European Commission

State of Health in the EU
Companion Report 2019

Health and Food Safety

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State of Health in the EU

Companion Report 2019

ec.europa.eu/health/state

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Additional data can be found online (ec.europa.eu/health/state)

Foreword

Europe is a Union of and for citizens. What matters to Europeans matters to the EU. It should come as no surprise that regular surveys and debates across the continent consistently rank health among the top priorities for European citizens. They are right to expect a high level of protection and it is up to all of us – in all the European capitals – to deliver.

Today, Europe is the region of the world with the highest life expectancy. Yet this progress is slowing down, while inequalities between and within countries are widening. Citizens worry that the lives of their children will be more difficult than their own. The challenges facing our continent include climate change, an ageing population, health threats such as antimicrobial resistance, a persistent digital divide and a growing polarisation that undermines our evidence-based policies. Business as usual is not enough. The cost of inaction in health can be disastrous, in terms of both human lives and economic impact.

How can we act? It all starts with a credible evidence-based approach. This is exactly the objective of the *State of Health in the EU*. It is an infrastructure to make health system information, expertise and best practices easily accessible to policymakers and policy influencers. This has been one of my key goals during my mandate as Commissioner, in direct response to President Juncker's mission letter back in 2014. The European Commission has stepped up its collaboration with the Organisation for Economic Co-operation and Development (OECD) and the European Observatory on Health Systems and Policies. The fruits of this collaboration, the biennial Country Health Profiles, have become a staple of knowledge and information among the EU health policy community.

This Companion Report showcases some of the biggest trends in the transformation of our health systems. Firstly, I am glad to see that the efforts for more health promotion and disease prevention are yielding positive results. However, barriers include the misconceptions and scepticism that surround vaccination, as well as the difficulties in properly harnessing the digital transformation, which can result in winners and losers. Secondly, Member States are called to ensure citizens' timely access to affordable, preventive and curative health care of good quality, as reflected in the European Pillar of Social Rights. But how do we deliver on this promise? Do we have enough evidence to support universal access to care? Thirdly, we look at future-proofing our health systems. Here we not only put the spotlight on interesting examples of task shifting in the health workforce, but also on how to ensure the availability and affordability of medicines.

It is the ultimate aim of the *State of Health in the EU* cycle to support Member States in constantly improving the effectiveness, accessibility and resilience of their health systems. This robust country-specific and cross-EU knowledge now feeds into both national policymaking and EU level cooperation. Many Member States are using our voluntary exchanges to follow up on this new evidence base, discussing the findings and sharing best practices. I am very proud to have initiated the *State of Health in the EU* cycle and I hope that my successor will continue to draw upon it to deliver on her priorities – as I firmly believe that a credible evidence-based approach remains key to our policymaking in Europe.

Vytenis Andriukaitis
European Commissioner for Health and Food Safety

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Executive summary

The *State of Health in the EU* cycle was created in 2016 with a view to developing "expertise on performance assessments of health systems, […] to build up country-specific and cross-country knowledge which can inform policies at national and European level", including "the work of the European semester of economic policy coordination"[1].

The 2019 Companion Report draws five key conclusions from the 2019 Country Health Profiles prepared in the context of the *State of Health in the EU*

Distilled from the *State of Health in the EU* profiles available at *ec.europa. eu/health/state*, Part 1 of this Companion Report showcases a few important takeaways from the analysis that can improve the effectiveness, accessibility and resilience of health systems. Five key conclusions are drawn.

TACKLING THE DECLINE IN VACCINATION CONFIDENCE ACROSS THE EU

1 Vaccine hesitancy, a major public health threat all across Europe, can be tackled by improving health literacy and countering disinformation head-on, with health workers actively involved.

Following the 2018 Commission Communication on strengthened cooperation against vaccine preventable diseases and the 2018 Council Recommendation to strengthen the EU cooperation against vaccine-preventable diseases, Chapter 1 puts the spotlight on vaccine hesitancy. Vaccination, the most powerful and cost-effective prevention tool available to modern medicine, has become a victim of its own success. As the number of cases of vaccine-preventable diseases diminished greatly, the perception of risk also decreased and doubts have emerged about the need to vaccinate at all. It is imperative to understand the reasons for this drop in vaccine confidence, to target EU support effectively and with great urgency. Recent evidence suggests that there is scope to improve health literacy and counter disinformation, and that the health workforce can better employ its trusted role as information provider. Stepping up the fight against vaccine-preventable diseases will allow Member States to reach EU and international targets and, ultimately, improve the health security of all EU citizens.

HARNESSING THE DIGITAL TRANSFORMATION OF HEALTH PROMOTION & DISEASE PREVENTION

2 Digital transformation, as part of a broader, comprehensive health promotion and disease prevention strategy, requires targeted oversight and safeguards for its full potential to be harnessed.

Building on the 2018 Commission Communication on enabling the digital transformation of health and care in the Digital Single Market, Chapter 2 looks at its potential for health promotion and disease prevention. Digital solutions, such as apps, wearable technology and online fora, hold great potential for health promotion and disease prevention, with best practice examples emerging across the EU. These innovative approaches help raise awareness and empower citizens to take control over their healthy behaviour and lifestyle choices. Digital solutions should, however, always be seen as part of a broader, comprehensive health promotion and disease prevention strategy. A host of associated barriers and risks require consideration at European level, with a bearing on – inter alia – interoperability, privacy and reimbursement criteria. Policy efforts should also take into account digital health literacy, so that mHealth can be used appropriately and by all. Harnessing the potential of digital solutions for health promotion and disease prevention will depend on an openness to these innovative technologies combined with a critical understanding of their success factors.

[1] See the 2014 Mission Letter of President Juncker to Commissioner Andriukaitis.

STRENGTHENING THE EVIDENCE BASE ON ACCESS TO HEALTH CARE

3 Poor data quality risks complacency about health system accessibility, while evidence points to the many challenges when trying to ensure universal health coverage and finding the right care at the right time and in the right place.

While the principle that everyone has the right to timely access to affordable, preventive and curative health care of good quality has been included in the European Pillar of Social Rights, gaps in health care accessibility are still very much a reality in the EU. Chapter 3 argues that both the clinical needs and socioeconomic characteristics of patients need to be accounted for when measuring access to health care and its many barriers. Clinical and social vulnerability often coincide and trigger each other. Currently available cross-EU statistics fail to capture access problems from this comprehensive perspective. To drive more targeted responses to accessibility challenges, it is necessary to analyse differences in covered services and medical goods with a degree of granularity that does not overlook access problems as experienced by the individual. Further research could follow the perspective introduced in Chapter 3 by qualifying unmet needs for specific clinical and socioeconomic interactions, or by developing a common taxonomy of benefit baskets for a more comprehensive cross-EU comparison.

SHIFTING TASKS AND CHANGING THE SKILL MIX TO EXPLORE NEW WAYS OF PROVIDING CARE

4 Reallocating tasks among new and existing health workers contributes towards health system resilience, provided that traditional boundaries are overcome, and education and training are geared to the possibilities of skill mix innovations.

Picking up from the previous Companion Report's discussion on health workforce planning and forecasting, Chapter 4 highlights how skill mix innovations show great potential for health system resilience, often responding to staff shortages within the available resources. Promising examples of task shifting among health workers are found across the EU, particularly when it comes to enhancing the role of nurses and pharmacists. While evidence remains limited about the cost-effectiveness of such task shifting, its impacts in terms of patient satisfaction and clinical outcomes are widely reported to be positive. It is clear that task shifting should not be viewed in isolation but in the wider context of the health system. A change in roles will often have wide-ranging consequences, challenging traditional hierarchies and professional norms. Any such skill mix innovation should be accompanied by adequate education and training, as well as the active involvement of patient and professional organisations. The Commission supports Member States in testing and scaling up skill mix redistributions, while emphasising the power of mutual learning and exchange of best practices in this context.

BREAKING DOWN SILOS FOR SAFE, EFFECTIVE AND AFFORDABLE MEDICINES

5 The product life cycle of medicines reveals ample scope for Member State cooperation in ensuring safe, effective and affordable therapies, including everything from rational spending to responsible prescribing.

Complementing the assessment of wasteful spending on pharmaceuticals in *Health at a Glance: Europe 2018*, Chapter 5 looks across the pharmaceutical products life cycle – from "pre-launch" to "post-launch" activities – in search of opportunities for Member State cooperation and EU value added. This broad view enables a more comprehensive understanding of the relevant factors that influence the availability, affordability and access to medical technologies across Member States. Developing such an understanding is a necessary precondition for the development of policy instruments that have the potential to increase the resilience of national health systems. Among the most promising ways forward are: *(1)* building Member State capacity to appraise the value of medical technologies in a more comprehensive manner; *(2)* stepping up efforts to share experiences and pool expertise on pricing and procurement methods, to avoid potential negative effects on patients' access to medicines; *(3)* exploiting the potential savings to be reaped from generics and biosimilars; and *(4)* strengthening the focus on sound governance principles and the appropriate use of medicines in hospital settings.

Introduction

Improving information, expertise and the exchange of best practices

In 2014, President Jean-Claude Juncker asked the Health and Food Safety Commissioner Vytenis Andriukaitis to build up country-specific and cross-country knowledge of health systems to support national and regional health authorities in their work, and to explore opportunities for future cooperation across the EU. Following this request, the first *State of Health in the EU* cycle was conducted in 2016-18 and with the publication of the Country Health Profiles and this Companion Report the second cycle is coming to an end.

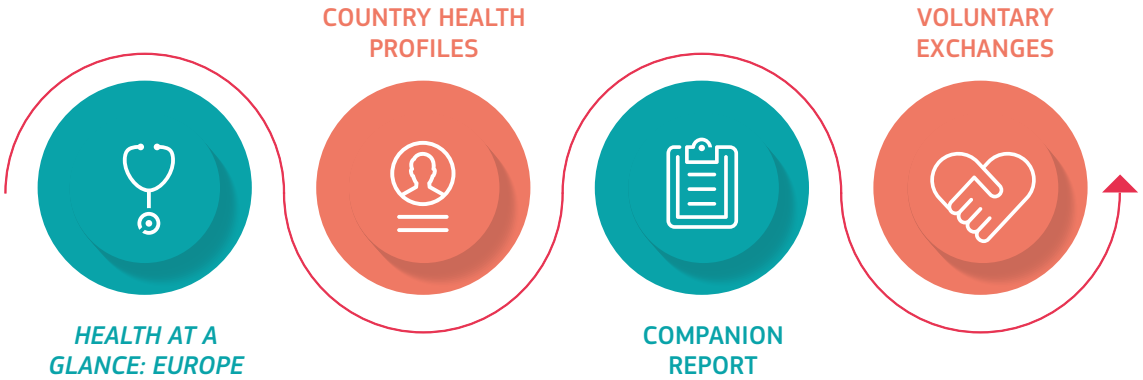
"The State of Health in the EU *makes health system information, expertise and best practices easily accessible to policymakers and policy influencers."*

The *State of Health in the EU* is an infrastructure to make health system information, expertise and best practices easily accessible to policymakers and policy influencers. It is steered by the Commission, but relies on the internationally renowned expertise of the OECD and the European Observatory on Health Systems and Policies (hereafter the Observatory). The cycle pools the latest evidence on health and captures it in a series of concise, digestible reports.

The joint OECD-Commission report *Health at a Glance: Europe* kicks off each two-year *State of Health in the EU* cycle with a horizontal, cross-country assessment of national health systems' performance in the EU. Its latest edition, *Health at a Glance: Europe 2018*, was published in November 2018 (see sidebar) and marked the launch of the second iteration of the *State of Health in the EU* cycle (2018-20).

The *State of Health in the EU* cycle supports Member States by strengthening the evidence base for the benefit of policymakers, stakeholders, researchers and other policy influencers, as well as the general public. In turn, the cycle provides the Commission with quality material to feed into the analytical phase of the European Semester, informing its Country Reports with sound cross-EU and country-specific insights.

Health at a Glance: Europe 2018, prepared by the OECD in cooperation with the Commission, is the quantitative starting point of the *State of Health in the EU* cycle, providing a horizontal assessment across all Member States. Besides a descriptive overview of key indicators on health status, risk factors, expenditure and system performance, the report's analysis focuses in two thematic chapters on promoting mental health in Europe and strategies to reduce wasteful spending.



The 2019 Country Health Profiles

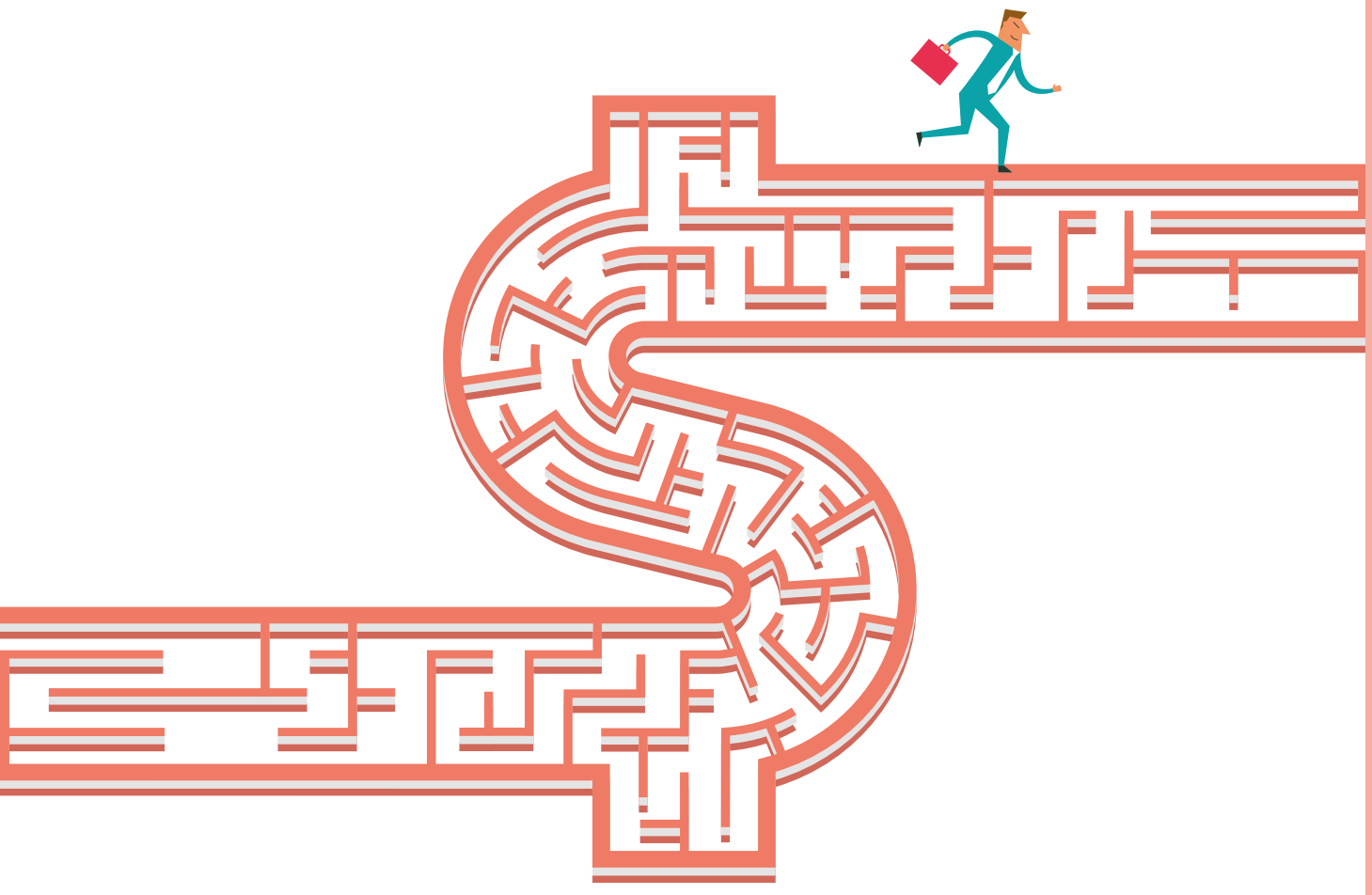
Experts from the OECD and the Observatory prepared a set of 30 Country Health Profiles, covering the 28 EU Member States, as well as Iceland and Norway (available at ec.europa.eu/health/state). The *State of Health in the EU's* Country Health Profiles are designed to be a one-stop-shop for knowledge and information on a country's health system, put into the perspective of a cross-EU comparison.

