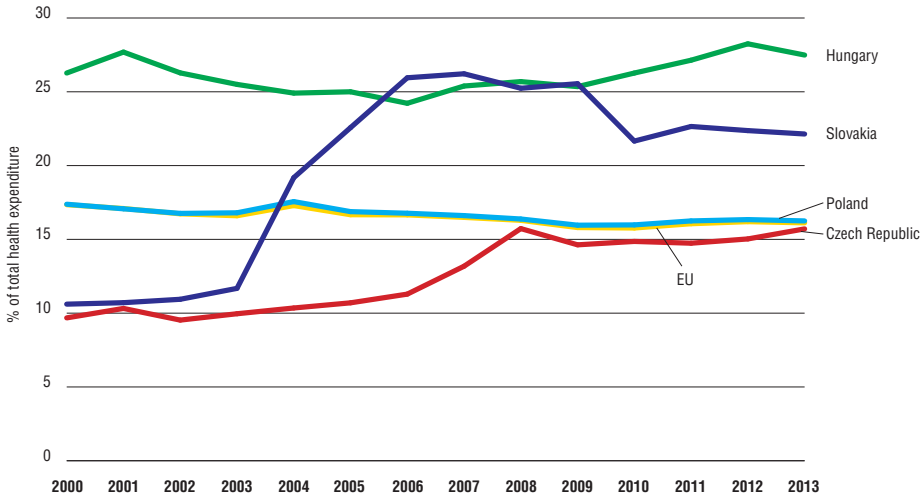
7.2.1 Financial protection

Financial protection of a health system refers to the extent to which people are protected from the financial consequences of illness. If the population has to pay a large share of total health expenditure out of pocket, financial protection is rather limited. In 2013 OOP spending as a share of total health expenditure was 22.1% in Slovakia – higher than other members of the V4 (except Hungary) and roughly 40% higher than the EU-28 average (see Fig. 7.1). A majority of OOP

payments are comprised of user fees. After the introduction of fees in 2003, a steep increase in OOPs occurred, but after its partial abolition in 2009 they decreased. OOP payments are highly regressive, meaning that lower income quintiles are disproportionally affected. Dental services, not fully covered by SHI, play a crucial role in rising OOPs because most dental providers require co-payments for services or have to be fully covered by patients.

Fig. 7.1

Private households' OOP payments on health as a percentage of total health expenditure, selected countries, 2000 to latest available year



Source: WHO HFA, 2015.

In the 2014 EU Statistics on Income and Living Conditions (EU-SILC) survey, lower income quintiles remained more vulnerable and reported higher levels of unmet medical need, especially for dental services. Overall, only 0.9% of interviewed people reported unmet need for medical services and 2% of the population could not access dental examination for financial reasons, which is an improvement over 2005 when these figures were 2.6% and 4.1% respectively. The 2014 values are lower than those for Poland, Hungary and the EU-28 average (Eurostat, 2015b), but higher than those in the Czech Republic. The 2015 abolition of some of the user fees (see Section 3.4.2) and a decrease in the maximum OOP payments for vulnerable groups (see Section 5.6) are expected to decrease levels of unmet medical need even further.

The lowest quintile had 8 times greater unmet medical need and 5.5 times greater dental need than the highest quintile (see Table 7.1 and Fig. 7.2). Furthermore, the poorest have been more vulnerable to economic fluctuations

Table 7.1

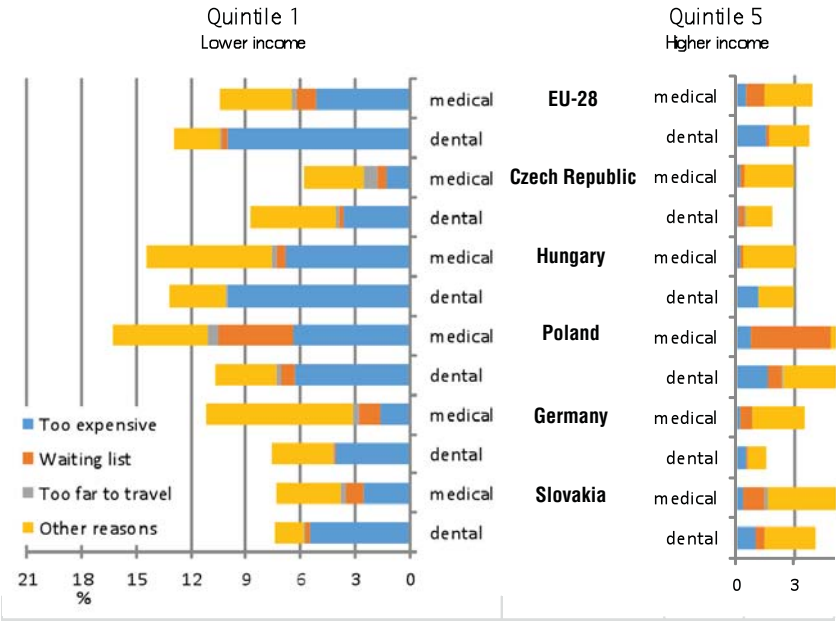
Unmet need for medical and dental examination for selected quintiles and years, in %

Year	2005	2008	2012	2013	2014
Unmet need for medical examination, total	2.60	0.50	0.90	0.80	0.90
Unmet need for medical examination, 1st quintile	4.90	1.20	2.70	2.10	2.50
Unmet need for medical examination, last quintile	0.80	0.20	0.30	0.20	0.30
Unmet need for dental examination, total	4.10	1.10	1.70	1.90	2.00
Unmet need for dental examination, 1st quintile	7.10	1.80	4.70	4.00	5.50
Unmet need for dental examination, last quintile	1.60	0.50	0.40	0.60	1.00

Source: Eurostat, 2015b.

Fig. 7.2

Unmet need for a medical or dental examination, selected reasons by income quintile, V4, 2014



Source: Eurostat, 2015b.
Note: Other reasons sums up the categories "no time", "didn't know any good doctor", "fear of doctor", "wanted to wait and see", and "other reasons".

in Slovakia (Thomson et al., 2014). According to the OECD (2012), low income groups are less likely to see a specialist and attend a cancer screening than the highest income quintiles. Interestingly, the highest income quintile in Slovakia reported a higher unmet need for medical care than the EU-28 average and the

V4 (except for Poland). In summary, financial protection for Slovak households from the costs of medical care has improved considerably. However, OOP payments for dental services pose a financial burden for both lower and higher income quintiles. As the data suggest, financial reasons are not the only driver in unmet health needs in Slovakia.

7.2.2 Equity in financing

Equity in financing is often associated with the concept of vertical equity, where people with a greater ability to pay should pay a larger percentage of income than people with a lower ability to pay (Wagstaff & van Doorslaer, 2000). According to the World Health Organization (WHO, 2000) a progressive financing system (i.e. one where higher-income individuals pay a larger share of their income than lower-income individuals) provides the highest levels of vertical equity in financing. On the other hand, OOP payments are seen as regressive by having the lowest potential to ensure equity in financing.

According to the 2005 analysis of vertical equity in the Slovak health system, the system achieved a Kakwani index of 0.045 (Kiss, Koolman & Filko, 2007) indicating its slightly progressive nature. Since 2005, however, a variety of changes might have had an impact on the index:

- The January 2015 introduction of a social contribution tax deduction policy reduced SHI contributions for approximately 600 000 low-income workers. The policy enabled employees who earn up to 570 EUR per month to have their assessment base for SHI reduced. The expected loss in total SHI contributions due to this policy is expected to be 180 million EUR for 2015. This amount was partially compensated via higher payments by the state for state insured (i.e. direct tax-based source of funds).
- The maximum assessment basis for employed and self-employed persons depends on the average wage of the national economy. In 2013 it increased from 2 times to 5 times the average wage.
- A variety of measures were introduced to limit the regressive consequences of OOP payments (i.e. co-payment limits on pharmaceuticals for vulnerable groups in 2011 and 2015, and the abolition of a variety of user fees in 2015).

Overall, it seems that a variety of measures were introduced that enhanced the progressive nature of the Slovak health system compared to 2005.

7.3 User experience and equity of access to health care

7.3.1 User experience

There is no universal national survey on user experience of the Slovak health system. Individual HICs are regularly surveyed on selected pieces of care provision (i.e. satisfaction with inpatient stay). These surveys vary methodologically and do not provide sufficient nor usable information. The only source of user experience is the June 2014 Eurobarometer study on satisfaction within health systems conducted by the EU Commission. According to the barometer, only 50% of Slovak respondents were satisfied with the overall quality of the health care system (compared to the EU-28 average of 71% satisfaction). This represented a drop of 3 percentage points compared to the previous 2009 survey (Eurobarometer, 2014).

7.3.2 Equity of access to health care

Regional variation in health resources is a major concern for equity of access in Slovakia (see Tables 7.2 and 7.3). Apart from financial reasons, a lack of screening facilities and lengthy travelling distances are seen as key reasons behind the unequal access to medical services in Slovakia.

Table 7.2

Geographical differences in distribution of health workers per 100 000 population as of 31 December 2014

Region	Physicians per 100 000		Dentists per 100 000		Nurses per 100 000	
	2008	2014	2008	2014	2008	2014
Bratislava	652.5	674.5	84.3	78.9	1 035.2	990.6
Trnava	255.0	256.9	43.4	39.0	509.5	470.2
Trenčín	256.7	269.6	42.7	45.0	494.8	464.1
Nitra	259.6	263.4	39.8	37.8	488.8	473.5
Žilina	314.5	366.6	44.5	46.1	606.0	573.1
Banská Bystrica	296.3	275.9	46.1	39.8	620.6	503.5
Prešov	261.5	274.8	44.5	44.1	570.3	506.6
Košice	394.9	394.6	61.4	58.4	678.1	621.9
Slovak Republic	344.8	342.6	50.7	48.7	624.1	574.9

Source: NCHI, 2016.

Table 7.3
Regional variance of distribution and efficiency of bed capacities

	Number of beds		ALOS	Bed occupancy	Hospitalizations per 1 000 population
	number	per 100 000	(days)	(%)	
Total	31 619	583	7.8	69.7	218.6
Bratislava	4 745	759	8.1	74.1	210.1
Trnava	2 408	431	6.8	62.8	193.8
Trenčín	2 860	484	7.8	68.1	207.9
Nitra	3 588	524	8.4	73.8	207.5
Žilina	3 955	573	7.6	70.3	216.2
Banská Bystrica	3 916	597	7.8	71.7	225.8
Prešov	4 596	561	7.7	64.6	230.8
Košice	5 554	698	8.0	69.2	229.2

Source: NCHI, 2015c.

Bratislava has the highest density of health-related providers: nearly double the average number of doctors and nurses in the country. This is partially caused by the fact that Bratislava city is a key labour and business hub and therefore many people commute to the capital. Its population increases significantly during the working week and requires a higher number of health care professionals. Furthermore, Bratislava is the centre for specialized health providers and people visit from all over Slovakia for more complex care.

In contrast, there are districts in the regions of Trnava, Trenčín and Nitra that suffer from limited availability of medical personnel. This also holds true for remote areas of Orava and regions with higher numbers of Roma. Besides efforts to increase the overall number of health professionals and have them move to these regions, a project to implement integrated care centres aims at concentrating existing providers of general care to improve efficiency (see Sections 4.2.1 and 6.2). There is also a huge variety in bed numbers across the Slovak regions and indicators of usage (Table 7.3). However, there is no timely data on the actual inequities in access to services. The last analysis was conducted by the Sanigest group in 2004.

The "Healthy Communities" project aimed to improve accessibility and effectiveness of services in regions with a higher proportion of Roma settlements (see Section 5.13).

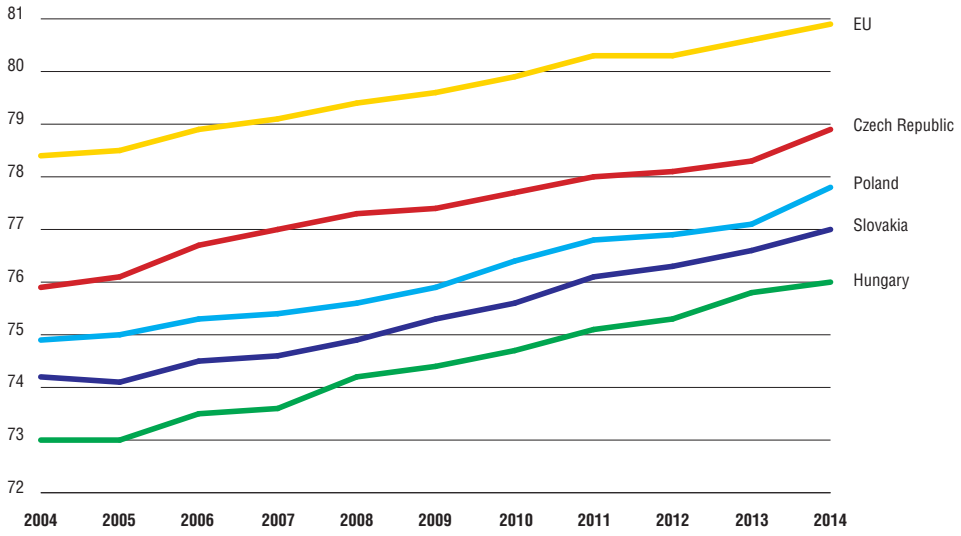
7.4 Health outcomes, health service outcomes and quality of care

7.4.1 Population health

In 2014 life expectancy at birth for both genders stood at 77 years in Slovakia, lagging behind the EU-28 by 3.9 years (see Fig. 7.3). Moreover, compared to other V4 countries, Slovak improvements in life expectancy since 2004 have remained the weakest. Slovakia does not seem capable of closing the gap to the EU-28 (Kovalčík & Tunega, 2015).