The Country Health Profiles are a comprehensive resource that covers the latest health policy challenges and responses in each country. The design of each profile balances depth and brevity to make the analysis accessible and useful to a broad audience. Although the profiles are built according to a standard template and methodology, each profile's structure has been adapted to country specificities, so as to maximise the relevance of each analysis. Since their first edition in 2017, the Country Health Profiles have become a staple of knowledge and information among the EU health policy community.

Each Country Health Profile provides a short synthesis of the health status in the country, the determinants of health (focussing on behavioural risk factors), an account of the organisation of the health system, as well as an analysis of each health system's effectiveness, accessibility and resilience. The latter follows the triple objectives set out in the 2014 Communication from the Commission to transform health systems across Europe and make them fit for the future.

"The Country Health Profiles have become a staple of knowledge and information among the EU health policy community."

While building on the success of the 2017 edition, the 2019 Country Health Profiles also feature a variety of new priority topics, ranging from vaccination to antimicrobial resistance (AMR) and from cancer prevention and care to eHealth. Combining a familiar, stable structure with the flexibility of adjusting to new political priorities allows the Country Health Profiles to remain relevant now and in the future.



The 2019 Companion Report

The Commission presents this Companion Report alongside the 2019 Country Health Profiles prepared by the OECD and the Observatory. This allows the Commission to shine a light on some horizontal observations – trends and bottlenecks that can be found in most, if not all, EU Member States. Inevitably this touches on demographic and technological changes, the shift towards primary care and prevention, and the burden put upon the health workforce. The *State of Health in the EU's* 2019 Companion Report showcases five pertinent cross-EU takeaways from the analysis underpinning the profiles (Part 1)[2], while also adding their country-specific key findings (Part 2).

Like all of the *State of Health in the EU* reports, Part 1 of this Companion Report is structured along the triple objectives of effectiveness, accessibility and resilience mentioned above. Here, the effectiveness dimension is solely geared towards health promotion and disease prevention, with the first two chapters focusing on vaccine hesitancy (Chapter 1) and digital transformation (Chapter 2).

With regard to accessibility, the Companion Report attempts to gain a clearer picture of the barriers that EU citizens experience across Europe to accessing health care, factoring in socio-economic characteristics as well as clinical profiles (Chapter 3). Lastly, to provide some insight into the resilience of EU health systems, the report deals with the topics of task shifting in health service delivery (Chapter 4) and examines the possible implications of the product life cycle of pharmaceuticals for safe, effective and affordable medicines (Chapter 5).

It goes without saying that the 2019 Companion Report, like its 2017 predecessor, is adjusted to the latest political priorities, supporting them with a factual overview of the evidence base. Examples of such priorities include combating the myths, misconceptions and scepticism that surround vaccination; eHealth and medical devices; and pharmaceutical policy and the supply of affordable medicines.

"The Companion Report is adjusted to the latest political priorities, supporting them with a factual overview of the evidence base."

[2] Besides the Country Health Profiles, the Companion Report also draws on other sources. These include, for instance, the 2018 Commission report "State of Vaccine Confidence in the EU" and the 2019 Eurobarometer survey on attitudes towards vaccination (Chapter 1), ad-hoc work from the Observatory on health coverage gaps (Chapter 3), and a recent opinion on task shifting from the Expert Panel on effective ways of investing in health (Chapter 4).

Voluntary exchanges

The fourth and final deliverable of the *State of Health in the EU* cycle consists of a series of voluntary exchanges operated by experts from the OECD and Observatory. Health Ministries can request these exchanges once the Country Health Profiles and the Companion Report are published.

The voluntary exchanges are technical meetings carefully tailored by experts from the OECD and the Observatory to the specific needs and preferences of each requesting Member State. The objective of the voluntary exchanges is the sharing of best practices and the process of mutual learning itself. This may be restricted to the further exploration of an issue raised by the evidence presented, or it could proactively mobilise support for tangible policy responses. For the Commission, the voluntary exchanges are a further opportunity to emphasise EU value added regarding specific topics and challenges, and to point to useful sources of technical support and funding that the Commission has at its disposal.

Under the guidance of the Commission, the OECD and Observatory organised seven voluntary exchanges over the course of the first *State of Health in the EU* cycle. These seven voluntary exchanges took place between May and September 2018 in Austria, Cyprus, Finland, Italy, the Netherlands, Poland and Sweden. Topics covered health workforce, health financing, health promotion and disease prevention, use of health data and integrated care.

For instance, when Cyprus started preparing and implementing their new National Health Service and public hospital reform, government officials learnt from practices from no fewer than nine other Member States which tackled similar reform processes. Finland used the opportunity to share experiences with experts from neighbouring countries to receive feedback on their new health system performance assessment framework. The voluntary exchange in Sweden focused on actions to strengthen health promotion and disease prevention, including experts from Belgium, France, Ireland and the United Kingdom.

In sum, with *Health at a Glance: Europe*, the Country Health Profiles, the Companion Report and the voluntary exchanges, the on-going *State of Health in the EU* cycle is in an ideal position to continuously improve information, expertise and exchange of best practices. This infrastructure for knowledge brokering is intended to support Member States in their evidence-based policymaking, sharing the ultimate aim for health systems to improve population health.

"The State of Health in the EU supports Member States in their evidence-based policymaking, sharing the ultimate aim for health systems to improve population health."

PART 1

Takeaways from the analysis

Effectiveness

A priority focus on health promotion and disease prevention

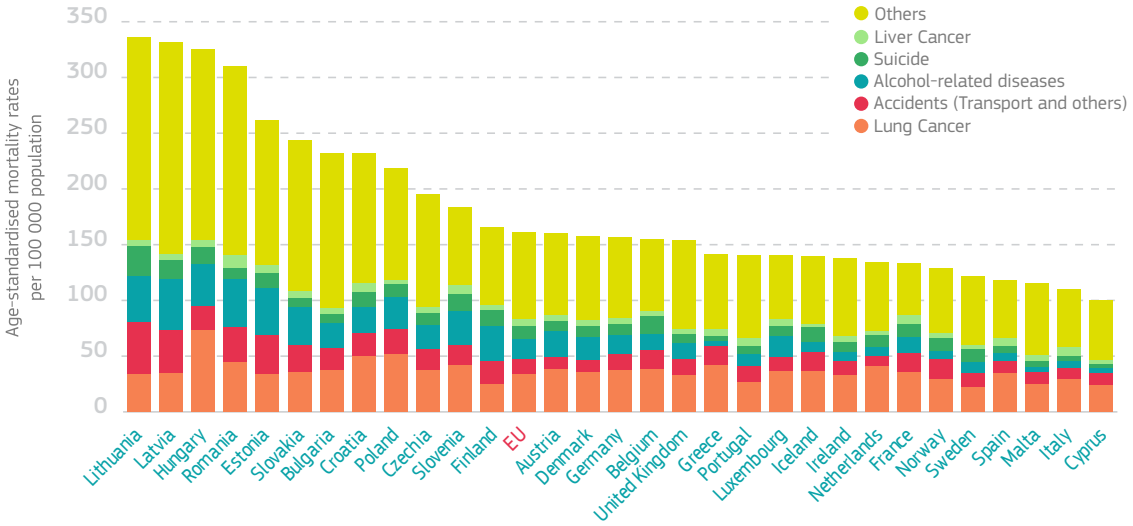
Effectiveness refers to the extent to which health services are able to achieve the desired results or outcomes at the patient or population level. These refer back to the ultimate aim of health systems to improve population health, but also comprise quality of care, patient safety and experience. Nowadays, an effective health system can shift care to its lowest point of complexity and highest level of sustainability. This entails a transition from the traditional hospital-centric approach to more community-based and integrated care structures, putting the focus on person-centred care, chronic disease management capacity and, crucially, on prevention measures.

One of the reasons for this shift lays in the increasing demand for health care due to population ageing and the subsequent rise in chronic disease burden of and multi-morbidity, all set against a backdrop of constrained public resources. The *State of Health in the EU's* 2017 Companion Report emphasised this shift in its key conclusions, putting the spotlight on prevention, primary care and integrated care. This year, the 2019 Companion Report reaffirms the priority of health promotion as the precondition for effective – and indeed resilient – health systems.

"The Companion Report reaffirms the priority of health promotion as the precondition for effective health systems."

Health promotion is the process of enabling people to increase control over, and to improve their health. It is an integral element of health systems, essential for helping them be efficient and fiscally sustainable, and for improving health outcomes[3]. For that reason, it is crucial to invest in health promotion; a message that has been underlined, for instance, as part of the Sustainable Development Goals[4], during the European Semester[5] and in the *State of Health in the EU's* 2019 Country Health Profiles.

Figure A. Preventable mortality is more than twice the EU avarage level in Hungary, Latvia and Lithuania



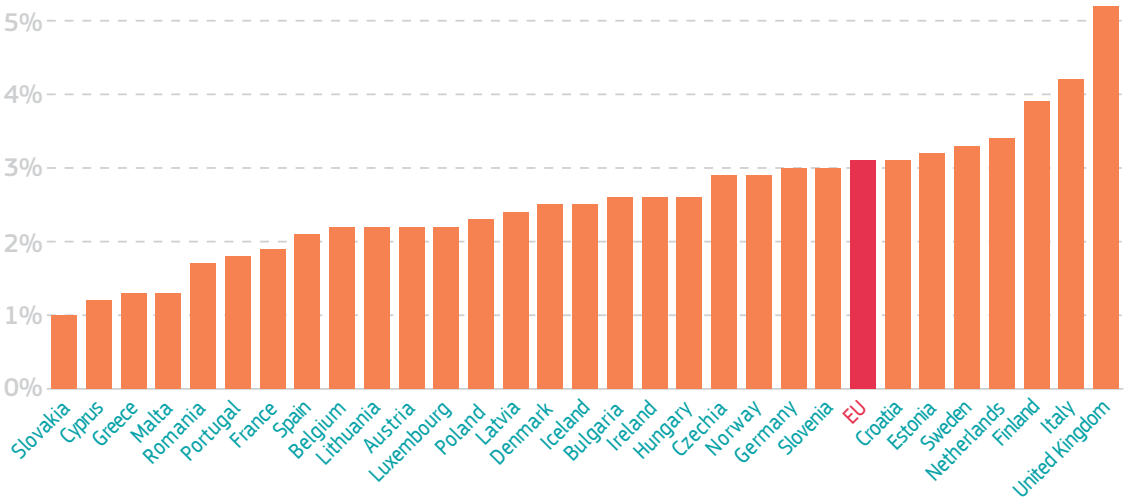
Source: Adapted from OECD/European Observatory on Health Systems and Policies (2019), Country Health Profiles 2019, State of Health in the EU (data refer to 2016).

[3] The Expert Panel on effective ways of investing in health has a forthcoming opinion on options to foster health promoting health systems.

[4] Goal 3 is to "ensure healthy lives and promote well-being for all at all ages".

[5] Setting the priorities for the European Semester, the 2019 Annual Growth Survey stated that, "[to] ensure fiscal sustainability and maintain universal access to quality health care, Member States need to increase cost-effectiveness by investing in innovation, improving the integration of health care at the primary, specialised outpatient and hospital care levels and strengthening links with social care to meet the needs of an ageing population. A greater focus on prevention is also warranted to underpin these efforts".

Figure B. Only 3% of spending is dovoted to prevention across the EU



Source: Adapted from OECD/European Observatory on Health Systems and Policies (2019), Country Health Profiles 2019, State of Health in the EU (data refer to 2017).

Disease prevention[6] is commonly defined as having three dimensions, including primary (promoting good health and intervening before diseases ensue, e.g. vaccination campaigns), secondary (screening efforts to detect diseases in the earliest stages before onset of signs and symptoms, e.g. mammography) and tertiary (managing disease after diagnosis to slow or stop disease progression, e.g. rehabilitation, chemotherapy).

A broad, comprehensive health promotion and disease prevention strategy takes into consideration the many risk factors and determinants of ill health, which hit already vulnerable groups disproportionally, often leading to cases of multiple and cumulative disadvantage. In other words, health inequalities are an important dimension of prevention and promotion; it remains an intrinsic objective for targeted strategies to tackle health inequalities and under no circumstance exacerbate them.

In the *State of Health in the EU's* profiles, a core indicator featured in every section on effectiveness is preventable mortality. Here, preventable mortality is defined as causes of death that can be potentially avoided through effective public health and primary prevention interventions (see Figure A). This includes mortality from vaccine-preventable diseases as well as from diseases associated to unhealthy lifestyle choices. Preventable mortality rates are about twice the EU average in Lithuania, Latvia and Hungary.

Another standard chart in all Country Health Profiles, as part of each section describing health systems, depicts current health expenditure broken down by health care function. Figure B summarises the share of total health spending dedicated to prevention in each country, which is just over 3% on average across the EU – and below 2% in Slovakia, Cyprus, Greece, Malta, Romania, Portugal and France.

The first two chapters of the 2019 Companion Report treat the topics of vaccination hesitancy and the digital transformation of prevention, respectively. Vaccination is the most powerful form of primary prevention available to protect against a large number of communicable diseases. However, coverage rates in the majority of Member States are decreasing for some important vaccination programmes, flagging the essential role of health literacy in the effectiveness of preventive measures (Chapter 1). Meanwhile, digital platforms and environments could become a new health promotion setting, requiring targeted oversight and safeguards, with a particular focus on stepping up digital health literacy (Chapter 2).

[6] Principle 16 of the European Pillar of Social Rights declares that "everyone has the right to timely access to affordable, preventive and curative health care of good quality".

CHAPTER 1.

Tackling the decline in vaccination confidence across the EU

Vaccination is an integral part of the health system

Vaccination is one of the most cost-effective public health interventions and among the greatest achievements of modern medicine. Vaccines offer a safe and reliable way to prevent many infectious diseases and, as such, contribute to reduced mortality, longer life expectancy, better quality of life, and lower medical costs. Diseases that were once widespread, leaving death and disability in their wake (particularly childhood diseases such as polio, measles and rubella) are now relatively rare, or in some cases (such as smallpox) have even been eradicated.

Today, more than 100 million children around the world are vaccinated every year against diseases such as diphtheria, tetanus, tuberculosis, polio, measles and hepatitis B. Vaccination has increased the chances for each child to reach adulthood and for vaccinated adults to maintain good health and wellbeing. It prevents an estimated 2.5 million deaths worldwide each year, reducing the demands on health systems and the costs of care.

"Vaccination prevents an estimated 2.5 million deaths each year, reducing the demands on health systems and the costs of care."

While Europe has been polio-free since 2002, 2 486 cases of acute hepatitis B were still reported in 2017, as well as 82 cases of tetanus, 7 of which were fatal. In recent years the EU/EEA has also experienced repeated outbreaks of measles, in countries such as France, Greece, Italy and Romania, and a concerning increase in the incidence of other vaccine-preventable diseases. According to a 2019 report of the European Centre for Disease Prevention and Control (ECDC), 40 074 cases of measles – an entirely preventable disease – were reported in EU/EEA countries in the past three years, causing 84 deaths[7].

The *State of Health in the EU's* 2019 Country Health Profiles document vaccination coverage in children (for diphtheria, tetanus, pertussis, measles and hepatitis B), as well as influenza vaccination among people aged 65 and over. Building on the profiles' assessment, this first chapter of the 2019 Companion Report examines the decline in vaccine confidence, which has been invoked as a culprit for reduced vaccine coverage across the EU.