Fig. 7.3

Life expectancy at birth, both sexes, selected countries, 2004–2014

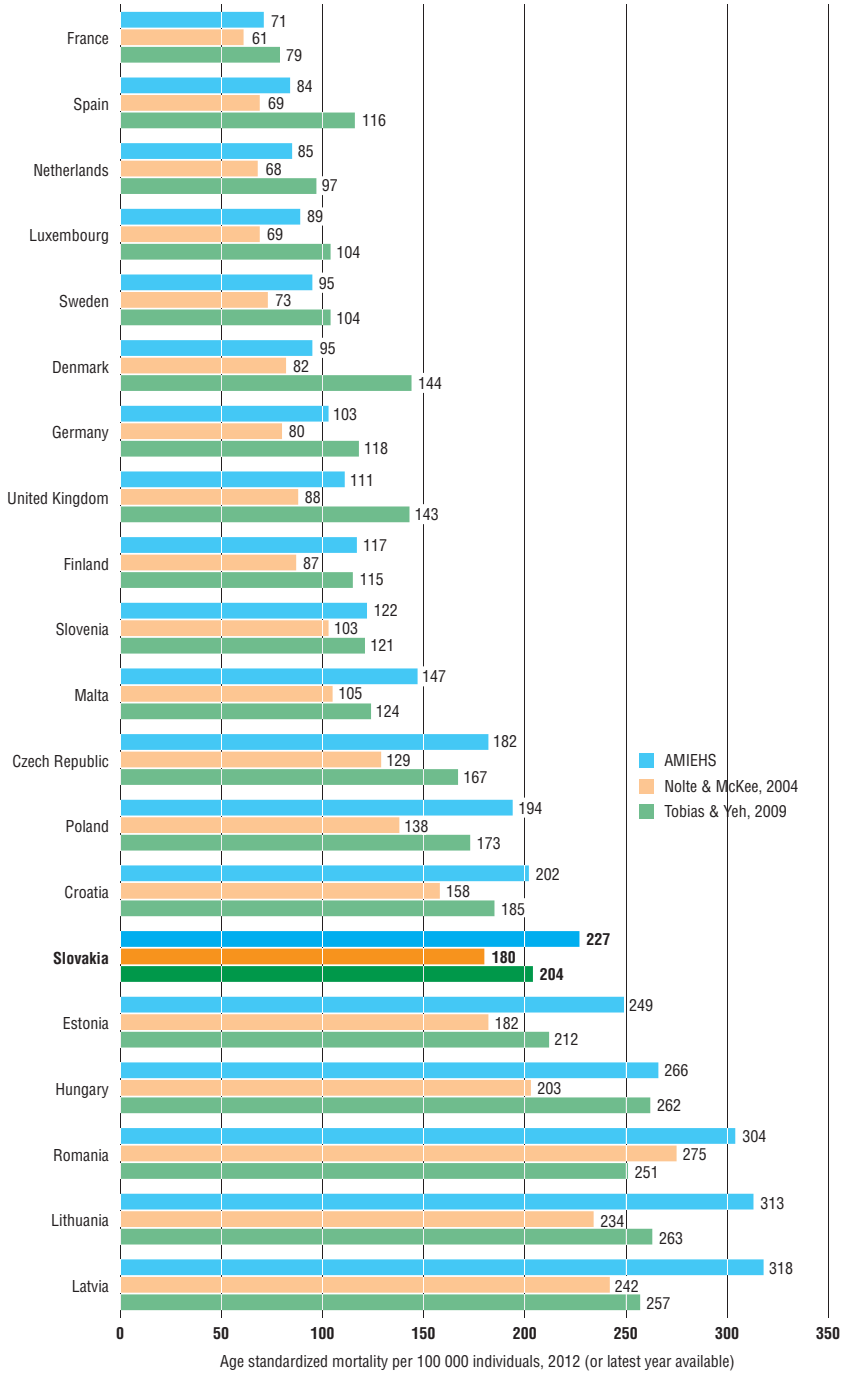


Source: Eurostat, 2016b.

A contributing factor to this underperformance is the large number of deaths from avoidable diseases (Šoltés & Gavurová, 2015). In fact, Slovakia recorded the fifth highest number of avoidable deaths among 20 EU countries (see Fig. 7.4). Ischemic heart diseases (113.2 per 100 000 population), cerebrovascular diseases (43.63 per 100 000 population) and colorectal cancer (27.54 per 100 000 inhabitants in 2013 according to AMIESH methodology) were the areas where most deaths could have been avoided. However, Slovak amenable mortality has reduced by roughly 28% from 2002 to 2013 (see Fig. 7.5). Even so, Slovak efforts have been insufficient, since similar or even better improvements have been achieved by other countries (Kovalčík & Tunega, 2015).

Fig. 7.4

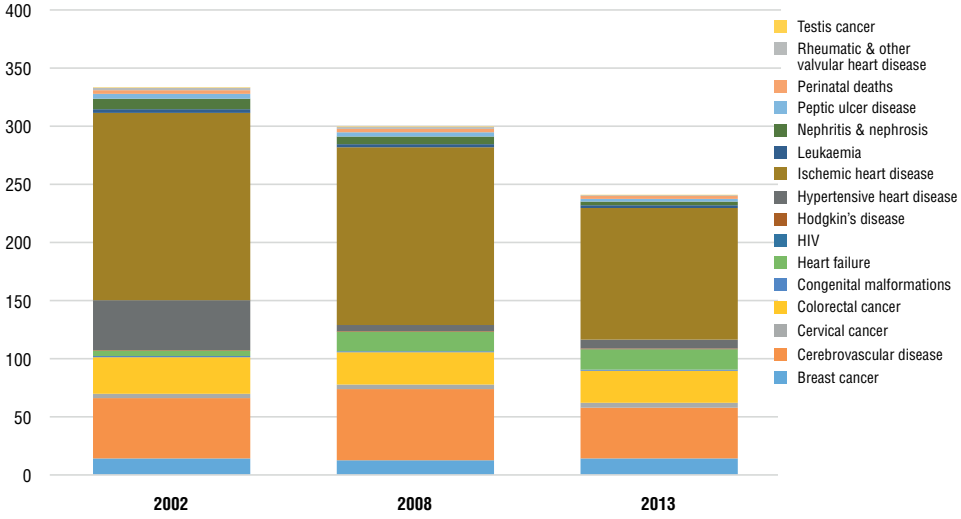
Overview on avoidable mortality of selected countries, based on 2012 standardized data



Source: Šoltés & Gavurová, 2015.

Fig. 7.5

Development of amenable mortality in Slovakia per 100 000 population, according to AMIEHS methodology



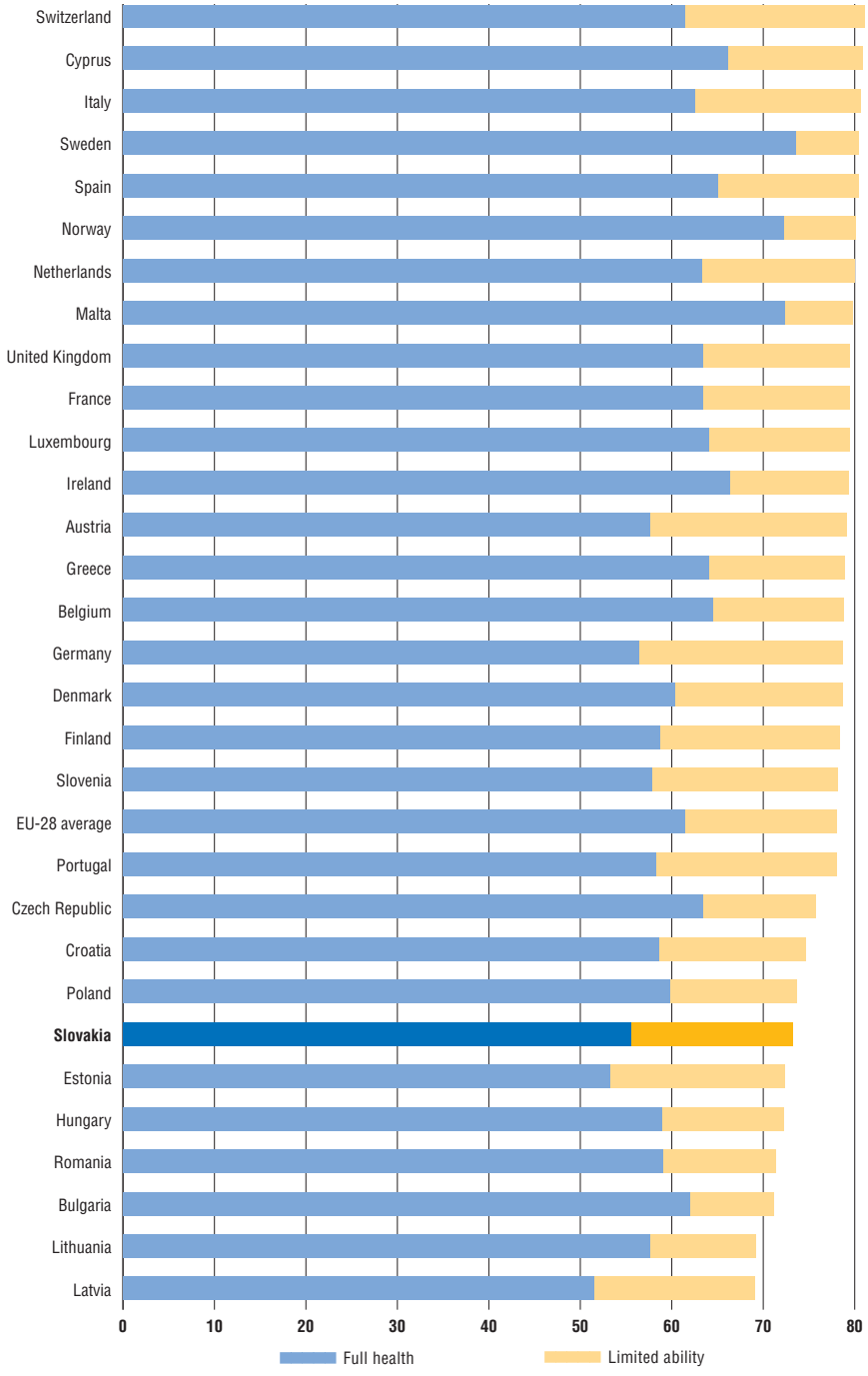
Source: Šoltés & Gavurová, 2015.

Second, indicators that reflect on the concept of quality of life, such as Healthy Life Years (HLY), are important. There is considerable room for improvement in HLY for Slovakia. In 2014 Slovak men recorded the 7th lowest and women the 6th lowest HLY among EU-28 members. These translate into 55.5 years and 54.6 years for males and females respectively, and are lower than in all V4 countries except Hungary (see Figs. 7.6 and 7.7). However, Slovakia may suffer from biased data collection evident through a Slovak GALI (global activity limitation instrument) translation that negatively impacted HLY (Bahna, 2015). In the translation, interviewees gave responses that favoured indicating limitations to the GALI, which resulted in worsened HLYs.

According to the 2014 European Health Interview Survey (EHIS), 65.7% of the Slovak population rank their subjective health as either very good or good, compared to 12% that rank their health as bad or very bad. These figures differ among different age groups, as shown in Fig. 7.8.

Fig. 7.6

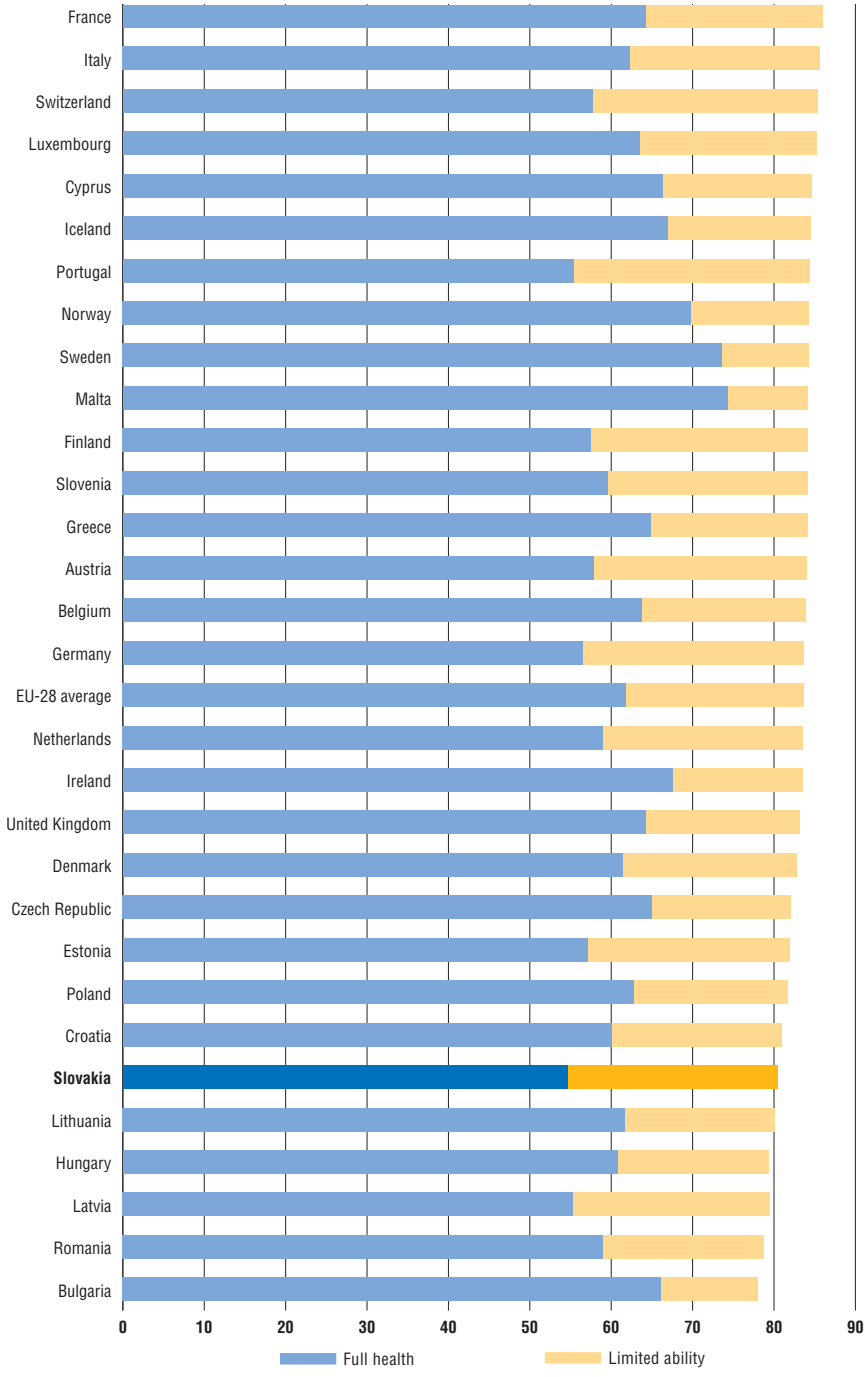
Healthy life years and years lived with a disability for males, EU, 2014



Source: Eurostat, 2016b.

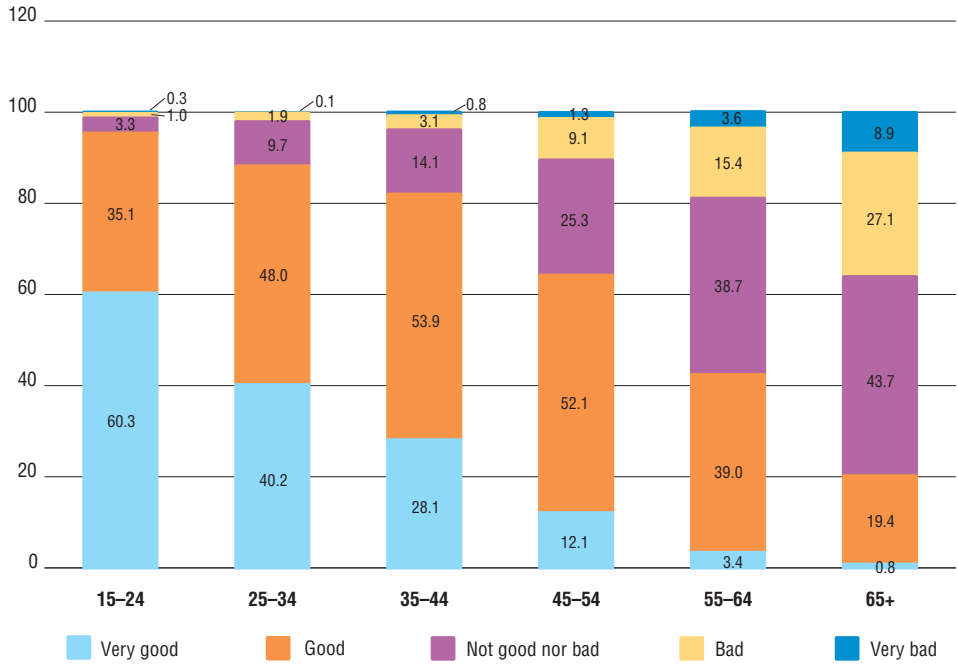
Fig. 7.7

Healthy life years and years lived with a disability for females, EU, 2014



Source: Eurostat, 2016b.