Waning vaccine coverage

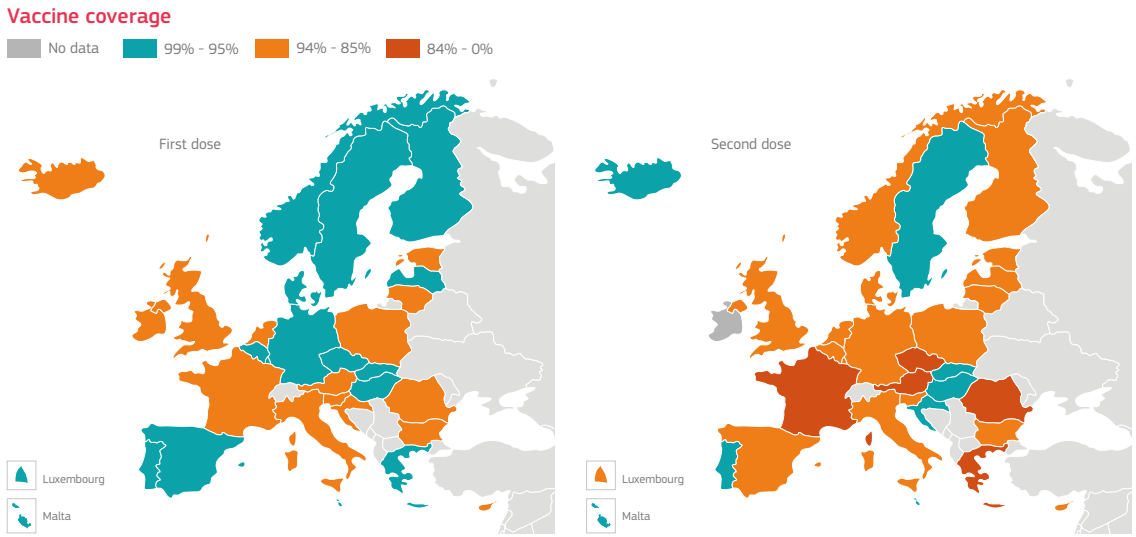
Much of the increase in the incidence of vaccine-preventable diseases can be attributed to the decline in vaccination coverage across Member States. In 2018, only five countries (Hungary, Portugal, Slovakia, Sweden and Malta) reported at least 95% childhood vaccination coverage rates for both doses of the measles, mumps and rubella (MMR) vaccine. Reaching this threshold is required to achieve herd immunity[8], which is necessary for Europe to attain the objective established by the WHO to eradicate measles by 2020. Comparing this to 2007, the 95% vaccination coverage threshold for both shots was obtained by a much higher number of 14 countries.

Looking at the two doses of the MMR vaccine separately, better coverage results are expected for the first shot of vaccination compared to follow-up vaccinations. Still, half of the EU Member States remain below the recommended 95% threshold for the first dose (Figure 1.1). In Greece, estimates for the take-up of the second dose falls to 83% of children, compared to 97% for the initial dose. In Czechia, the MMR coverage falls from 96% to 84% between the two shots.

[7] This concerns the period from 1 January 2016 to 31 March 2019. According to the 2019 conclusions of the European Regional Verification Commission for Measles and Rubella Elimination (RVC), the 2018 number of countries having achieved or sustained the elimination of measles declined since the previous year, going from 37 countries in the European Region of the WHO to 35, with 3 EU countries losing their measles elimination status (Czechia, Greece and the United Kingdom).

[8] Herd immunity is an important concept when it comes to vaccination. At least 95% vaccination coverage is needed to control and eliminate a disease and, crucially, to protect those individuals who cannot be vaccinated because they are, for instance, too young, too old or too sick. This means that vaccination is also a matter of solidarity, with individual decisions affecting the safety of the EU population as a whole.

Figure 1.1. Only five countries report at least 95% coverage for both doses of the MMR vaccine, with major drops between the first and second shots



Source: WHO-UNICEF estimates (data refer to 2018).

It is important to highlight that none of the 30 countries covered by the *State of Health in the EU's* 2019 Country Health Profiles reaches the WHO target of 75% for vaccination coverage for influenza among older people. The EU average coverage rate is just 43%. Moreover, in the last years several countries have been experiencing a dramatic decline:

- **Belgium: from 64% in 2004, to 58% in 2018.**
- **Ireland: from 64% in 2010, to 58% in 2017.**
- **Spain: from 65% in 2008, to 56% in 2017.**
- **Sweden: from 55% in 2010, to 49% in 2017.**
- **Bulgaria and Estonia: their coverage rates are the lowest in the EU with 2% and 5% in 2014 and 2017 respectively.**

Though often influenza vaccination is only recommended and paid out of pocket by patients, these factors have not changed and are therefore unlikely to explain the decline in coverage. As for other vaccines, waning coverage and growing hesitancy is likely to require specific, tailored responses in each country.

Country aggregated data are not sufficient to capture coverage issues. Vaccine coverage rates can vary across regions or minority groups. In Finland, for instance, about 95% of children aged one are vaccinated, but in some health centres the coverage rate is below 85%. Similarly, in Greece, a major measles outbreak in 2018 affected mostly unvaccinated Roma children. The low rate of vaccination coverage among Roma is even more evident in Romania, where the vaccination rates for diphtheria, tetanus, pertussis and measles are the lowest in Europe. Similar challenges with the Roma minority's immunisation rates are found in Bulgaria and Slovakia[9].

[9] As the ECDC emphasises in the 2019 report, equitable and convenient access to vaccination services to all populations must be guaranteed, because a high risk of continued widespread circulation will remain as long as significant immunity gaps exist. In this context, a particular focus should be driven on hard-to-reach populations.

The role of vaccine confidence

The decline in vaccination coverage is influenced by multiple factors, including complacency, convenience, and confidence. Complacency and convenience relate to the perceived risk of acquiring the disease, as well as the effort involved in accessing vaccination services[10]. Confidence relates to the perception of the safety and effectiveness of vaccines and the importance of the diseases that are to be prevented. Low confidence is driven by misconceptions about immunisation. Such misconceptions are often related to safety and side effects of vaccination, as well as the lack of awareness of the benefits that vaccination brings to individuals and the general population.

In some countries, the enforcement of vaccination coverage has led to above EU average immunisation coverage. Therefore, after the introduction of sanctions for non-compliant parents, some countries increased the immunisation coverage (Czechia, France, Hungary), but not others (Bulgaria, Italy). On the contrary, in Denmark, Latvia, and Norway vaccines are only recommended and the coverage rates for children are above the 95 %. But in other countries where vaccinations are voluntary (e.g. Estonia, Lithuania, Iceland), the coverage rates are not as high. In fact, in 11 years, in Estonia the vaccination rate for measles dropped from 96 % to 92 %, and it decreased from 95 % to 93 % for hepatitis B, diphtheria, tetanus, and pertussis. It is worth noticing that in Latvia, despite the high coverage rate for recommended childhood vaccinations, influenza vaccination coverage for people aged 65 and over was only 8 % in 2018.

Paradoxically, the decline in vaccination confidence may stem from the very success of vaccination policies in previous decades. As the incidence of vaccine-preventable diseases has diminished dramatically over the last decades, the perceived risk has also decreased, overlooking the fact that the current status quo is the direct result of proactive measures against vaccine-preventable diseases in the past. Meanwhile, concerns regarding alleged adverse effects of vaccines have increased, jointly with doubts about the need to vaccinate children, given the possibility of providing treatment instead should these diseases occur.

Vaccine hesitancy may also be fostered by a belief that a healthy lifestyle is incompatible with the introduction of foreign substances into the human body, and fuelled by the online spread of disinformation and other anti-vaccination propaganda[11]. There is, furthermore, a widespread misperception of vaccination as an individual choice with individual benefits, rather than a public health measure with societal benefits. Consequently, some targets to eliminate vaccine-preventable diseases now seem difficult to achieve.

"The WHO named vaccine disinformation as one of the top public health threats of 2019."

In reality, a medicinal product, including vaccines, can be authorised only if its benefits outweigh the risks. It takes 12 to 15 years to develop a vaccine and in the EU manufacturers have to renew the license every five years. Once placed on the market, vaccines continue to be monitored through so-called pharmacovigilance activities. The European Medicines Agency (EMA) continuously evaluates authorisation applications, reviews the clinical trial data and makes assessments based on scientific evidence.

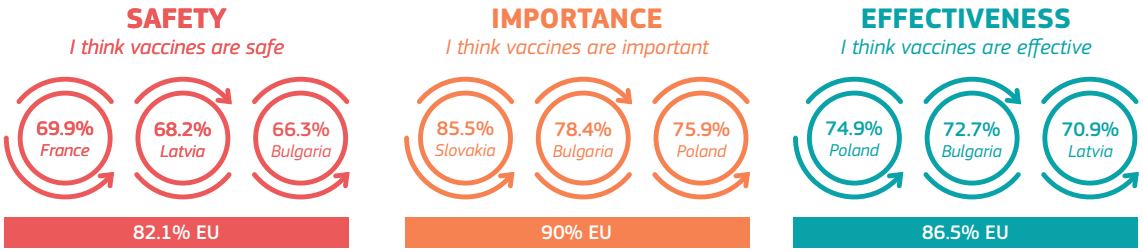
Nevertheless, the EU currently has some of the lowest rates of confidence in the safety and effectiveness of vaccines in the world, with vaccine hesitancy even affecting health workers[12]. The WHO has named vaccine disinformation as one of the top 10 public health threats of 2019.

[10] In Italy, for instance, regional differences in MMR vaccine coverage rates have been linked to spending on public health services.

[11] See also the 2018 Commission Communication "Tackling online disinformation: a European Approach". It has been suggested that such vaccine disinformation activities have political or financial purposes rather than genuine anti-vaccination purposes as such. See a 2019 editorial titled "Information wars: tackling the threat from disinformation on vaccines".

[12] The challenge is aggravated, especially in the case of the influenza vaccine, by contradictory guidelines and recommendations. Variation in vaccination policies, schedules, and recommendations among EU countries poses a further challenge to citizens moving between EU countries. A comparative overview can be found in the 2018 report "The organization and delivery of vaccination services in the European Union", which the European Observatory on Health Systems and Policies prepared on behalf of the Commission.

Figure 1.2. Beliefs about vaccination vary significantly between EU countries



Source: State of Vaccine Confidence in the EU: 2018.

A closer look at the evidence on vaccine hesitancy

In order to tackle the rising challenge of vaccine hesitancy, it is necessary to know the causes behind the decline in confidence. At EU level, two studies have recently collected information on this issue: the 2018 Commission report "State of Vaccine Confidence in the EU" and the 2019 Eurobarometer survey on attitudes towards vaccination. The vaccine confidence report identifies beliefs regarding vaccination and puts the EU in the global context. The Eurobarometer, in turn, compares knowledge, beliefs and behaviours, thereby exploring the best way for authorities to address these concerns[13].

The state of vaccine confidence in the EU

The 2018 State of Vaccine Confidence in the EU report focuses on measles and seasonal influenza vaccines. It shows that European citizens believe, in general, that vaccines are safe, but that older individuals with higher education are more confident than younger and less educated individuals. The level of vaccine confidence is not the same among all EU countries. Portugal, Denmark and Spain have higher levels of confidence on average, versus lower levels of confidence in Bulgaria, Latvia and France. Figure 1.2 illustrates some key statistics on perceived safety, importance and effectiveness.

"Vaccine confidence is high in Portugal, Denmark and Spain, but low in Bulgaria, Latvia and France."

These findings can be compared over time, revealing very different trends across the EU. Countries such as France, Greece, Italy and Slovenia show increasing levels of vaccine confidence compared to 2015 figures, whereas Czechia, Finland, Latvia, Poland and Sweden have declining rates.

While general practitioners (GPs) generally have higher levels of vaccine confidence than the public, a significant share of GPs – as high as 30% in some countries – do not agree that MMR vaccines are safe and about 20% do not believe that they are important. Moreover, the report found a correlation between the confidence among GPs and the confidence of the public at large, which is widely replicated by the Eurobarometer results.

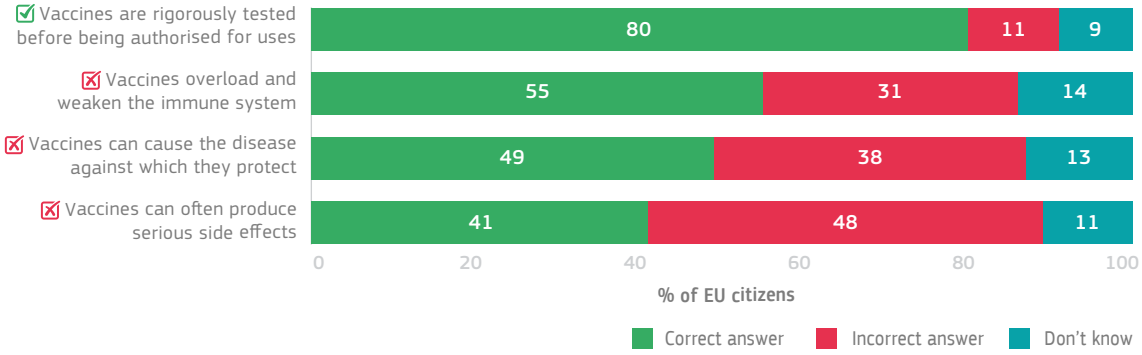
The Eurobarometer results on vaccine confidence

Nearly half of citizens across the EU (48%) believe – incorrectly – that vaccines often have serious side effects, and no less than 29% believe that vaccines are only important for children. Figure 1.3 illustrates this lack of vaccination knowledge with four key items. At the same time, however, a clear majority understands that vaccines can be effective to prevent diseases (85%) and that vaccines are important to protect others (88%), acknowledging the dimension of solidarity.

The 2019 Eurobarometer survey shows that knowledge and attitudes are not always linked. Some 45% of the adult population have been vaccinated in the last five years and 47% have a vaccination card. Thus, in spite of a worrying lack of knowledge about vaccination, many EU citizens have a positive attitude towards it and act accordingly. Alarmingly though, in 22% of cases the reason for not having received any vaccination in the last five years was that they were not offered by any health worker.

[13] Furthermore, a 2018 opinion by the EU Expert Panel on effective ways of investing in health examined how messages intended to support vaccination uptake can backfire among those who are already sceptical.

Figure 1.3. Serious vaccine disinformation is widespread across the EU



Source: Eurobarometer 2019.

Furthermore, the situation varies between EU countries. In all countries except Bulgaria (73%), at least three quarters of citizens express some level of agreement with the statement that vaccination of other people in society is important to protect those who cannot be vaccinated (87% when considering EU as a total). Respondents in Portugal (96%), Sweden (95%) and Finland (95%) display the best knowledge and solidarity in this respect.

Combining the four answers shown in Figure 1.3, a vaccination knowledge index is constructed[14]. Compared to a maximum score of four, the EU average scores 2.2 on vaccination knowledge (Figure 1.4).

Respondents that are most proficient in this particular dimension of health literacy are found in the Netherlands, Sweden and Denmark. Those that are least proficient in vaccination knowledge are Cyprus, Bulgaria and Latvia. Consequently, this sets a clear challenge for awareness raising and the spread of indisputable scientific evidence.

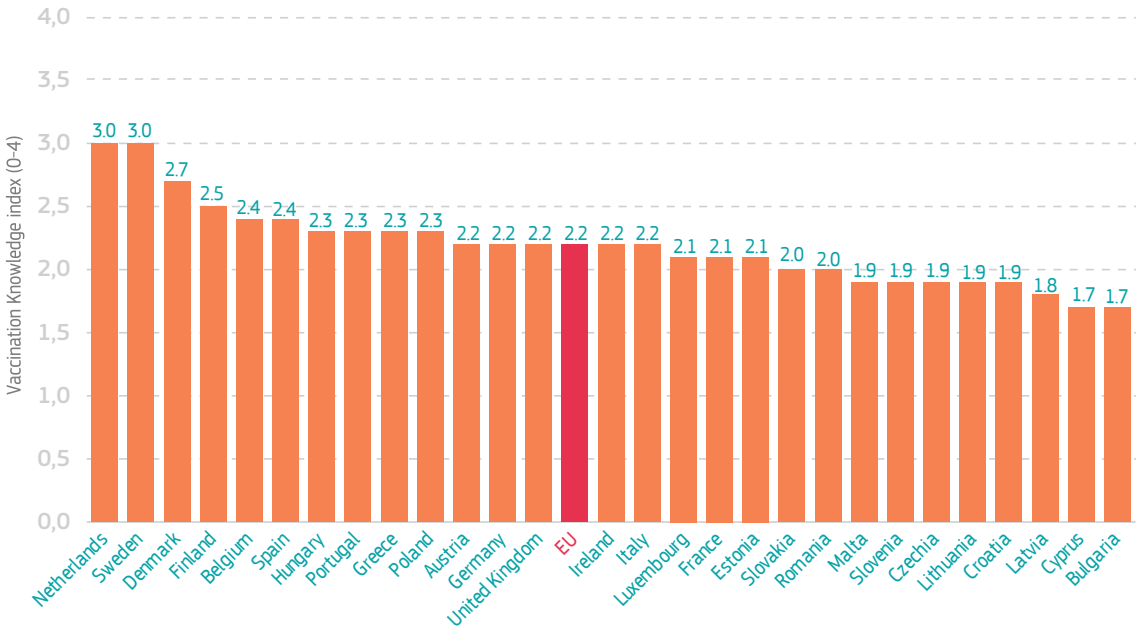
"Knowledge of vaccination is high in the Netherlands, Sweden and Denmark, but low in Cyprus, Bulgaria and Latvia."