Fig. 7.8
Subjective evaluation of individual health status in Slovakia, 2014



Source: Velčická, 2015.

7.4.2 Health service outcome and quality of care

Measuring care quality was primarily established in 2004 through Act no. 581. It delegated the responsibility of measuring and evaluating quality to HICs by allowing them to contract providers based on price and quality. However, it was not until a decree of the MoH in 2009 that HICs started to systematically measure and publish results of quality indicators on their web sites. The decree clearly defined inpatient, outpatient and economic indicators to be measured and over which time periods. Unfortunately, data from the three HICs are not combined into a single overview, with the exemption of an initiative by the INEKO Institute. In 2014 a portal was started that combined all indicators and other factors into a single ranking system.

This initiative highlights the need to publicly disclose data on quality across HICs. One of the indicators that hospitals were supposed to measure and report is the proportion of nosocomial infections recorded. In 2013 this affected only 0.5% of all hospitalized patients, which is approximatively 20–40 times lower than in other countries (INEKO, 2014).

Bearing in mind the limitations of the data, the quality of preventive and acute care seems to meet a good standard. The rates of child vaccinations, averaging 95% in 2015, remain very high despite a recent decline (see Section 5.1). The quality of primary care services lags behind other members of V4. Admissions to hospitals due to asthma, diabetes and hypertension are higher than in comparable countries (see Table 7.4). This indicates poor quality in primary care since these admissions are preventable. On the other hand, indicators of mortality after hospitalization are comparable to those in the Czech Republic.

Table 7.4

Selected indicators on quality of primary and acute care

PRIMARY CARE	Czech Republic	Hungary	Poland	Slovakia
Asthma hospital admission ASR per 100 000 population	37.0	73.3	80.3	109.5
COPD hospital admission ASR per 100 000 population	159.1	354.2	180.9	170.2
Congestive heart failure hospital admission ASR per 100 000 population	414.8	441.3	547.5	436.6
Hypertension hospital admission ASR per 100 000 population	166.5	14.5	198.1	397.1
Diabetes hospital admission ASR per 100 000 population	192.1	109.9	231.0	224.8
ACUTE CARE				
30 day mortality after admission to hospital for AMI ASR per 100 patients	6.7	n/a	4.7	7.2
30 day mortality after admission to hospital for haemorrhagic stroke ASR per 100 000 population	25.8	n/a	n/a	27.9
30 day mortality after admission to hospital for ischemic stroke ASR per 100 000 population	9.6	n/a	n/a	10.8

Source: OECD, 2015b.

The use of patient-reported outcome measures (PROMs) is uncommon in Slovakia, but most hospitals have their own internal quality of care/satisfaction questionnaire system. There is currently no plan to use PROMs more systematically. Similarly, no official national system of measuring satisfaction is in place, but state indicators of quality include some basic measurements of patient satisfaction.

7.4.3 Equity of outcomes

Life expectancy and key reasons for deaths differ only slightly among the eight regions of Slovakia. The lowest life expectancy and highest number of deaths per 100 000 population are recorded in the Nitra region, but no studies were conducted to explain these differences. The Kosice and Presov regions have the worst outcomes for communicable diseases and infant mortality (see Table 7.5). These regions both have a higher proportion of Roma population. A variety of research projects are currently under way to look into this in more detail. A high proportion of Roma population with lower socio-economic status is a significant factor that impacts Slovak technical efficiency in international comparisons (see Section 7.5).

Table 7.5

Overview of selected health indicators in each of the self-governing regions for 2014

	Life expectancy at birth, males	Life expectancy at birth, females	Deceased per 100 000	Deceased children up to one year per 1 000 population	Registered with diabetes as of 31 December 2014 per 100 000 population	Diagnosed in the last 12 months with diabetes per 100 000 population	Newly diagnosed persons with psychiatric diseases per 100 000	Reported cases of tuberculosis per 100 000 population
Slovakia	73.3	80.5	947.6	5.8	6 260.8	435.6	118.7	6.0
Bratislava	74.9	81.4	921.6	2.3	7 965.9	513	15.8	5.3
Trnava	73.2	80.1	978.4	3.9	6 446.5	551.5	87.6	3.2
Trenčín	74.1	81.2	955.7	3.4	7 037.5	456	137.1	3.9
Nitra	72.2	79.5	1 114.3	4.0	5 968.1	408.8	84.6	3.6
Žilina	72.5	80.5	916.4	4.6	5 542.5	353.7	1209	3.2
Banská Bystrica	72.2	79.8	1 019.7	4.3	6 546.8	453.9	128.3	6.7
Prešov	73.1	80.4	820.4	9.2	4 509.5	347.3	98.7	13.1
Košice	72.9	79.3	895.0	10.8	6 555.0	369.4	145.9	8.1

Source: NCHI, 2016d.

7.4.4 Allocative efficiency of the system

Allocative efficiency in the health sector is mostly associated with appropriate allocation of resources between the various types of care. Compared to other V4 countries and selected neighbouring countries, the Slovak health care system displays several inefficiencies when allocating resources:

- In 2013 only 23.8% of total resources were spent on inpatient care, which is the lowest in the EU (see Table 7.6) and is insufficient for the needs of the Slovak population. There are significant waiting lists for inpatient care (see Section 5.4) and capital investments are very low (investment gap) which imply inefficient allocation of resources for inpatient care.
- Slovakia allocated 26.5% for pharmaceutical resources, which is the third highest among the EU-28 countries. Recalculating this spending into US$ PPP per capita, Slovakia spent more than half of all the EU-28 countries and all other V4 members. Considering Slovakia's strict referencing system for medicines, over-prescription of medication was the key reason for the inefficiency (Kovalčík & Tunega, 2015) (see Section 2.8.4).
- Slovakia has the second highest spending on ancillary services in the EU as a percentage of total health spending. It is driven primarily by laboratory services, transport and emergency services. Duplicate testing caused by the lack of infrastructure to share medical information drives these costs. Spending on transportation services is caused by two factors: (1) the government centrally procures emergency services, and sets and fixes prices for a given period but has never conducted a value-for-money analysis to justify its prices and (2) the rise of secondary transport (see Section 5.5).

The Slovak health care sector has several other areas that raise questions about its allocative efficiency. Out of ten doctors, only 1.4 are generalists with the rest being specialists that provide more expensive care. Slovakia has the third lowest proportion of generalist vs specialist doctors among the EU-28 countries.

Furthermore, Slovakia, along with the Czech Republic and Hungary, has one of the highest number of doctors' consultations per capita among OECD members (11 contacts in 2013 vs. 7.2 OECD average), which perhaps reflects the inappropriate mix between (supposedly gatekeeping) generalists and specialists.