After identifying decreasing vaccination rates for the human papilloma virus (HPV), which causes e.g. cervical cancer, the Danish Health Authority, the Danish Cancer Society and the Danish Medical Association launched the campaign "Stop HPV, Stop Cervical Cancer" in 2017. Its main aims are to inform parents about the recommendations on HPV vaccination, rebuild confidence in the vaccine and remind people that the risk of developing cervical cancer far outweighs the risk of adverse vaccine events. The campaign built a website with information on HPV vaccination, published articles in newspapers and lifestyle magazines throughout the country, and started a Facebook page to help answer parents' questions and share stories. The campaign had immediate effects: during 2017, twice as many young girls – nearly 31 000 – started the HPV vaccination programme compared to just over 15 000 in 2016. This figures increased another 20% in 2018.

[14] Out of four, answering three or four questions correctly is seen as "high knowledge", one or two correct answers as "medium knowledge" and failing all four questions as "low knowledge".

[15] Preconditions for an enhanced role of certain health workers are their education, training and Continuing Professional Development (CPD), but also an integrated, coordinated service delivery. These themes are picked up in Chapter 4 of this report, in the context of task shifting and other skill mix innovations.

Figure 1.4. Countries score very differently on a four-point vaccine knowledge index



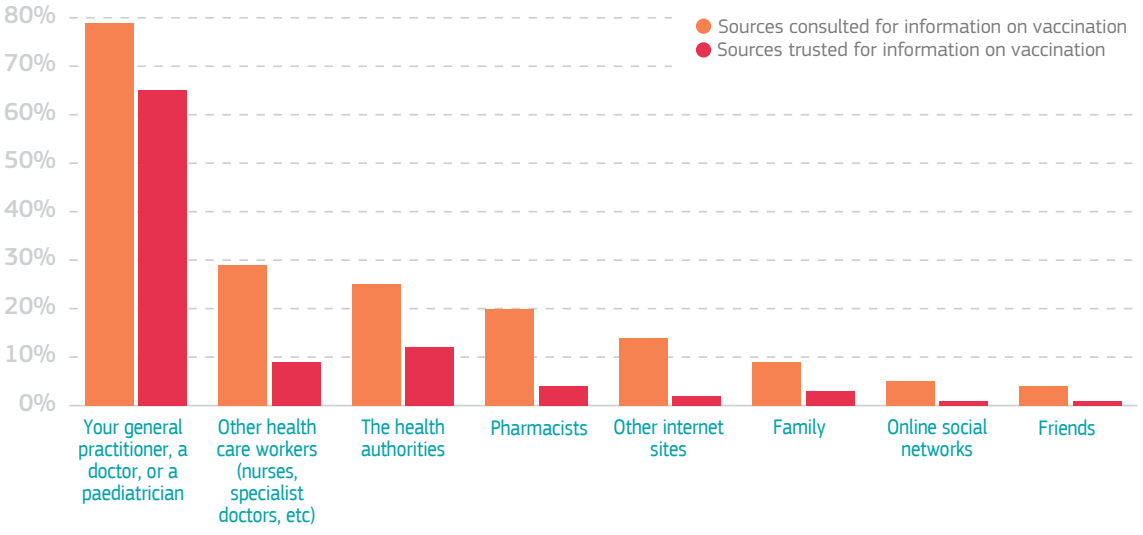
Source: Eurobarometer 2019.

The findings of Figure 1.4 vary considerably not just between countries but also within. High knowledge of vaccination (a score of three or above on this four-point scale) is more prevalent among certain groups. For instance, greater knowledge is reported among those with higher educational attainment (54%) than those with lower education (39%) and more common among managers (59%) than those in manual work or those who are unemployed (41%).

Figure 1.5, illustrates a potential avenue for improving vaccine knowledge and attitudes. EU citizens clearly trust health workers – particularly GPs and paediatricians – with providing information and advice on vaccination, and would consult them when there is a need. It is all the more concerning, then, that vaccine confidence among e.g. GPs is wanting. The health workforce has an unparalleled role in raising awareness and spreading the correct information[15].

"As a trusted source, the health workforce has an unparalleled role in raising awareness and spreading the correct information."

Figure 1.5. Health workers are trusted to provide information on vaccination



Source: Eurobarometer 2019.

EU value added in the effort to increase vaccination coverage

When it comes to vaccine coverage, the main responsibility of any public institution, including the Commission, is to raise awareness and disseminate scientifically-validated and trusted evidence[16]. The increasing number of cases of vaccine-preventable diseases must be considered a clear cross-border health threat. The fact that countries characterised by low virus circulation (in the case of measles, for example) share borders with countries with a high and sustained virus circulation threatens to substantially delay the elimination of such disease in the EU/EEA. It also poses a number of challenges to individual Member States to maintain their disease elimination status.

While vaccination policy lies within the competence of national authorities, the Commission provides support to Member States on vaccine policy and programmes and advice on best practice[17]. Thus, ensuring access to vaccination in all European countries is a particular priority for the Commission.

In 2018, following a Commission Communication on strengthened cooperation against vaccine preventable diseases, the Council adopted a Recommendation to strengthen the EU cooperation against vaccine-preventable diseases. This Recommendation focuses on three main pillars: *(1)* tackling vaccine hesitancy and improving vaccination coverage, through initiatives such as national vaccination plans; *(2)* creating sustainable vaccination policies in the EU; and *(3)* EU coordination and contribution to global health[18].

The Commission supports Member States as they ensure that new and existing vaccines meet the highest safety standards, that independent and transparent information on the safety and efficacy of vaccination is shared, and that research is carried out to look into innovative new technologies (see also Chapter 2). It plans to establish a European Vaccination Information System and a Vaccine and Vaccination Portal, with the support of the EMA and the ECDC, to provide online objective transparent and updated evidence on vaccines, their benefits and safety, including the pharmacovigilance process.

The Commission is also engaged in several other activities to improve national vaccination coverage by supporting Member States to coordinate schedules, provide scientific advice on introducing new vaccines or promote specific existing vaccines[19]. Most recently, the Global Vaccination Summit organised by the European Commission and the WHO in September 2019 identified ten actions towards vaccination for all, including tackling the root-causes of vaccine hesitancy, harnessing the power of digital technologies and empowering health care professionals.

IN A NUTSHELL

Following the 2018 Commission Communication on strengthened cooperation against vaccine preventable diseases and the 2018 Council Recommendation to strengthen the EU cooperation against vaccine-preventable diseases, Chapter 1 puts the spotlight on vaccine hesitancy. Vaccination, the most powerful and cost-effective prevention tool available to modern medicine, has become a victim of its own success. As the number of cases of vaccine-preventable diseases diminished greatly, the perception of risk also decreased and doubts have emerged about the need to vaccinate at all. It is imperative to understand the reasons for this drop in vaccine confidence, to target EU support effectively and with great urgency. Recent evidence suggests that there is scope to improve health literacy and counter disinformation, and that the health workforce can better employ its trusted role as information provider. Stepping up the fight against vaccine-preventable diseases will allow Member States to reach EU and international targets and, ultimately, improve the health security of all EU citizens.

[16] Given the worrying results cited above, the health workforce might require targeted awareness raising, particularly if tasks such as vaccination are shifted to health workers who lack the information and communication skills required (see Chapter 4).

[17] See also the 2018 opinion of the Expert Panel on effective ways of investing in health titled "Vaccination Programmes and Health Systems in the European Union".

[18] One of the initiatives included in the Council Recommendation is the creation of the Coalition of health workers for vaccination.

[19] Such activities include the Joint Action on vaccination, a three-year project to tackle vaccine hesitancy, vaccine supply and cross-border cooperation against vaccine-preventable diseases coordinated by the French Institute of Health and medical Research (INSERM) involving 23 countries, including 20 EU Member States.

CHAPTER 2.

Harnessing the digital transformation of health promotion and disease prevention

What the digital environment can do for health promotion and disease prevention

At its core, a health promotion strategy includes advocacy, enabling and mediation. It is therefore no surprise that digital tools, services and platforms have great potential when it comes to health promotion and disease prevention. Such digital solutions, be it apps, wearable technology or online fora, may empower people to enjoy a healthy lifestyle and prevent them from developing an illness[20]. Some mobile health (mHealth) tools even highlight early symptom or disease indicators, provide feedback to health workers and assist in patient adherence to treatment programmes.[21]

"Apps, wearable technology and online fora can all empower people to enjoy a healthy lifestyle and prevent them from developing an illness."

However, digital solutions may give rise to new or increased inequalities between people who do and who do not have the skills to harness their potential. Similarly, varying levels of national or regional support for the rollout of digital health solutions can have an impact on who is given the possibility to benefit from these tools, exacerbating inequalities. Employing digital solutions to strengthen health and well-being will require equal digital opportunities, widespread digital literacy, strong digital security and well-designed, effective tools, services and platforms[22].

Chapter 2 of the 2019 Companion Report focuses on the digital transformation of health promotion and disease prevention[23]. It will place on-going developments in their broader context of both the digital transformation of health systems and the "digital divide", illustrate the latest trends and examples from across the EU, and touch upon various barriers and risks encountered in the effort to harness digital technology for healthier environments, lifestyles and illness prevention.

Prevention and promotion in the broader context of health systems' digital transformation

Many policy initiatives at European and global level embrace the digital transformation of health promotion and disease prevention activities. At EU level, the 2017 mid-term review on the implementation of the Digital Single Market Strategy lists digital tools for citizen empowerment as one of the areas for further action. Council Conclusions from 2017 call on EU Member States to exchange experiences, transfer best practices and develop common approaches to support the uptake of mHealth solutions for better health promotion, disease prevention and chronic disease management[24].

The HORIZON2020 project "mHealth Hub in EU" aims to establish a European mHealth Knowledge and Innovations Hub. The Hub has two overall objectives: *(1)* to collect and disseminate research and experiences related to the large-scale implementation of mHealth programmes; and *(2)* to support Member States in setting up such programmes. The International Telecommunications Union (ITU) and the WHO coordinate this project, with a group of governmental, academic and private sector institutions from across Europe participating.

The 2018 Commission Communication on enabling the digital transformation of health and care in the Digital Single Market stresses that health information portals, smartphones and mHealth apps can empower citizens to take a more active role in looking after their health and changing their health behaviours. It also recognises that the uptake of digital solutions for health and care remains slow and varies greatly across Member States and regions[25].

[20] See the 2016 Shanghai Declaration on Promoting Health in the 2030 Agenda for Sustainable Development.

[21] These digital solutions also open up new intersectoral avenues to health determinants, such as transport, urban planning and the environment.

[22] See the 2019 OECD report "How's Life in the Digital Age? Opportunities and Risks of the Digital Transformation for People's Well-being".

[23] For the purposes of this chapter, digital transformation is defined as the use of digital technologies and data as well as their interconnection that result in new activities or in changes to existing ones (following a 2018 OECD definition).

[24] This chapter focuses solely on digital tools for health promotion and disease prevention, though it should be kept in mind that they have strong implications for chronic disease management as well.

[25] The Communication also stresses that, building on scientific information on risk factors, digital solutions can be used across all sectors, including in education, transport, and urban policies, to promote information and awareness campaigns on healthy lifestyles.

"Health information portals, smartphones and mHealth apps can help citizens to take a more active role in looking after their health and changing their health behaviours."

The WHO acknowledges that mHealth can improve access to health information, and promote positive changes in health behaviours to prevent the onset of acute and chronic diseases. The WHO sees the use of mHealth tools as a good opportunity for increasing awareness to bring about change on the key risk factors for non-communicable diseases and for increasing patient, family and community involvement[26].

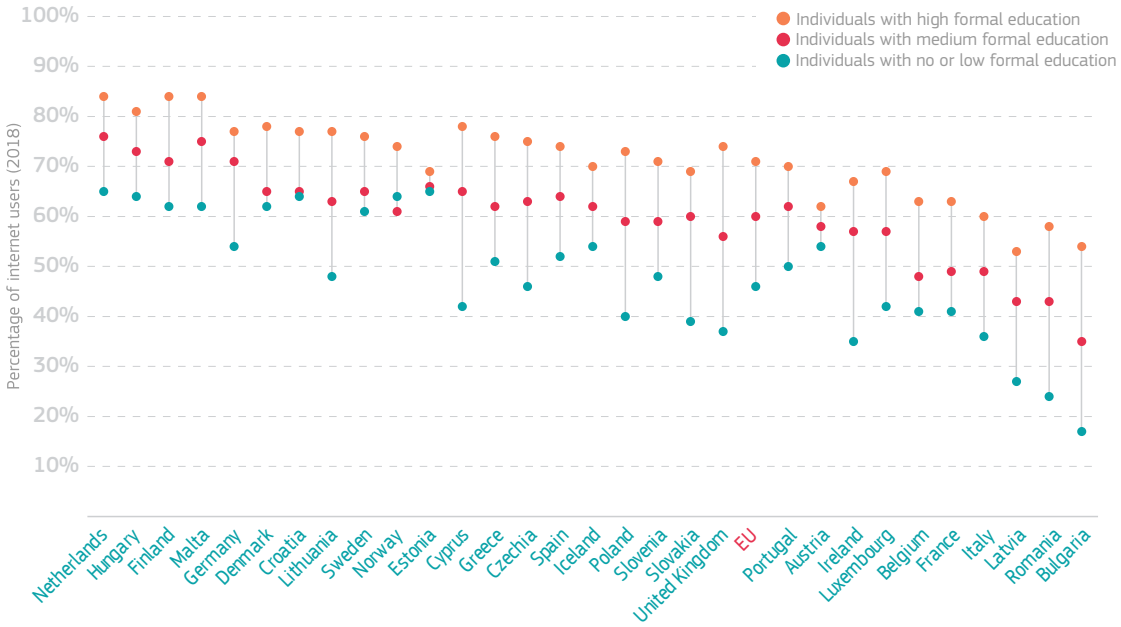
Healthy lives and the digital divide

The OECD-Commission report *Health at a Glance: Europe 2018*, which kicked off the second *State of Health in the EU* cycle, illustrated the percentage of people who sought health-related information online. Comparing 2008 and 2017 figures, the report found that this percentage has almost doubled, but that this positive trend hides a strong disparity between age groups and income quartiles.

Even among individuals who are active internet users, socioeconomic gaps in seeking health information online persist. Figure 2.1 illustrates a similar digital divide among internet users by education level, using the latest data from the 2019 Digital Economy and Society Index (DESI) report. In countries such as Bulgaria, Romania, Latvia and the United Kingdom, individuals with high formal education are two or more times as likely to seek health information online when compared to individuals with at most low formal education. While data quoted here refer only to internet usage for obtaining health information, similar disparities are likely in the use of digital solutions for health promotion and disease prevention. The risk is that digital tools such as apps, wearable technology and online fora are not benefitting those who need them most, potentially widening health inequalities[27].

The global medical network Education Against Tobacco (EAT) won the 2nd prize of the DG SANTE NGO Health Award in 2018. The EAT programme reaches some 50 000 10 to 15 year-old adolescents per year in EU and non-EU countries through face-to-face interventions and self-developed apps (i.e. the face-morphing app "Smokerface"). The latter are also broadly used by the public (over 500 000 downloads). Trained medical students lead the school-based intervention that is evaluated through long-term randomised trials to demonstrate its effectiveness. This involves 20 000 students in Germany. A study showed evidence of delaying or preventing the onset of smoking, especially among female students, students with a low level of education and students with a migrant background, but not for quitting smoking.

Figure 2.1. Seeking health information online varies strongly by education



Source: Eurostat database. Note: the indicator captures the seeking of health information among individuals who used the internet in the last three months. Countries are listed in descending order according to results for all internet users combined.

[26] In a Resolution on digital health, WHO member countries recognised the potential of digital technologies to advance the Sustainable Development Goals, in particular to support health promotion and disease prevention in national health systems.