Table 7.6

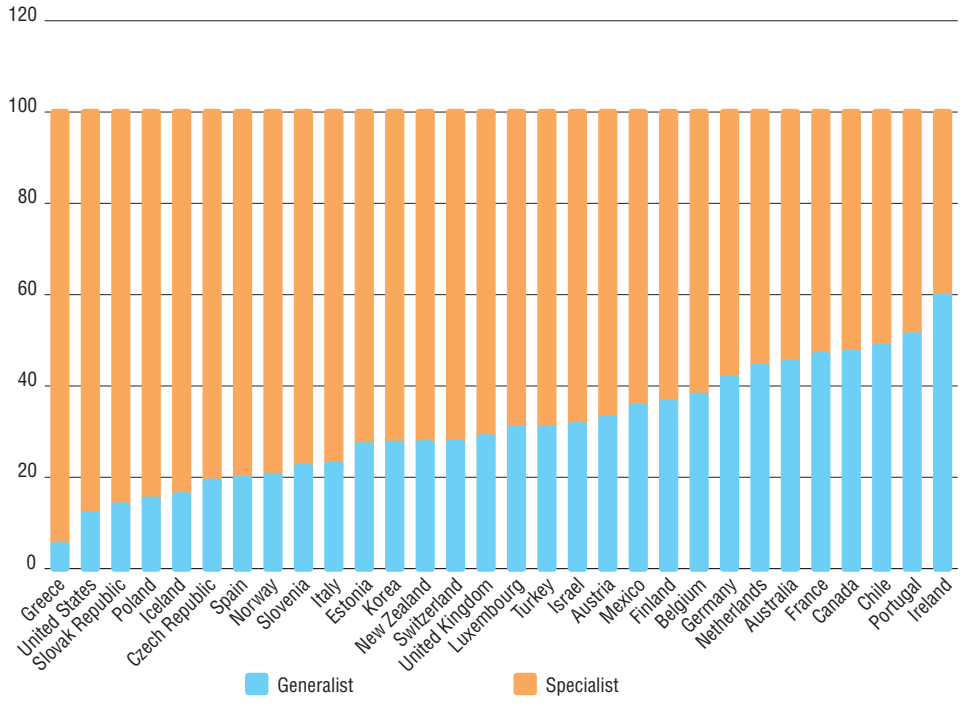
Selected categories of health care spending as a percentage of current expenditure on health, 2013

	Inpatient curative and rehabilitative care	Outpatient curative and rehabilitative care	Services of long-term nursing care	Ancillary services to health care	Medical goods	*out of which pharmaceuticals*
Austria	34.1	25.3	14.7	3.2	16.4	*12.1*
Czech Republic	29.1	30.1	4.0	5.9	22.6	*19.7*
Hungary	26.4	23.6	4.0	5.6	33.2	*30.6*
Netherlands	31.8	19.4	25.7	1.8	12.0	*7.7*
Poland	33.4	23.2	5.8	4.7	23.8	*21.6*
Slovak Republic	23.8	24.9	0.3	9.1	35.7	*26.5*

Source: OECD, 2015b.

Fig. 7.9

Proportion of generalist vs specialist doctors, OECD countries, 2013



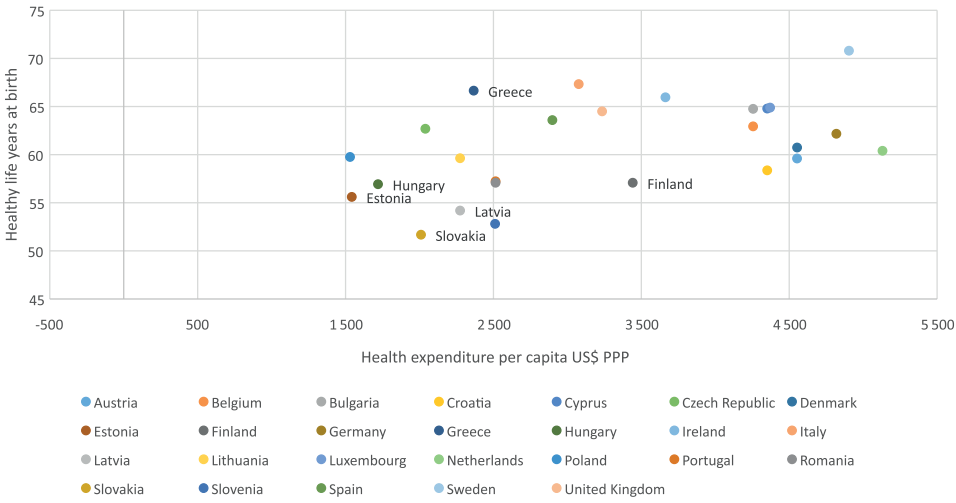
Source: OECD, 2015b.
Note: *data for Slovakia are for 2007, but the structure of personnel remained stable, i.e. data should be valid and informative also for 2013.

Allocative efficiency in systems with several insurance funds can suffer from inadequate and unfair resource allocations to individual funds if the risk-adjustment system is not working properly because it has a low predictive ability. Indeed, the Slovak system was long plagued by unfair distributions between the three funds. Therefore, the risk-adjustment scheme, and with that its allocative efficiency, was drastically improved in 2012 after adding pharmaceutical cost groups as a risk-adjuster (see Section 3.3.2). It has an estimated predictive ability (R^2) of 19.65% and redistributes 95% of total SHI contributions.

7.4.5 Technical efficiency of the system

Comparing healthy life years and health expenditure per capita in US$ PPP among the EU-28 countries suggests that the Slovak health system achieves sub-par efficiency (Fig. 7.10) and that there is room to improve.

Fig. 7.10
Comparative efficiency of the EU-28 countries, 2013



Source: Eurostat, 2016b; OECD, 2015b.

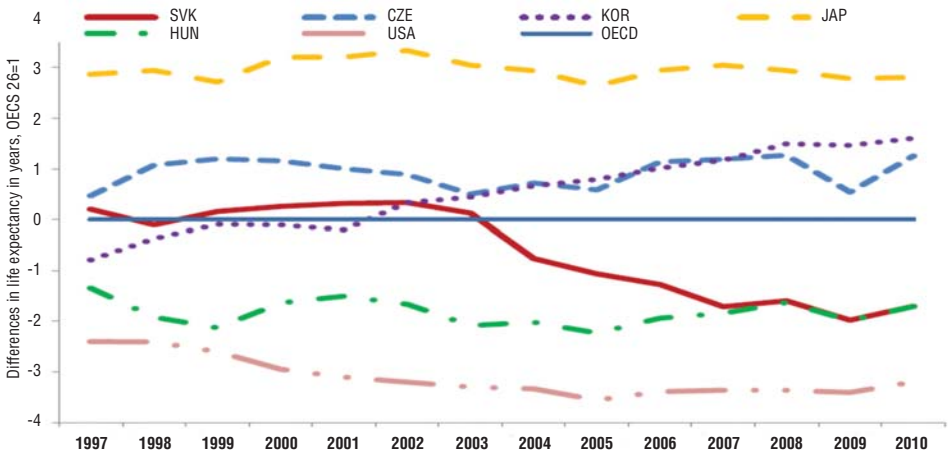
A study by the International Monetary Fund (Grigoli, 2012) looked into the technical efficiency of 37 OECD country health care systems in 2000–2004 and 2005–2008 using DEA methodology as a tool for comparison. According to this study, the Slovak health care system underperformed heavily during 2000–2004 and achieved an efficiency score of 0.4 (i.e. far below the calculated production frontier). This finding implied that Slovakia could have saved up to

60% of its financial resources if it operated at the same level of efficiency as the most efficient countries in the sample (i.e. Israel, Japan or Malta). The study concluded that in 2005–2008 performance worsened and room for improvement grew to 64% of the total health expenditure per capita. This translated into savings worth 3.4% of the Slovak GDP.

The technical efficiency of the system was further analysed by the Institute for Financial Policy (Filko, Mach & Zajíček, 2012). In December 2012 the Institute conducted an in-depth analysis of the effectiveness of the Slovak health care system by running an OLS model. The study modelled theoretical life expectancy of countries and compared it to actual results while considering the impact of wealth inequalities, alcohol consumption and the post-socialist history of countries on their respective life expectancies. These determinants were identified as having strong impacts on the life expectancy of OECD countries (see Fig. 7.11). From 2004 to 2007 its performance strongly deteriorated and stabilized at a lower level. Since 2011 the efficiency of Slovak health care is behind the Czech health care system by three years and the OECD average by two years. Slovakia had the largest recorded decline over this period.

Fig. 7.11

Effectiveness of Slovak health care compared to selected OECD countries



Source: Filko, Mach & Zajíček, 2012.

Study authors identified dividend pay-outs of private insurance companies, poor management of hospitals and pharmaceutical spending as key factors contributing to poor efficiency levels in Slovakia.