[27] An active cooperation between health workers and patients will be essential in this, in particular in the case of the less digitally literate. This, in turn, will necessitate appropriate training of the health care workforce.

Figure 2.2. Digital health literacy should become a basis skill for all EU citizens

Source: Adapted from the IC-Health project under the Horizon 2020 research and innovation programme.

Health literacy is a critical social determinant of health. Although digital tools can help citizens improve their levels of health literacy, profiting from digital tools presupposes users' proficiency when it comes to specific digital competences[28]. Digital health literacy involves the interplay of individual and social factors when using digital technologies to search, acquire, comprehend, appraise, communicate and apply health information in all contexts of health care with the goal of maintaining or improving the quality of life throughout the lifespan (Figure 2.2).

"In Bulgaria, Romania, Latvia and the United Kingdom, those with high education are two or more times as likely to seek health information online than those with low education."

Disinformation and other adverse effects of digital solutions bear another important message for digital health literacy[29] The challenge for digital health literacy is not only to overcome the digital divide and making sure health inequalities are not exacerbated by digital solutions. It is also about using these digital solutions correctly and appropriately, making sure the digital transformation of health promotion and disease prevention, even when used by all, does not have any adverse effects.

The digital transformation of promoting good health: promising case studies

Digitally supported health promotion interventions can help people change their behaviour. One of the advantages is that these interventions can be tailored to the user, accessible on demand, providing feedback and ensuring a high availability at low cost. For instance, electronic games can help to improve knowledge and change attitudes, and the internet can function as an expertise hub for health promotion professionals, making evidence on best practices and methodological tools available[30].

The German Mobile Health App Database publishes apps after their assessment by two experts using the Mobile Application Rating Scale. The German version of this scale rates apps using the following dimensions: engagement, functionality, information, visual quality, subjective quality and app-specific quality. Visitors can search the database according to different criteria. Currently the database features 300 apps concerning anxiety, depression and sports and is used by health workers, health insurers and citizens/patients themselves.

[28] Developing relevant digital competences is one of the key priorities addressed in the Commission's Digital Education Action Plan, classifying digital skills as a basic skill alongside literacy and numeracy. The European Digital Competence Framework 2.0 identifies five components of digital competence: information and data literacy; communication and collaboration; digital content creation; safety, and problem solving.

[29] Disinformation is perhaps best illustrated by the rise of the "anti-vaxxers" movement. New and digital media have provided fertile ground for disseminating fears, resulting in increased vaccine hesitancy and decreased vaccination coverage. Tackling vaccine hesitancy is now a major public health challenge (see Chapter 1). See also the 2018 Commission Communication "Tackling online disinformation: a European Approach". As an example of other adverse effects, digital tools can help to curb alcohol use and support alcohol abstinence, but social media platforms can also exacerbate the perceived attractiveness of binge drinking, which potentially counter-balances the positive effects.

[30] The Commission's best practice portal is a case in point.

Across the EU, the most striking examples of mHealth for health promotion and disease prevention pertain to smoking cessation. The State of Health in the EU's 2019 Country Health Profiles cite such initiatives in various Member States. For instance, in Denmark, a mHealth programme is available for adult smokers (E-kvit) and another for young people (XHALE)[31]. In France, the Social Health Insurance and *Santé Publique France* launched the Tobacco Info Service app in 2015 to offer a personalised solution for smokers who want to stop or avoid relapsing[32]. There are also many examples from European countries where digital tools seem to be playing an important role as part of a broader health promotion campaign[33].

Meanwhile the body of evidence on the impact of digital tools on health promotion and disease prevention is growing steadily. However, more can be done to tackle barriers to accessibility, readability and overall usability for people with lower (digital) health literacy. There is potential for mHealth tools such as apps and wearables, but it can only be harnessed when targeted initiatives are aware of the digital divide and the risks of adverse effects.

"The potential for mHealth tools can only be harnessed when targeted initiatives are aware of the digital divide and the risks of adverse effects."

A new eHealth environment calling for targeted oversight and safeguards

The digital transformation of health promotion and disease prevention is proceeding at great speed, creating new challenges and questions not just about digital health literacy and health inequalities, but also with regard to issues such as privacy, data ownership, liability and safety. Everyday forms of wearable technology, including smart watches, may be linked to social network accounts and potentially share personal data automatically. But who may be collecting, storing, and analysing the information obtained and for what purpose? A 2019 study revealed that sharing of user data seems to have become routine: as much as 79% of sampled top-rated medicines-related apps were found to share user data with third parties.

"Privacy, data ownership, liability and safety all pose new challenges for the digital transformation of prevention and promotion."

For what purpose may this data mining take place? Will sensors worn on the body make it possible to detect cancer at an earlier stage, or will they result in companies increasing insurance rates for those diagnosed with cancer?[34] Sensitive information about a person's health condition must be protected under Article 9 of the GDPR. Nevertheless, a 2019 study found that 52% of public health service web pages in six EU member states contained commercial trackers.

Health innovation in general and the digital transformation in particular gave way to an increasing number of combination products and companion diagnostics[35]. The regulatory framework and the technical assessment tools used by health authorities should be ready to deal with this growing bundling and interaction of pharmaceuticals, medical devices and software. Software, including apps, qualifying as a medical device is regulated in the EU[36], whereas health-promoting or information apps would not fall under these current regulations as they would not bear an intended medical purpose.

Digital solutions discussed in this chapter are commonly promoted as efficiency-enhancing and cost-saving. Adaptable reimbursement systems are needed so digital health promotion is covered, presupposing more comprehensive insights into the quality and effectiveness of mHealth and other health promoting digital solutions[37]. More broadly, appropriate guidelines and assessment tools will also be essential to guide health authorities, health workers and citizens in choosing which digital tools or mHealth apps are trustworthy enough to promote or use. This will require cooperation between public authorities and other stakeholders committed to promoting shared or mutually recognised principles for validating and certifying digital solutions for adoption in health systems[38].

[31] Ireland's similarly named X-HALE is a smoking cessation campaign that won the Commission's NGO Health Award in 2018.

[32] The smoker receives personalised coaching and help to manage weight and stress with expert advice, and can watch videos on relaxation and positive visualisation via the app. A tobacco specialist can be contacted if needed. In 2017, the app was downloaded 110 000 times.

[33] An example of a holistic health promotion campaign featuring digital solutions is the Danish campaign to raise awareness about the human papilloma virus (see Chapter 1).

[34] See also a 2015 analysis from the European Parliamentary Research Service (EPRS).

[35] Combination products are products that combine medicinal products and/or biological products with medical devices. Companion diagnostics are products that are essential for the safe and effective use of a corresponding medicinal product.

[36] Regulation (EU) 2017/745 on Medical Devices and Regulation (EU) 2017/746 on In Vitro Diagnostic Medical Devices.

[37] In an EU-wide attempt to draft guidelines on assessing mHealth tools, the Working Group on mHealth assessment guidelines did not yet reach a consensus. However, assessment efforts are important as they may help service purchasers make informed reimbursement decisions.

[38] See the 2018 Commission Communication on enabling the digital transformation of health and care.

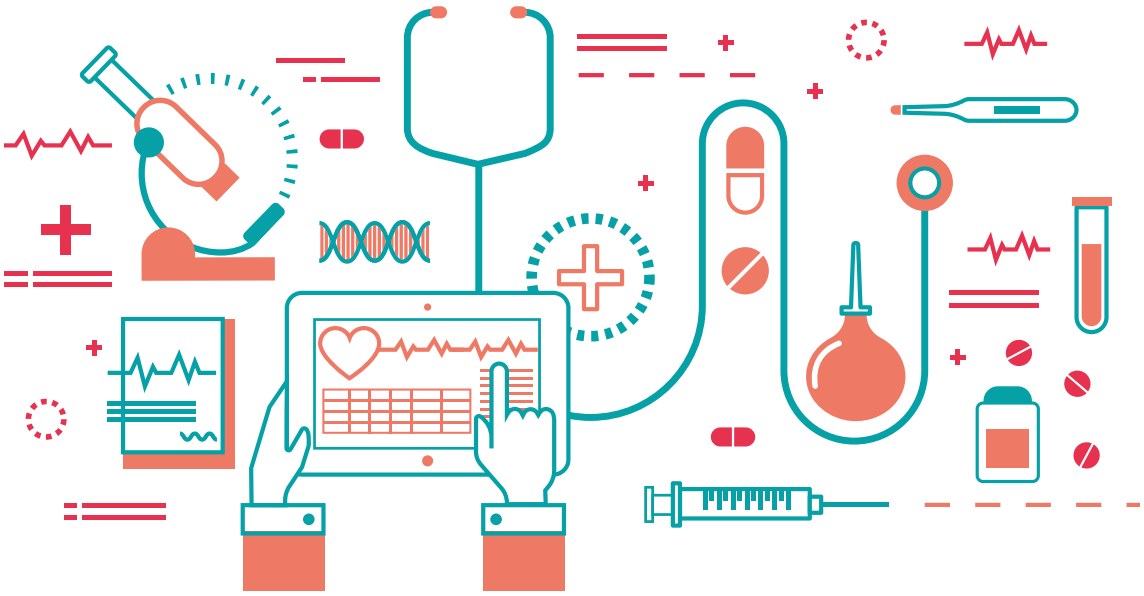
In order to harness the full potential of these digital solutions, additional challenges such as data interoperability, possible integration into personalised electronic health records, proper analysis of the data including the use of AI[39], data protection issues and liability questions need to be tackled[40]. Finally, health workers will need to receive appropriate guidance and training – including on how digital tools and the resulting data (e.g. from mHealth apps) can better be integrated into their health care practice as a tool for prevention and promotion among their patients[41].

"Health workers require appropriate training to better integrate digital tools and the resulting data into their health care practice."

In conclusion, the mHealth environment, comprising digital solutions such as apps, wearables and online fora, are becoming a new health promotion setting, akin to schools or the workplace, requiring targeted oversight and safeguards. Digital solutions should nevertheless always be seen as part of a broader, comprehensive health promotion and disease prevention strategy. Future-proofing such strategies means being open to innovation but mindful of its adverse effects and always seeking evidence of its impacts[42].

IN A NUTSHELL

Building on the 2018 Commission Communication on enabling the digital transformation of health and care in the Digital Single Market, Chapter 2 looks at its potential for health promotion and disease prevention. Digital solutions, such as apps, wearable technology and online fora, hold great potential for health promotion and disease prevention, with best practice examples emerging across the EU. These innovative approaches help raise awareness and empower citizens to take control over their healthy behaviour and lifestyle choices. Digital solutions should, however, always be seen as part of a broader, comprehensive health promotion and disease prevention strategy. A host of associated barriers and risks require consideration at European level, with a bearing on – inter alia – interoperability, privacy and reimbursement criteria. Policy efforts should also take into account digital health literacy, so that mHealth can be used appropriately and by all. Harnessing the potential of digital solutions for health promotion and disease prevention will depend on an openness to these innovative technologies combined with a critical understanding of their success factors.



[39] More and more mHealth applications are powered by artificial intelligence (AI), giving rise to challenges regarding data protection, liability or intellectual property.

[40] See also the 2019 Commission Recommendation on a European Electronic Health Record exchange format.

[41] Digital tools for health promotion and disease prevention also call for new health care professions, such as wearable technology therapists, health navigators, and big data analysts.

[42] See also the 2018 opinion of the Expert Panel on effective ways of investing in health on assessing the impact of the digital transformation of health services.

Accessibility

Understanding the challenges not captured by existing data

Emerging from the financial crisis, the Commission elaborated through the European Pillar of Social Rights a set of principles to stand up for the rights of EU citizens and safeguard social standards in a fast-changing world. One of these principles declares that everyone has the right to timely access to affordable, preventive and curative health care of good quality[43]. Access to health care services is monitored as part of the European Semester[44].

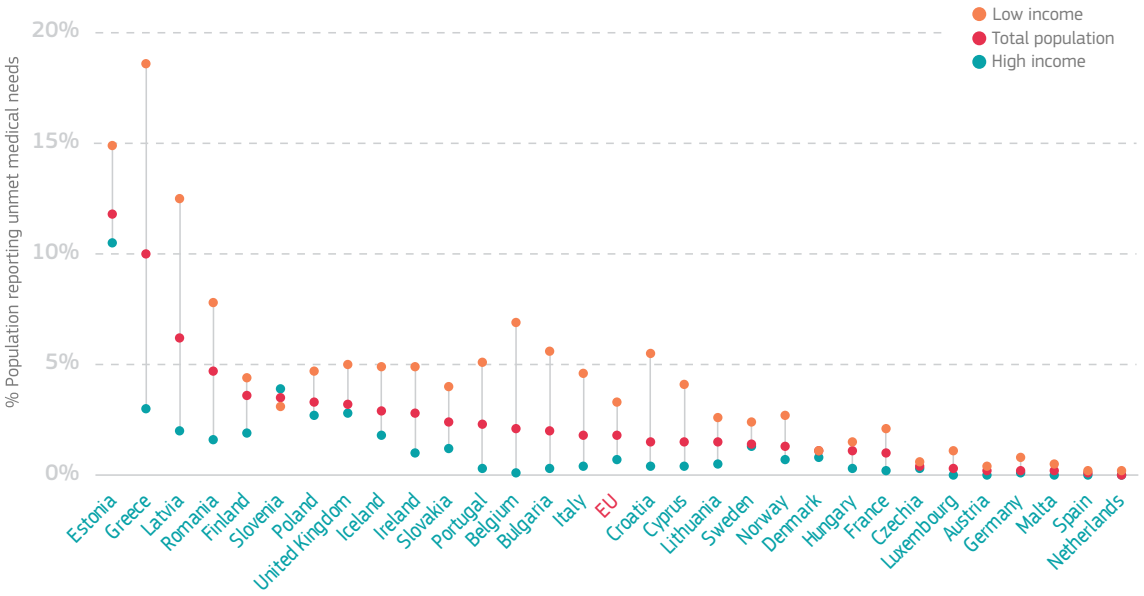
Accessibility is a vital, multi-dimensional aspect of health system performance. A number of theoretical frameworks have tried to capture these dimensions by highlighting the major barriers – both financial and non-financial – that could inhibit universal access to health services: population coverage, scope of services, level of coverage (cost-sharing), geographical factors, attitudinal barriers in seeking medical care, provider choice, organisational barriers, patients' preferences and socio-economic characteristics.

The 2014 Communication on effective, accessible and resilient health systems summarises the dimensions above into four main categories: *(1)* population coverage (who is entitled to health services?); *(2)* benefits package (scope of coverage, i.e. what services are people entitled to?); *(3)* affordability (cost sharing, i.e. levels of financial protection from out-of-pocket payments); and *(4)* availability of services (factors that impact on the effective delivery of care, i.e. distance, waiting time, choice, preferences)[45].

"Everyone has the right to timely access to affordable, preventive and curative health care of good quality".

In the *State of Health in the EU's* 2019 Country Health Profiles, two core indicators on accessibility are visualised with a chart for every country, capturing problems in access to health care with both subjective and objective measures. The first is a subjective measure that reveals unmet needs for medical care, be it because of cost,

Figure C. Unmet needs vary across countries and income groups



Source: Adapted from OECD/European Observatory on Health Systems and Policies (2019), Country Health Profiles 2019, State of Health in the EU (data refer to 2017).

[43] It builds on the right of access to health care that was already recognised in Article 35 of the EU Charter of Fundamental Rights, demonstrating the shared values of solidarity, universality and equity in health care. Access to health care is also strongly promoted on the global stage through the objective of universal health coverage that is part of the Sustainable Development Goals.

[44] During the European Semester's analytical phase, the vast majority of Member States are assessed according to their health system's accessibility. Furthermore, in 2019, six Member States received Country-Specific Recommendations (CSRs) to improve (equal) access to health care services (Bulgaria, Latvia, Romania, Slovenia, Cyprus and Finland). Bulgaria and Lithuania received specific CSRs on reducing out-of-pocket payments and making health care more affordable.

[45] Access to health care is also part of a 2018 Commission proposal for a Council Recommendation on access to social protection, which encourages actions to adapt systems of social protection to the changing world of work. Furthermore, access to health care is an aspect of the social Open Method of Coordination and Member States have agreed on a number of common indicators to measure progress in this field. These indicators on access could be further developed.

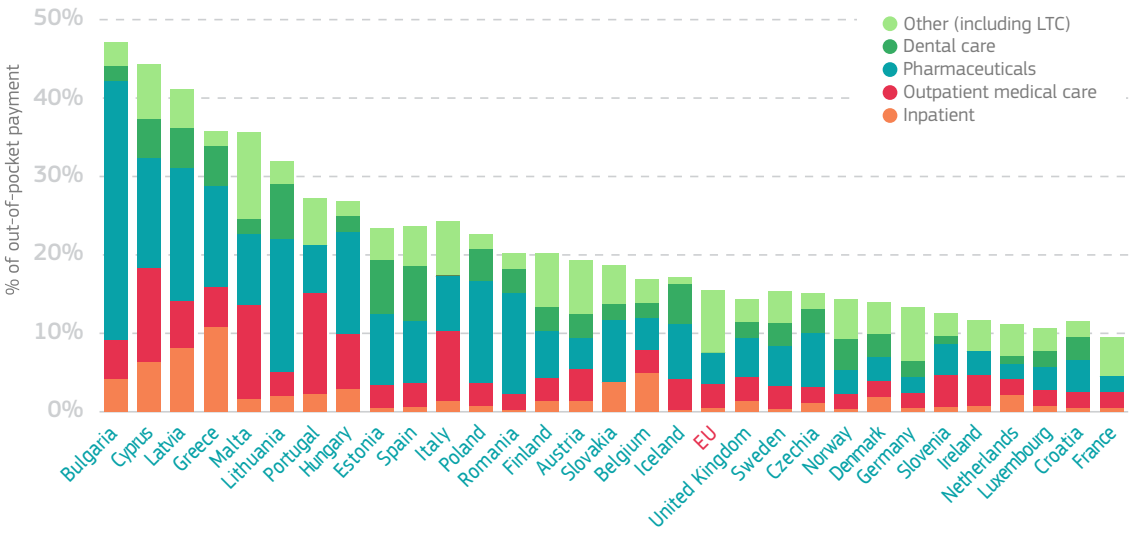
distance or waiting lists (Figure C)[46]. Across the EU, about 1.7% declare such self-reported forgone treatment, primarily for financial reasons.

There is significant cross-EU variation in both the country average level of unmet needs and the disparities by income level[47]. Yet of the fourteen EU Member States with a level of unmet needs above EU average, only half reveal costs as the most prominent reason. Waiting lists are the most pertinent cause for unmet medical needs in the remaining above-average EU Member States (Estonia, Finland, Slovenia, the United Kingdom, Poland, Ireland and Slovakia).

The second core indicator visualised in all the 2019 Country Health Profiles is a more objective measure that disaggregates each country's share of out-of-pocket (OOP) expenditure according to the type of services and goods that drive this kind of spending. Figure D compares this information cross-nationally. It reveals that the total share of OOP spending varies significantly across Europe (reaching more than twice the EU average in Bulgaria, Cyprus, Latvia, Greece, Malta and Lithuania). It also shows that OOP spending is driven by pharmaceutical expenditure as the largest single cost component in the vast majority of European countries[48].

However, neither core indicator gives insight into whether accessibility barriers are caused by gaps in population coverage, or whether some services and goods are excluded from (full) coverage or otherwise particularly difficult to access. Chapter 3 of this Companion Report builds on the health system accessibility assessment of the 2019 Country Health Profiles and attempts to gain a clearer picture of the individuals across Europe who genuinely experience barriers in access to health care, factoring in socio-economic characteristics as well as clinical profiles.

Figure D. Out-of-pocket payment varies, but is often driven by medicine spending



Source: Adapted from OECD/European Observatory on Health Systems and Policies (2019), Country Health Profiles 2019, State of Health in the EU (data refer to 2017). Note: Indicator captures how the out-of-pocket expenditure as a share of current expenditure on health is broken down by particular services and goods.

[46] The share of persons declaring an unmet need for medical examination is also a core indicator for accessibility in the "social scoreboard" underpinning the European Pillar of Social Rights.

[47] Unmet needs disproportionally affect also older people, women and the unemployed, though the precise composition of the worst affected groups varies across countries.

[48] Chapter 5 will pick up access to medicines as an important dimension of health system resilience, even if its challenge is equally pertinent for patient access to services and medical goods.

CHAPTER 3.

Strengthening the evidence-base on access to healthcare

No single country is genuinely exercising universal healthcare coverage

Gaps in access to health care are still very much a reality in the EU. The types of problems with accessibility and the extent to which EU citizens experience them vary enormously. However, standard data that are routinely used across the EU are not granular enough to capture the multi-dimensional character of the challenge. They do not reveal how differences in covered services and medical goods relate to socioeconomic characteristics or clinical needs. Nor do they capture the huge variation within and across Member States[49].

The *State of Health in the EU*'s 2019 Country Health Profiles highlight different causes and manifestations of coverage gaps across the EU. In some countries, such as Bulgaria and Cyprus, sizeable groups of the population are still excluded from coverage. Financial barriers and waiting times are the main reason for unmet medical needs in Europe.

Coverage according to age also varies. While Sweden and Slovenia do not show any coverage gaps due to age, older persons in Croatia and Greece or young persons in Denmark and Germany experience more unmet needs.

Gaps can also relate to specific diseases, disadvantages for patients with rare diseases in Austria, Estonia, Croatia, Latvia, Poland, Malta and the Netherlands, as well as children with mental health problems in Austria, Poland and Malta. Member states also face challenges in accessibility when it comes to non-medical care for cancer patients.

"Routinely collected data are not granular enough to capture gaps in health care accessibility."

This chapter looks at the specific limitations of currently available data in capturing health system accessibility problems, and explores avenues for complementing existing figures with additional information. The chapter is inspired by the analysis underpinning the *State of Health in the EU's* 2019 Country Health Profiles, in which accessibility is assessed though the share of unmet needs for medical care and out-of-pocket payments, complemented in some countries with other quantitative and qualitative evidence[50].

How do current data capture accessibility challenges across the EU?

Currently, the core indicators on unmet needs for medical care provide some insight into foregone treatment related to cost, travel distance or waiting times – a useful proxy for the affordability and availability of services. The data are, however, self-reported, which creates issues with their reliablity. A certain level of cultural bias[51] cannot be avoided when using self-reported data, while the sampled population might have an inaccurate understanding of their own health care needs and expectations. It is also likely that data samples do not adequately cover some vulnerable groups[52]. In sum, the generally low level of unmet needs revealed by this indicator should not give grounds for complacency.

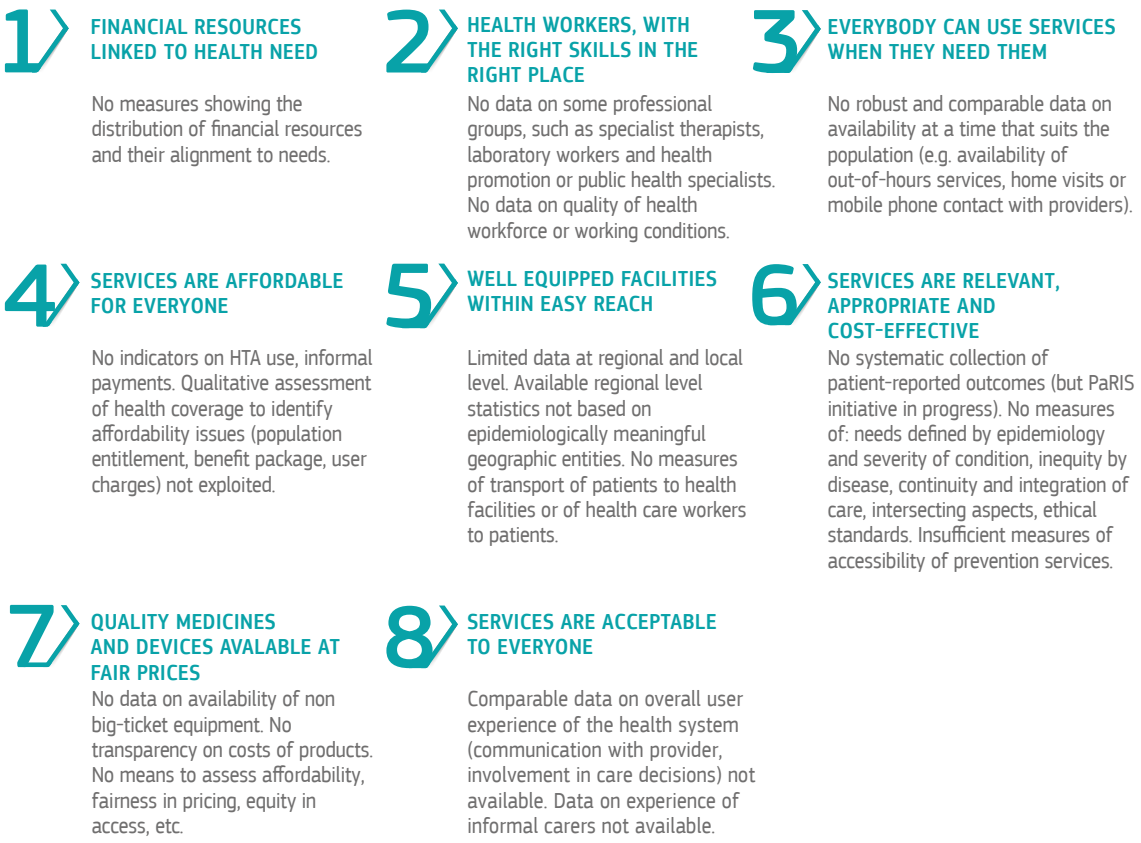
[49] As such, it remains difficult to measure comprehensively both objective and subjective accessibility hurdles in a relatively timely manner, to compare them over time and to disaggregate by sub-national levels and personal characteristics.

[50] The chapter also draws upon additional work carried out recently on behalf of the Commission, including work from the European Observatory on Health Systems and Policies done specifically for the *State of Health in the EU*'s 2019 Companion Report.

[51] In the conclusions of the EU-SILC conference in Helsinki in 2006, it was recommended that more attention needs to be paid to the quality of the translation of the EU-SILC questions. Cross-cultural differences in reporting styles, such as the tendency to select the extreme points of the response scale, or differences in meaning of the translated words are among the problems.

[52] Examples are the homeless, undocumented migrants or people living in social care or residential care institutions.

Figure 3.1. An overview of accessibility sub-dimensions currently non captured by quantitative comparative indicators



Source: Adapted from the 2016 opinion of the Expert Panel on effective ways of investing in health and the 2018 report "Towards a fairer and more effective measurement of access to healthcare across the EU".

To build upon existing information, data on the utilisation of health care services can be used as an additional source to interpret findings on unmet needs. These indicators provide useful information; however, there are limitations in the extent to which they capture the use of health care within sub-national or individual contexts. There is, moreover, no consensus when trying to determine what constitutes the underuse or optimal use of health services. A key challenge persists in understanding the links and discrepancies between use of health care services[53] and health service needs.

Another complementary source of data on affordability is the 2017 ad-hoc module of the EU statistics on income, social inclusion and living conditions (EU-SILC). The one-off module showed that 4.2% of Europeans experience great difficulty in affording health care services (compared to 8.4% with moderate difficulties and 16.2% with some difficulties). Particularly pronounced difficulties are experienced in Greece, Cyprus, Ireland, Bulgaria, Latvia and Hungary.

Figure 3.1 summarises some key findings of the 2016 opinion of the Expert Panel on effective ways of investing in health and a 2018 report on behalf of the Commission, showcasing the gaps in our knowledge when it comes to eight interlinked areas. Such gaps could be filled by new indicators on, for instance, the level of informal payments, depth of basic coverage, communication and interpersonal skills of health care personnel, care coordination, stigma or discrimination, health literacy and access to prevention services.

"New indicators are needed to capture things such as the level of informal payments, care coordination, health literacy and access to prevention services."

[53] This has implications for health system efficiency. Insofar as the use of services is not based on needs, any health system objective to obtain the greatest results from available resources cannot be fully achieved.

A closer look at entitlements, benefits baskets and co-payment

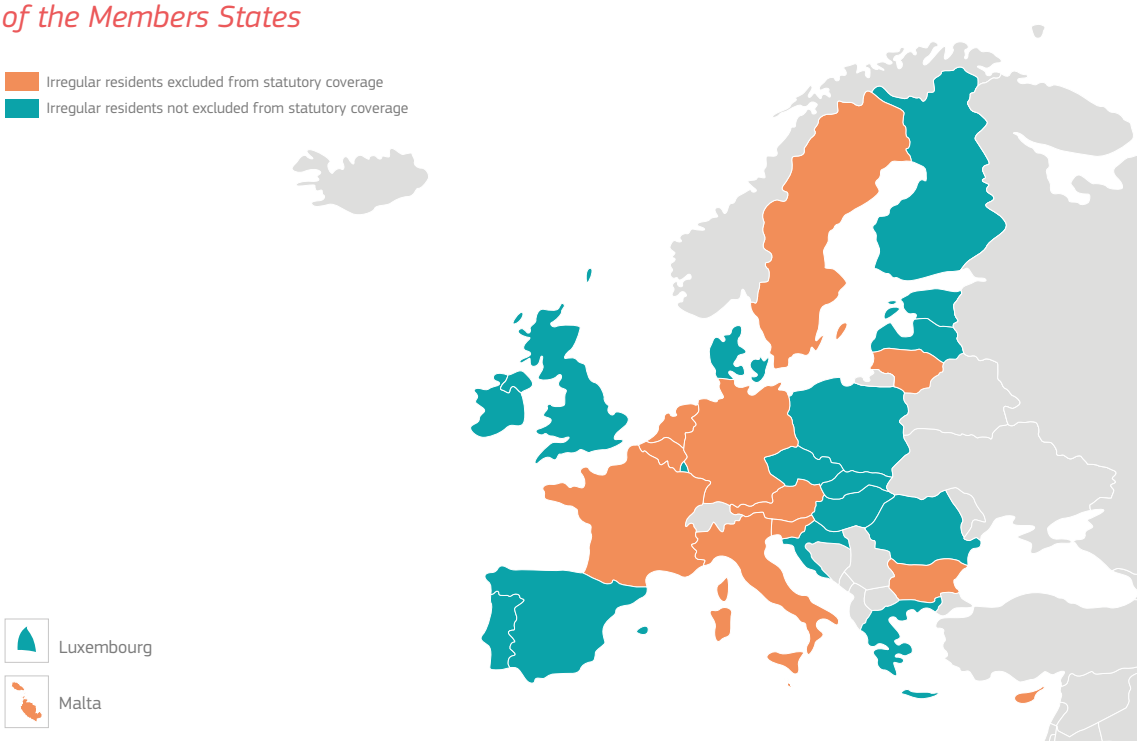
The share of the population entitled to publicly financed health services in Europe is high. Although entitlement is increasingly based on residence, there are still many Member States where access to health care is conditional upon employment status or citizenship[54]. Irregular residents are most frequently excluded from normal statutory coverage (Figure 3.2), followed by asylum seekers (Belgium, Estonia, Germany, Sweden)[55] and homeless people (Bulgaria, Slovenia, Romania)[56]. Roma populations may be excluded from coverage, especially in case of non-compliance with administrative requirements, such as a lack of residence documents.

In systems that base coverage on employment status, some groups – despite being in employment – do not have access to the statutory health insurance. The self-employed generally have statutory access to health care, which cover certain services, and often rely on private insurance. However, the uptake of private insurance among the self-employed is limited, which may be linked to affordability of insurance premiums. Furthermore, people in some "new" forms of work may face challenges in accessing health care[57].

Benefit packages are relatively comprehensive across Member States, though there is some cross-national variation. Several Member States tend to have similar exceptions to their benefit packages. The most frequent exceptions are shown in Figure 3.3, and include dental care, physiotherapy, eye treatments and mental care. It is also likely that some exceptions create gaps in access to expensive or experimental treatments.

Other services and treatments left out of standard benefit packages include: therapeutic and hearing aids, dietary supplements, over-the-counter drugs, non-compulsory vaccinations, dental appliances, cosmetic surgery, home

Figure 3.2. Irregular residents are excluded from normal statutory coverage in a third of the Members States



Source: Adapted from European Observatory on Health Systems and Policies (2019), Gaps in coverage and access in the European Union (based on the individual assessments of country correspondents). Note: The indicator covers normal statutory coverage only. Several countries have set up special schemes or mechanisms with separate funding and/or provision to guarantee access to care, even if often restricted to emergency care or urgent medical aid. In France, a fully state-funded scheme is in place that provides access to a standard benefit package for irregular residents (Aide Médicale d'État).