In 2013 the last study conducted on the technical efficiency of the Slovak health care system was undertaken by INEKO (Zachar, 2013). Their study included another parameter that influences performance of health care systems: the poverty rate (represented by, for example, the proportion of Roma population). It found that poverty had a significant impact on overall results.

The most recent 2016 Country Report on Slovakia by the European Commission reconfirmed that despite improvements, weak management of hospitals, a high number of unused acute beds, over-consumption of medicines and poor gatekeeping of the system were still key reasons for overutilization of services and insufficient system efficiency (European Commission 2016) (see Sections 4.1.2 and 5.6, and Table 7.7).

Table 7.7

Overview of selected health efficiency indicators as of 2013

	Expenditure on health (% of GDP)	Expenditure on health (US dollars per capita in PPP)	Hospital beds (per 1000 population)	Physicians (per 1000 population)	Doctor consultations (per capita)	Acute care bed occupancy rate %	Average length of stay in acute care (days)
Czech Republic	7.1	2 039	6.46	3.69	11.1	73.93	6.6
Hungary	7.4	1 719	7.04	3.21	11.7	69.2	5.17
Poland	6.4	1 530	6.58	2.24	7.1	n/a	6.7
Slovakia	**7.6**	**2 010**	**5.8**	**n/a**	**11**	**67.4**	**6.2**
Lowest in group	5.1 (Turkey)	941.2 (Turkey)	1.61 (Mexico)	2.17 (Korea)	2.6 (Finland)	67.4 (Slovakia)	3.8 (Turkey)
Highest in group	16.4 (USA)	8 713.3 (USA)	13.32 (Japan)	4.99 (Austria)	14.6 (Korea)	90.9 (Norway)	10.3 (Russian federation)

Sources: OECD, 2015b; WHO HFA, 2015.

7.5 Transparency and accountability

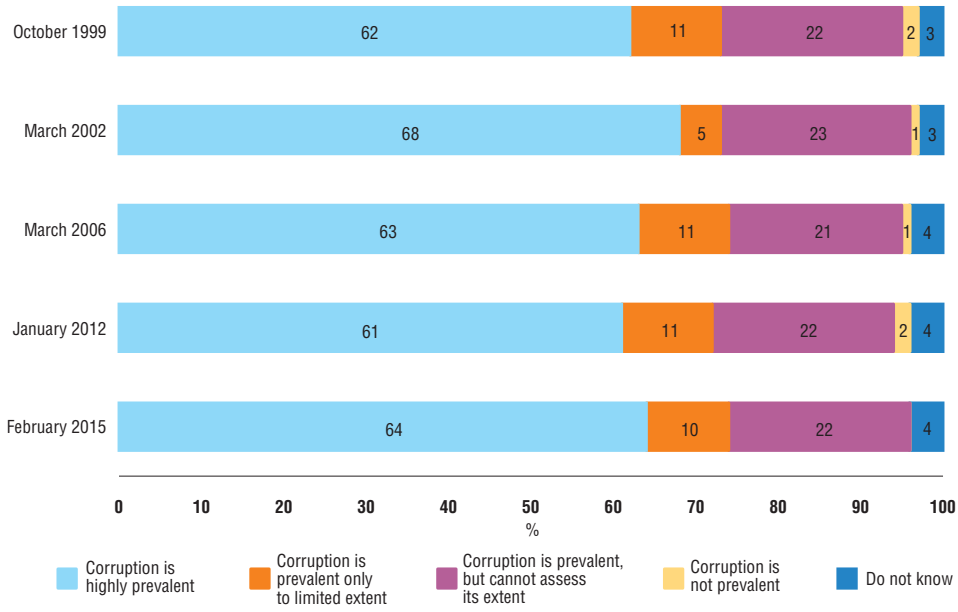
Transparency in the health care sector is one of the most important issues in Slovakia and was one of the key topics of the election campaigns in March 2016. However, the concept of transparency is limited to the procurement process of the public sector and less attention is paid to the process of policy-making.

There is low accountability in the health system because few outcomes are measured. The key document that sets system goals is the Strategic Framework for Health 2014–2030. However, since there is no comprehensive monitoring that would ensure up-to-date information about the impact of various policies on these goals, it has very limited impact on the accountability in the system.

The Slovak population regards corruption as the third most important issue (FOCUS, 2015). Corruption was preceded only by unemployment levels and standards of living. The health care sector was identified to be the area with the highest prevalence of corruption. In 2015, 64% of respondents believed that corruption in health care was very prevalent, compared to only 2% who believed that corruption in health care was non-existent. These values have remained fairly constant since 1999, which indicates that corruption in health care is a long-term unresolved problem (FOCUS, 2015).

Fig. 7.12

Extent of perceived corruption in the Slovak health care sector, 1999–2015



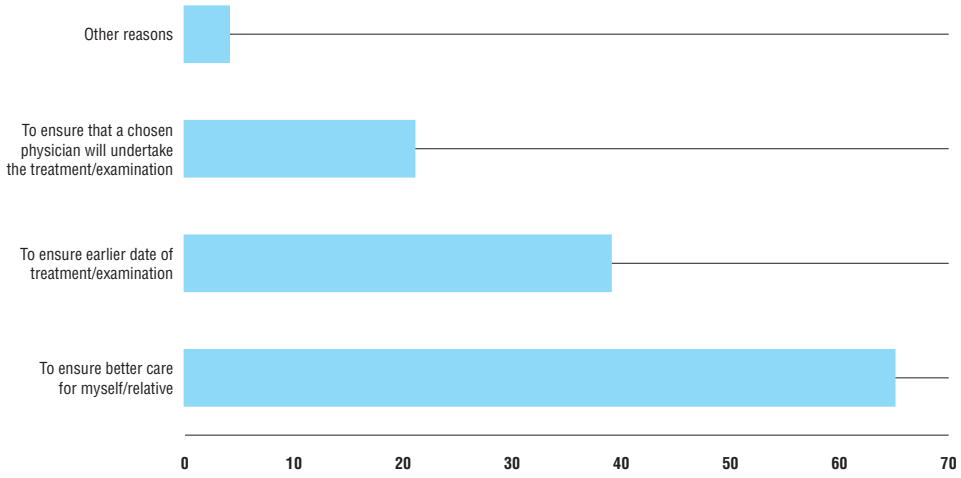
Source: FOCUS, 2015.

Presumably, there are two key reasons for this public perception: first, levels of informal payments, and second, inadequate competition in public procurement which often leads to higher spending and public scandals.

Nearly 22% of respondents confirmed that they made informal payments. The key reason was to ensure better care (FOCUS, 2015) (see Fig. 7.13). Of these payments, 43% amounted to 25 EUR, 17% to 26–50 EUR, 11% to 51–100 EUR and 12% more than 100 EUR. In 32% of these cases, the payment was provided to a GP, followed by to a general surgeon in 25% of cases.

Fig. 7.13

Why did you provide an informal payment? survey in Slovakia, 2015



Source: FOCUS, 2015.

A 2013 survey among 1181 respondents concluded that roughly 71% of interviewees provided an informal payment in any form (not only financial), whereas 18.5% encountered demanded corruption (i.e. a provider demanded informal payment). About 23.5% of respondents provided an informal payment to a doctor as a "gratitude gift" (see Table 7.8).