[54] Assessing the impact of insurance coverage is complex as health effects can vary according to the benefits design. A 2018 OECD working paper proposes a methodology for assessing access by looking at critical elements of the coverage design and their relative importance.

[55] In Belgium and Estonia, however, special mechanisms are in place to ensure access to care for asylum seekers with separate funding and/or provision. In Sweden, each county council offers asylum seekers care and dental care that cannot wait; maternal care; abortion care; advisory contraceptive services; medicines prescribed in connection with the above care; and health examination.

[56] In Slovenia, however, homeless people can register for permanent residence at specific institutions and, as a result, become eligible for compulsory health insurance.

[57] Voluntary health insurance cannot be the sole financing mechanism to mitigate gaps in coverage of people working in new forms of work. While it can provide more choice and faster access, it may favour better off people and be based on adverse selection, a growing concern as genome-based analytics and big data may boost the predictive value of health risk prognostics.

nursing, speech therapy, rehabilitation programmes for alcoholics and drug addicts, and accidents related to extreme sports. Consequently, the gaps in service coverage can lead to unmet needs for disadvantaged groups and financial hardship among people from all income groups.

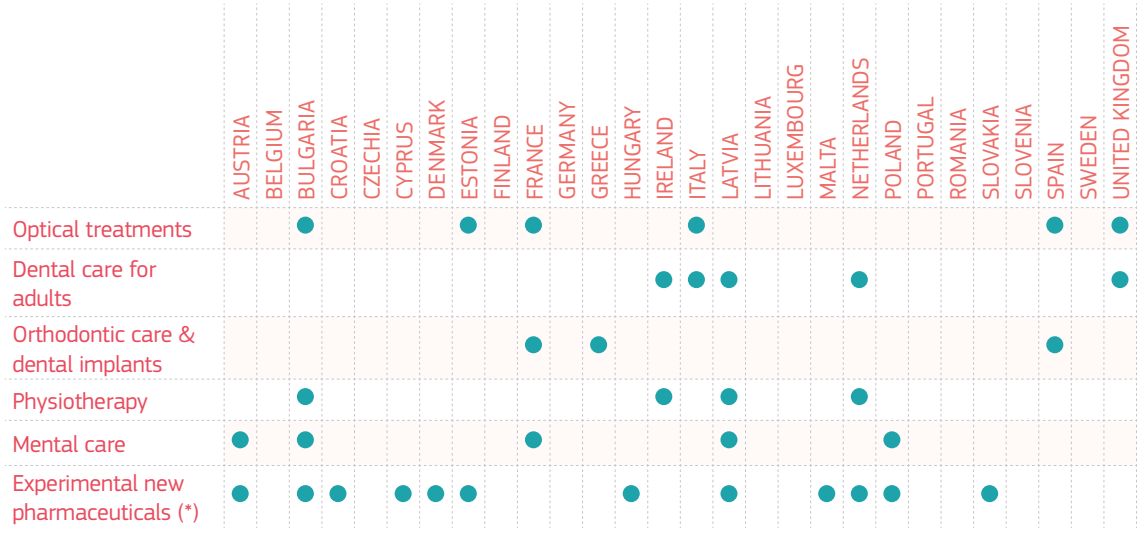
All Member States have some formal user charges for health services, yet there are significant differences with regard to the existence, scope and magnitude of co-payments. There are also variations in the exemptions from user charges. For instance, excessively high user charges may affect access to medicines and services for chronically and mentally ill patients, which is particularly the case in Austria, Bulgaria, Germany, Estonia, Hungary, Lithuania, the Netherlands, Poland and Slovakia.

"Excessively high user charges affect access to medicines in Austria, Bulgaria, Germany, Estonia, Hungary, Lithuania, the Netherlands, Poland and Slovakia."

As for co-payments, most countries apply one or more criteria for exemptions. Such exemptions often apply to groups such as pregnant women, dependants, pensioners, and patients with specific diseases. Some countries have put caps for accumulated co-payments in place, thereby acknowledging how such co-payments would otherwise contribute to health inequalities by placing a disproportionate burden on those with higher medical needs.

Self-employed individuals report a rate of unmet needs that is 62% higher than the one reported by employees. While in Greece, France, Latvia and Romania the self-employed seem to be worse off, in some other countries, such as Belgium, Lithuania, Slovenia and Italy, employees report higher unmet needs than the self-employed. Complementary qualitative analysis from the European Observatory on Health Systems and Policies reveals that a high population coverage does not fully preclude problems in access to health care. In Estonia, people with multiple employers and short-term contracts are exposed to the risk of having unstable insurance. The self-employed in the agriculture sector in Romania tend to be uninsured. In Germany self-employed individuals on a low-income risk to be uninsured due to unaffordability of State Health Insurance contributions or Private Health Insurance premiums. Some self-employed who could opt out from the statutory health insurance in Austria are uninsured. In Poland, people on some types of civil law contracts remain uninsured.

Figure 3.3. Services frequently excluded from regular statutory coverage



Source: Adapted from European Observatory on Health Systems and Policies (2019), Gaps in coverage and access in the European Union (based on the individual assessments of country correspondents). Note: (*) This category covers experimental or very expensive new pharmaceuticals that are not systematically covered or delayed in terms of their inclusion in the benefit package. It affects especially cancer patients in Austria, Czechia, Estonia, Hungary, Latvia and Slovakia, whereas it affects especially patients with rare diseases in Austria, Estonia, Croatia, Latvia, Poland, Malta and the Netherlands.

Capturing inequalities in patients' access to health services

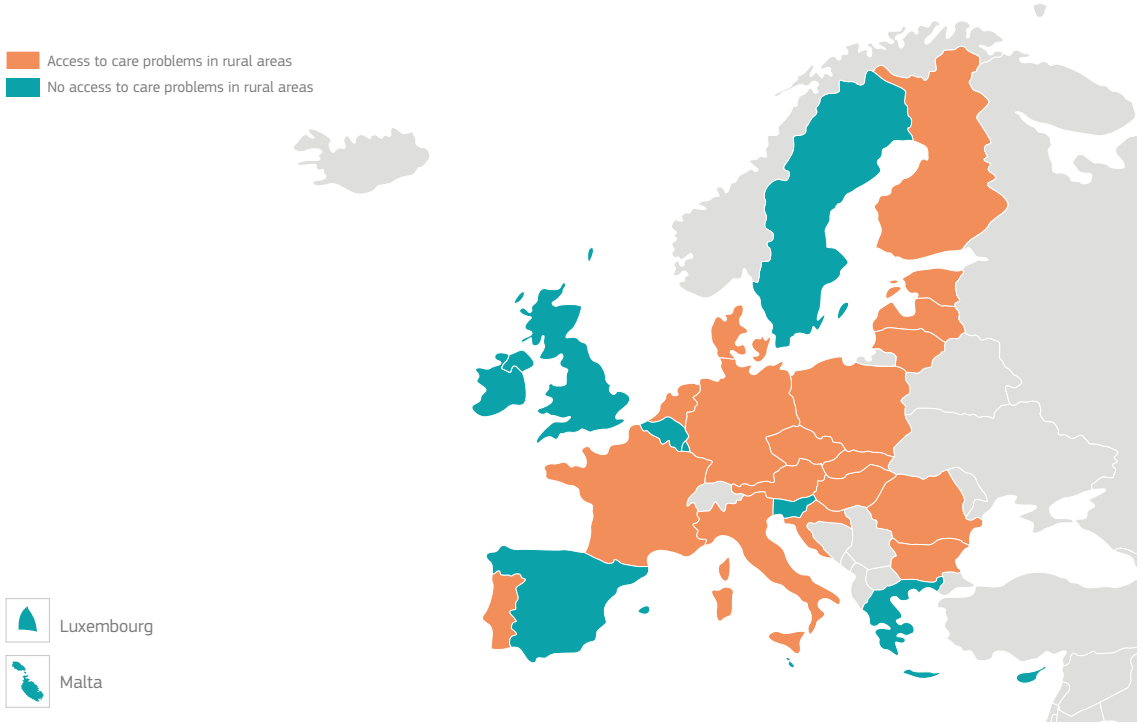
Distributing resources according to need is crucial to ensure equitable access to health care. In a 2019 report, the WHO found that among European countries high levels of out-of-pocket payments (exceeding 15% of current health spending) are associated with high shares of households incurring catastrophic spending (see sidebar), with poorer households being most affected. The use of universal out-of-pocket cost ceilings may be key in avoiding household catastrophic spending[58].

People with certain clinical characteristics might also be disproportionately exposed to catastrophic spending. A 2016 article showed that (older) patients suffering from diabetes mellitus and cardiovascular diseases face a much higher likelihood of catastrophic spending, contrary to cancer patients. Consequently, it is possible that some inequities by disease exist that are currently invisible to most data collections. In effect, there is a risk that people with comparable levels of need but with a different diagnosis receive different levels of care.

The WHO contextualises out-of-pocket spending in a more meaningful way, showing if people experience financial hardship when household out-of-pocket payments exceed 40% of total household spending (net of subsistence needs such as food, housing and utilities). This is called catastrophic expenditure, which in many countries is concentrated among the poorest quintile and among people aged over 60 years. In Germany, however, it is concentrated more among people receiving social benefits or dependent on income from spouses than among pensioners, while in Croatia and Lithuania it is concentrated among households without children. In contrast, catastrophic spending in the United Kingdom is concentrated among younger people and households with children.

"The use of universal out-of-pocket cost ceilings may be key in avoiding catastrophic levels of household spending on health care."

Figure 3.4. More than half of the Member States record health system accessibility problems for rural areas and peripherial populations



Source: Adapted from European Observatory on Health Systems and Policies (2019), Gaps in coverage and access in the European Union (based on the individual assessments of country correspondents). Note: The indicator depicts groups experiencing problems of physical availability of services, goods or providers.

[58] As part of the 2019 European Semester, Bulgaria and Lithuania received country-specific recommendations to reduce out-of-pocket payments and make health care more affordable.

Similarly, other disadvantaged groups such as minorities might be disproportionately exposed to catastrophic spending or other access barriers. It is likely that such disadvantaged groups are facing multiple, interacting vulnerabilities. Measurement problems partly stem from the fact that such vulnerabilities are often cumulative, reflecting the ethnic mix, level of socio-economic development, socio-political history, etc[59].

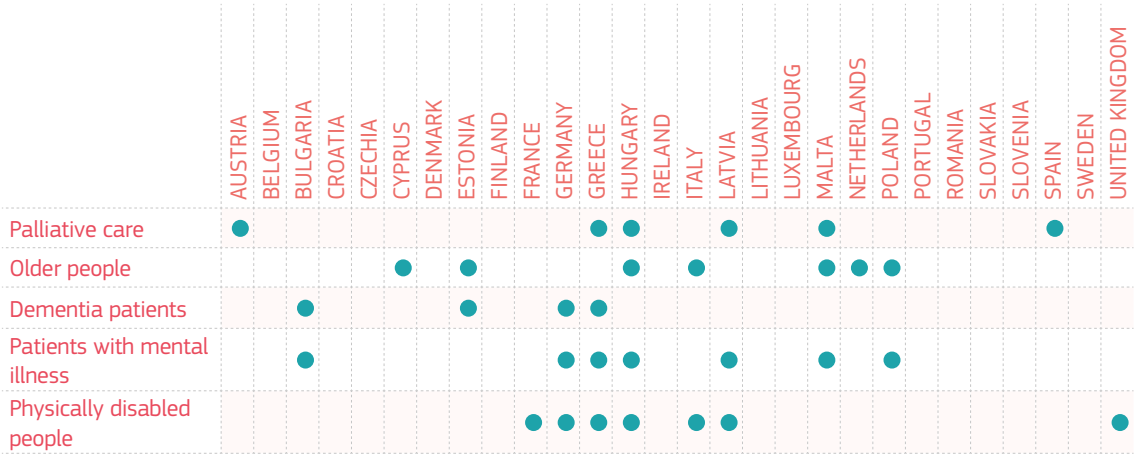
The UK publishes detailed statistics on the availability of transport to key services among users, whereas France recently introduced a localised potential accessibility measure at municipal level, which helps identify underserved areas.

Gaps in access to health care at sub-national level, as hinted at in Figure 3.4, may also go unnoticed, despite clear disadvantages for those living in isolated rural areas or "medical deserts"[60]. This is mainly because there are no data that would allow for an assessment of whether the distribution of resources at sub-national level is linked to the needs at regional and local level.

Finally, problems with timely access to adapted services for some patients are not easily captured. People with mental health problems, disabled persons, older persons and people in need of palliative care seem to be particularly disadvantaged, as shown in Figure 3.5.

In sum, national and EU level efforts are needed to look beyond the aggregate figures, genuinely capturing the many dimensions of access problems and their interactions. The implications of inequitable access currently remain invisible to measurement frameworks across the EU, meaning that there is too little understanding of how certain disadvantaged groups or certain clinical characteristics are associated with multiple barriers in access to health care. Member States could start by strengthening national, country-specific indicators[61].

Figure 3.5. Challenges in timely access to adapted services



Source: Adapted from European Observatory on Health Systems and Policies (2019), Gaps in coverage and access in the European Union (based on the individual assessments of country correspondents).

[59] The most underserved groups in Europe include, for instance, Roma and ethnic minorities, undocumented migrants, people with mental health problems and homeless people. They experience problems due to various challenges: stigma, discrimination, language and culture barriers, lack of knowledge of services, fear and mistrust, fragmentation of services, lack of outreach services, etc

[60] In May 2019, as part of the Commission's contribution to the EU's strategic agenda for 2019-24, it is suggested that the " problem of so called 'medical deserts' with falling numbers of high skilled medical practitioners in several EU regions [...] needs to be addressed. In these regions, access to basic health care services is being jeopardised".

[61] Indeed, the Expert Panel, in its 2018 opinion on benchmarking access to health care in the EU, recommends that Member States undertake qualitative assessments of unmet needs, so as to identify the nature of the challenge in each country and the distribution of unmet needs within a population. This requires tailored systems of data collection, coupled with a detailed understanding of the cultural issues involved in health-seeking behaviour.

Access to the right care at the right time and in the right place?

By using access-based indicators that focus solely on inputs, such as health workforce shortages, hospital beds, or waiting times, it is easy to overlook whether services and their usage are adequate and appropriate for patients and their needs. Adequate and appropriate access is most concerned with the kind of services provided[62], in relation to the severity of needs and the subsequent outcomes obtained.

To better understand unmet needs Slovenia carries out an extensive qualitative survey on barriers for access to primary care and preventive services for vulnerable individuals; the UK runs an annual GP Patient Survey to understand how people feel about their GP practice.

In turn, for health systems to adequately and appropriately ration and prioritise health care services there is a need to factor in epidemiology, severity of needs, and outcome-based data[63], the latter requiring a clear definition of "outcomes"[64]. Such a combination of information creates the opportunity to compare how patients suffering from particular conditions fare in terms of early diagnosis, quality of life and survival across providers, regions and countries.

"A more holistic approach to measuring access takes into account both the cost-effectiveness of the system and the patient perspective."

This holistic approach to measuring access takes into account both the cost-effectiveness of the system (showing where certain outcomes require greater or fewer services and treatments) and the patient perspective (capturing experiences and outcomes relevant to the patient). It would give valuable input to help health systems across the EU to set their accessibility parameters and strengthen the necessary data collection.

IN A NUTSHELL

While the principle that everyone has the right to timely access to affordable, preventive and curative health care of good quality has been included in the European Pillar of Social Rights, gaps in health care accessibility are still very much a reality in the EU. Chapter 3 argues that both the clinical needs and socioeconomic characteristics of patients need to be accounted for when measuring access to health care and its many barriers. Clinical and social vulnerability often coincide and trigger each other. Currently available cross-EU statistics fail to capture access problems from this comprehensive perspective. To drive more targeted responses to accessibility challenges, it is necessary to analyse differences in covered services and medical goods with a degree of granularity that does not overlook access problems as experienced by the individual. Further research could follow the perspective introduced in Chapter 3 by qualifying unmet needs for specific clinical and socioeconomic interactions, or by developing a common taxonomy of benefit baskets for a more comprehensive cross-EU comparison.