Table 7.8

Results of the survey of 1181 respondents

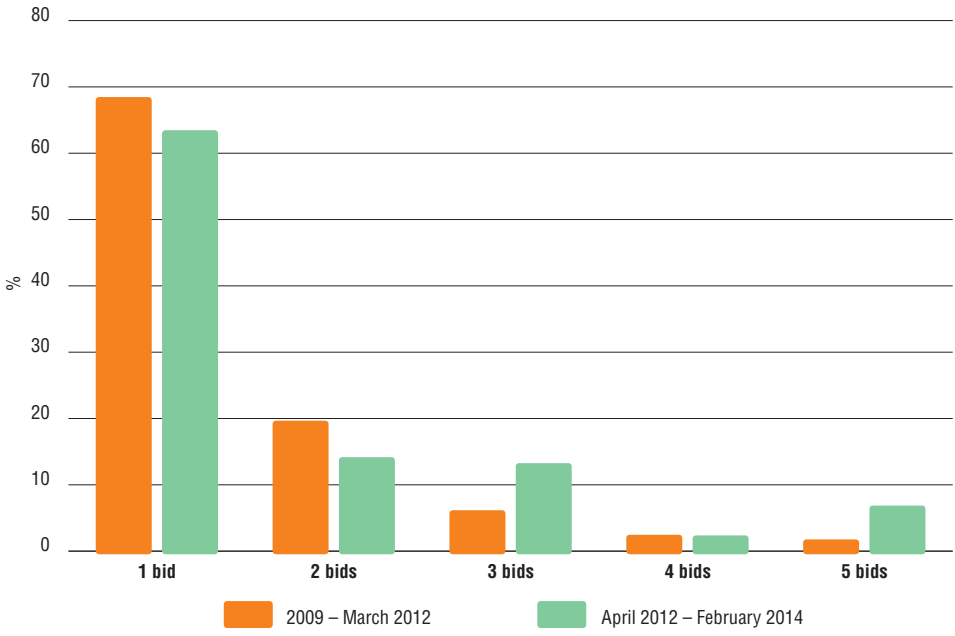
	No. of respondents	% of total respondents	% of respondents that gave any sort of payment
Never provided informal payment	338	28.6	
Provided informal payment	843	71.4	
demanded corruption	218	18.5	25.9
undemanded corruption	348	29.5	41.3
gratitude payment	277	23.5	32.9

Source: Mužík & Szalayová, 2013b.

According to INEKO and Transparency International Slovakia (2015), the second reason for poor perception of transparency of the Slovak health care system stems from the fact that 63% of procured volume (i.e. 331 million EUR during April 2012–February 2014) was based on single bidder procurements (see Fig. 7.14). In fact, an average weighted number of bidders in the health care sector was 1.9 for 2013 (5.7 below Slovak industry average) (Zachar & Dančíková, 2014). INEKO further calculated that if these one-bidder procurements had two bidders with at least some level of competition, hospitals could have saved 11.6% of resources devoted to one-bidder procurements (i.e. more than 34 million EUR).

Fig. 7.14

Proportion of tenders (based on tender volumes) in Slovakia, according to number of bidders for selected years



Source: Zachar & Dančíková, 2014.

These inadequate procurement procedures have led to cases where high prices were paid for procured items. This has led to regular media outcries that eventually forced the Minister of Health (2012–2014) to resign, along with several senior officers at the ministry and in hospitals. Corruption in the

health care sector has become one of the key election topics and is regarded as one of the reasons why SMER lost its majority in parliament after the March 2016 elections.

However, the accountability of the system remains insufficient. None of the individuals and companies associated with these cases was tried or found guilty. The new government, elected in March 2016, has pledged to focus on improving system accountability.

8. Conclusions

Several key health outcomes of the Slovak health system show a worrying deterioration or a persistent gap (i.e. life expectancy, mortality due to diseases of the circulatory system, patient satisfaction) when compared to neighbouring countries, especially the Czech Republic, and the EU-28 average. Geographical inequity of health outcomes poses a further challenge to Slovakia, and is likely to increase due to shortages of medical personnel due to ageing in rural areas. In the outpatient sector there is a high proportion of specialists and a lack of additional medical personnel. Inequity in the distribution of health providers results in lengthy travelling distances and waiting times for patients. However, communicable diseases are at a very low level and public health reforms have turned attention to the prevention of non-communicable diseases. Additionally, some risk factors, e.g. smoking prevalence, and some indicators for quality –compared to the V4 countries – are favourable for the Slovak health system. Lastly, patient rights and information systems need to be strengthened in order to empower patients in the health system. A lack of data-processing capacity and informed decision-making remain prevalent. Additionally, data show limited financial protection, especially for poorer income population cohorts and regionally dependent waiting lists for specific medical interventions.

After 2002 the structure of the Slovak health system was shaped by market liberalization with several strands of regulation. As of 2016, there are only three health insurance companies left that offer a broad basic benefits package to 5.5 million Slovak inhabitants. The HICs are key purchasers in the system and are allowed to contract service providers selectively and negotiate prices, volume and quality. More than ten years after the reform, health outcome and efficiency indicators reveal some weaknesses (e.g. limited enforcement), but also strengths (e.g. stable macro level financing). Moreover, key features of the reform remain a continued topic of heated debate and several modifications. For instance, user fees, albeit set at a very low level, were subject to several changes and additional amendments are expected in the future. Second, selective

contracting was at the core of the 2002 reform. However, later legislation on a compulsory network of hospitals that have to be contracted by each HIC is prone to conflicting interests at state level and this affects the contracting freedom of HICs. Third, political parties continue to be divided about the ownership of hospitals (public or private) and whether to allow profit-making. Taken together, it perhaps questions the political feasibility of the 2002 reform's key elements.

Hospital debt remains a point of concern. Providers are faced with a continuous bargaining situation on prices and volumes, resulting in a chronic underfinancing of hospitals (e.g. investment costs to modernize infrastructure). Although debt settlement was successfully implemented in the mid-2000s through a new agency for the consolidation of health care debts, accumulation of new debt was not prevented. The last settlements took place in 2009 and 2011. Although the situation is not as severe as in the early 2000s, another round of debt settlement will become necessary and a long-term solution is long overdue.

There is still considerable room for efficiency improvement in the Slovak health system. Gatekeeping remains weak, with a limited number of GPs. This leads to health care overutilization, evidenced by comparatively high outpatient contacts per patient per year. In inpatient care the low utilization rate of acute beds may reveal inefficient use of capacity. However, Slovakia made considerable efforts to contain its spending on pharmaceuticals (e.g. for centrally procured services or products), which serves as an example to other areas in the health system. Furthermore, the Ministry of Health revealed inefficiencies in the governance of the system, which also relates to the delegation of competences through the 2002 reform to market actors and a lack of meaningful data. As a consequence, the regulation and accountability of inpatient providers remain weak. For example, federal regulation towards a National Health Information System was not implemented. For now, it is up to HICs to shape eHealth policies, which brings the risk of further fragmentation within the health system. The Ministry of Health is hoping to address these issues in an updated strategic document for developing the Slovak health system.

In some aspects there is a strong will to improve the Slovak health system, e.g. the envisioned primary care reform would tackle many of the problematic aspects of care provision. On the other hand, health policy has been unstable and characterized by two rigid ideological positions. The lack of a political consensus (also in broader societal terms) resulted in oscillating and rather small changes of the initial comprehensive set of reforms (2002–2006), whereas some of the larger challenges facing the Slovak health system, e.g. those relating to efficiency and accountability, may not be adequately addressed. It remains to be seen whether planned reforms, some still conceptual or about to be implemented, will be successful in overcoming them.

9. Appendices

9.1 References

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9.2 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 most recent template is available online at: http://www.euro.who.int/en/home/projects/observatory/publications/health-system-profiles-hits/hit-template-2010.

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. With its summer 2013 edition, the Health for All database started to take account of the enlarged EU of 28 Member States.

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, complaints procedures, public participation 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 out-of-pocket payments, voluntary health insurance and how providers 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 information technology 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, dental care, complementary and alternative medicine, and health services for specific populations.
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 based on the stated objectives of the health system, financial protection and equity in financing; user experience and equity of access to health care; health outcomes, health service outcomes and quality of care; health system efficiency; 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, useful web sites and legislation.

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 (see the following section).
- 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.

9.3 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the series editors of the European Observatory. It is then sent for review to two independent academic experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health, or appropriate authority, and policy-makers within those bodies are restricted to checking for factual errors within the HiT.

9.4 About the authors

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