[62] Importantly, access to health promotion and disease prevention, which is likely to become more important given the demographic and epidemiologic transition, is often missing entirely from measurement frameworks. Most data collection systems provide information on numbers of doctors, dentists and nurses, but not on other professional groups, such as specialist therapists, health promotion or public health specialists or on integrated care and coordination between service providers.

[63] Patient-reported outcome and experience data are rare across Europe, though the *State of Health in the EU*'s 2019 Country Health Profiles do mention some national examples. To facilitate this switch to health outcomes, the Commission's Structural Reform Support Service (SRSS) provided technical support to Latvia and Slovenia, with a project in Ireland set to start. The aim of the support is to develop systems to assess the performance of health services, with a focus on capturing health outcomes rather than just inputs and processes. Moreover, the Commission supports the OECD's Patient-Reported Indicators Survey (PaRIS), which addresses these critical information gaps and aims to develop international benchmarks of health system performance as reported by patients themselves.

[64] The definition of outcomes would touch upon adequacy and appropriateness of care, which is consistent with the fact that accessibility is closely linked to effectiveness (and, in turn, quality of care). Furthermore, this would put policymakers in a better position to understand if resources are allocated to low-value or high-value care.

Resilience

Reducing health systems' vulnerability to future shocks and stresses

Building on the 2014 Commission Communication on effective, accessible and resilient health systems, the *State of Health in the EU*'s 2019 Country Health Profiles define the concept of resilience as health systems' capacity to adapt effectively to changing environments, sudden shocks or crises[65].

In the domain of health, resilience recently emerged as a property of health systems in the academic discourse following the onset of the Ebola epidemic in West Africa[66]. Another event that triggered the interest of researchers on this topic was the financial crisis, the knock-on effect of which on public expenditure simultaneously exposed health care systems across Europe to ever-tighter budget constraints and greater health needs[67].

These events sparked attention in policy research, highlighting the pressing need to investigate what characterises a resilient health care system, and how to nurture resilience in increasingly complex systems that are also occupied with other objectives (e.g. patient safety, efficiency). As a result, a number of policymakers and researchers have tried to conceptualise resilience as part of a framework for strengthening health systems, by outlining the conditions that enable health systems to become more resilient to "acute shocks"[68] and "continuous stresses"[69].

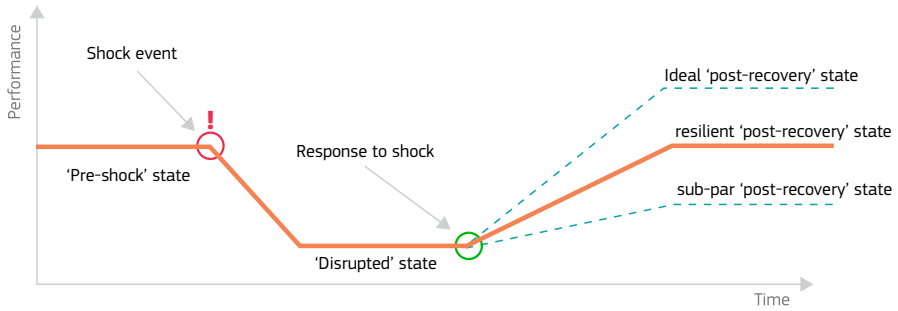
A forthcoming report of the EU Expert Group on Health Systems Performance Assessment (HSPA)[70] provides a more comprehensive definition of resilience than the *State of Health in the EU*'s 2019 Country Health Profiles (mentioned above). The Expert Group defines health system resilience as "the capacity of a health system to absorb, effectively respond, and adapt to shocks and stresses in a way that allows it to sustain required operations, resume optimal performance as quickly as possible, transform its structure and functions to strengthen the system and (possibly) reduce its vulnerability to similar shocks in the future".

Figure E introduces a basic conceptual framework for assessing health system resilience, distinguishing health system performance between a pre-shock state, a disrupted state and a post-recovery state.

"Resilient health systems "bounce back" from a crisis or sudden shock, having in some meaningful way learnt from the experience".

The 2019 Country Health Profiles use a mix of quantitative and qualitative indicators to capture the dimension of health system resilience, dealing with topics such as ensuring long-term stability of resources, responding efficiently and strengthening governance. Recurring themes in such assessments are sound health workforce planning and forecasting, as well as forward-looking pharmaceutical policies. The following two chapters expand on these themes by, firstly, taking a closer look at skill mix innovations and the potential for task shifting among the health workforce (Chapter 4) and, secondly, exploring the pharma life cycle in search of areas where Member State cooperation can help improve patients' access to safe, effective and affordable therapies (Chapter 5).

Figure E. A conceptual framework to inspire cross-EU assessment of health system resilience



Source: EU Expert Group on Health Systems Performance Assessment (forthcoming).

[65] The origin of the concept of resilience can be traced to the field of physics, where it is defined as the ability of a material to absorb energy from dynamic forces elastically (e.g. an impact) without creating a permanent distortion. Over the last decade, this concept was borrowed and further developed independently by various scientific disciplines ranging from ecology to sociology psychology and finance. Definitions across all disciplines remain fairly consistent with the description of the innate capability of a complex system to "bounce back" after some type of disruption. See also a 2017 report from the Commission's Joint Research Centre (JRC) and a 2017 Joint Communication on a strategic approach to resilience.

[66] Unexpected delays in the responses to disease outbreaks revealed a number of structural deficiencies, which pressed governments and multilateral organisations to recognise the need to invest in the creation of more resilient health systems.

[67] Pressure imposed on health systems by fiscal consolidation measures elicited a wide range of responses from policymakers. This revealed significant differences in health systems' susceptibility to economic fluctuations, as well as in their capacity to cope with sudden resource shortages, effectively reconfigure service delivery and, if required, adapt in the face of new circumstances.

[68] Such as a financial crisis, or unexpected developments such as sudden surges in patient volume.

[69] Such as the increasing prevalence of chronic diseases associated with population ageing.

[70] The report is expected in the first half of 2020 and will be published on the webpage of the Expert Group.

CHAPTER 4.

Shifting tasks and changing the skill mix to explore new ways of providing care

Creating a health workforce resilient to future challenges

The health workforce will bear the brunt of demographic and epidemiological transitions. Population ageing, changing care demands and digital technologies require a variety of different health workers to acquire the right skills and competences and update them continuously, while coordinating proactively among each other. From the perspective of the health system, there is a need for improved health workforce planning and forecasting, finding innovative solutions through new technologies and organisational changes.

The previous edition of this report, the *State of Health in the EU's* 2017 Companion Report, discussed the resilience of the health workforce and its role in facing future challenges in, for instance, health promotion and disease prevention, multidisciplinary teamwork and an integrated service delivery. The 2017 report also acknowledged the context in which health workers are facing such challenges, which is one of workforce ageing, recruitment and retention issues and uneven geographical distribution – often set against a broader backdrop of persistent budgetary constraints.

The current chapter looks at the skill mix within currently available resources, assessing whether task shifting and a flexible distribution of roles among health workers might be able to contribute to health system resilience. Chapter 4 of the *State of Health in the EU's* 2019 Companion Report starts with a definition of task shifting, explores examples from across the EU, and discusses drivers, risks and barriers when it comes to rethinking the skill mix[71].

A fundamental reappraisal of who does what within the health system

Task shifting is defined here as a redistribution of tasks among health workers for reasons of health system accessibility, effectiveness or efficiency. An example is enhancing the role of nurses and pharmacists, including prescribing by non-physicians. This definition includes delegating responsibility downwards, but also redirecting tasks to someone at the same level (in terms of employment grade or salary) but with different and more appropriate skills, or to someone at a higher level if this is likely to achieve the desired benefits[72].

The objectives of task shifting revolve around future-proofing the health workforce and coping with shortages of health workers. Fiscal sustainability may be strengthened if the task shifting improves efficiency, while quality of care may improve if newly redistributed roles lead to better population health and patient satisfaction. Taken together, task shifting ultimately aims at health system resilience, ensuring that a certain skill mix can flexibly adapt to foreseen and unforeseen challenges in the future.

"Task shifting ultimately aims at health system resilience, ensuring that a certain skill mix can flexibly adapt to foreseen and unforeseen challenges in the future."

The 2019 opinion of the Expert Panel on effective ways of investing in health provides a simplified taxonomy of skill mix changes (Figure 4.1) to understand task shifting in practice (considerable overlaps among the categories notwithstanding). Firstly, *enhancement* implies that the depth of someone's job is increased by extending roles or skills. This is often due to medical progress, but can also be the consequence of an epidemiological shift (e.g. the rising burden of chronic disease and multi-morbidity). Health workers that have seen their jobs enhanced in recent years are, for instance, nurses, pharmacists, midwives and paramedics.

[71] This chapter draws upon a recent opinion of the Expert Panel on effective ways of investing in health, combined with the analysis underpinning the *State of Health in the EU's* 2019 Country Health Profiles.

[72] Due to the limited scope of the chapter, this definition excludes task shifting to (digital) technologies and task shifting to patients. Furthermore, the definition excludes the macro level perspective: Member States can shift responsibilities such as the organisation, procurement and financing of specific types of care (e.g. long-term care, social care, health promotion and disease prevention) from central governments to regional authorities and municipalities; and insurance tasks can be shifted between public and private bodies.

Figure 4.1. A simplified taxonomy of skills mix changes

Enhancement | Substitution | Innovation

Source: Adapted from the 2019 opinion on task shifting of the Expert Panel on effective ways of investing in health.

A second category is *substitution* or delegation, if the depth of someone's role has been increased, more specifically by shifting it away from another type of health worker, resulting in the breaking of traditional professional divides[73]. This comprises, for instance, task shifting from doctors to nurses, or from nurses to informal carers. A third and final category is *innovation*, when new jobs are created or introduced by incorporating a new type of health worker into the health system[74]. Examples here are phlebotomists (drawing blood from patients), physician's assistants and community health workers.

Capturing the evidence on task shifting and its impacts[75]

It goes beyond the scope of this chapter to map evidence on all types of task shifting, so the examples mentioned in this section are limited to four distinct avenues of skill mix innovations: *(1)* the distribution of doctors and nurses (and the enhanced role of the latter); *(2)* the role of pharmacists; *(3)* prescribing by non-physicians; and *(4)* task shifting to community workers. Examples of enhancing the role of general practitioners or multidisciplinary teams can be found in the *State of Health in the EU's* 2017 Companion Report.

With 8.5 practising nurses and 3.6 practising doctors per 1 000 population, the EU has an average nurses to physicians ratio of about 2.4 (see Figure 4.2). This ratio varies from 1.0 in Bulgaria[76] to 4.4 nurses per doctor in Finland. In some countries, Advanced Practice Nurses (APNs) now assume certain tasks that were traditionally the remit of doctors. The evidence on the impacts of an enhanced role for nurses suggests that the quality of care is at least equivalent to physicians for a wide range of services. Successes in patient case management reveal further scope for nurses' expanded role.

In Hungary, a 2016 legislative decree regulated the competencies of advanced practice nurses (APNs), giving a formal role definition to these professionals. An APN can specialise in six domains to become a nurse anaesthetist, primary care nurse practitioner, emergency care nurse practitioner, acute care nurse practitioner, geriatric nurse practitioner or perioperative nurse practitioner. The tasks that could eventually be transferred from GPs to primary care nurse practitioners include formulating preliminary diagnoses; ordering and analysing laboratory and imaging tests; managing chronic diseases such as hypertension or diabetes independently; and ordering and prescribing vaccines. APN training programmes are provided by three universities, and the first cohort graduated in January 2019, though the formal legislative framework describing which tasks will be transferred is still under development.

"The evidence on the impacts of an enhanced role for nurses suggests that the quality of care is at least equivalent to physicians for a wide range of services."

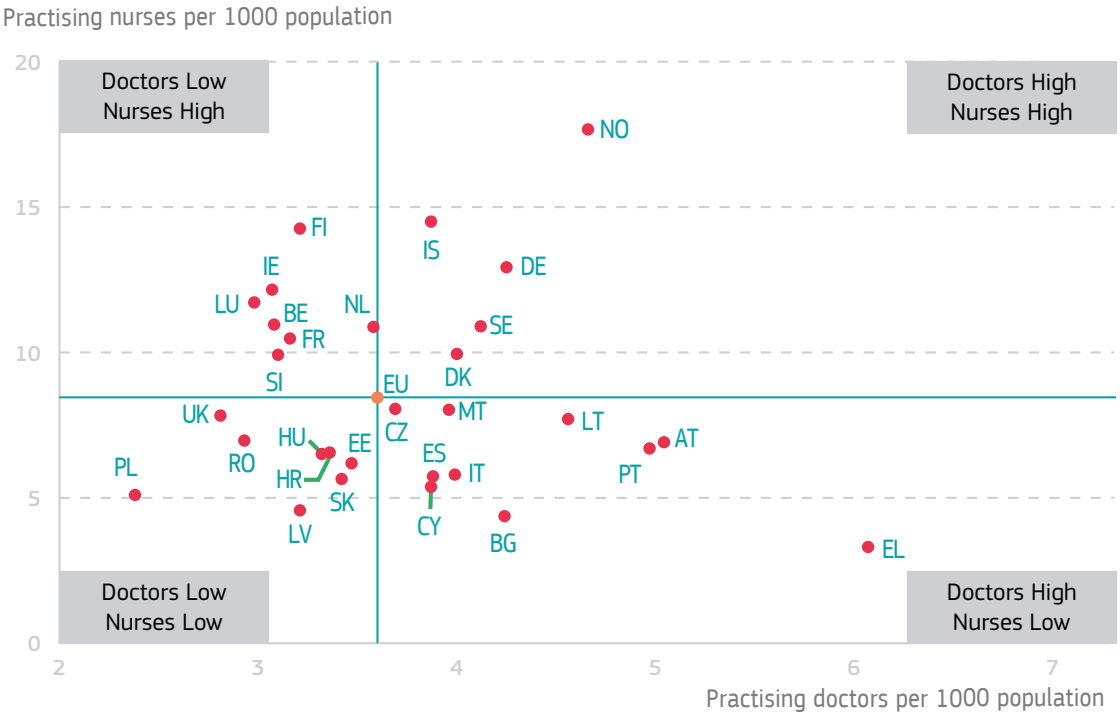
[73] This category also covers the transfer of tasks from health workers to patients. The ensuing "self-management", often supported by digital technologies, is particularly evident when it comes to chronic conditions, but also for health promotion and disease prevention (see Chapter 2).

[74] This category also covers the transfer of tasks from humans to (digital) technologies. Although it falls beyond the scope of this chapter, Chapter 2 of the Companion Report deals with the digital transformation of health promotion and disease prevention. Here, tasks are carried out by digital solutions such as mHealth, wearable technology and online fora (including social media).

[75] The evidence mentioned in this section comes from the 2019 opinion of the Expert Panel on effective ways of investing in health, which summarises the results of numerous meta-analyses and systematic reviews. References can be found as part of the opinion. Additional country examples in sidebars stem from the *State of Health in* the EU's 2019 Country Health Profiles available at ec.europa.eu/health/state.

[76] Not taking into account Greece, for which data refer to all doctors licensed to practice (resulting in an overestimation) and only nurses working in hospital (resulting in an underestimation).

Figure 4.2. Nurses to doctor ratio varies from 1.0 in Bulgaria to 4.4 in Finland



Source: Adapted from OECD/European Observatory on Health Systems and Policies (2019), Country Health Profiles 2019, State of Health in the EU (data refer to 2017 or nearest year).

Community pharmacists have seen their professional role change for a considerable amount of time. The rising burden of chronic disease and multi-morbidity requires them to tailor advice to the complex needs of individual patients, while the shift away from hospital care means pharmacists are increasingly providing other services[77], in community pharmacies or as part of integrated health care teams. Moreover, studies suggest that the regular involvement of pharmacists in hospital wards is cost-effective while increasing patient satisfaction and lowering the likelihood of medication errors.

"Pharmacists are increasingly providing additional services, in community pharmacies or as part of integrated health care teams."

The evidence on non-medical prescribing, for instance by nurses and pharmacists, is more mixed. Studies show a risk factor reduction and improved patient adherence, yet also a tendency to prescribe more drugs in intensified doses. Although there is little evidence on patient-related adverse effects, or any difference in subsequent acute care, an obvious precondition for achieving a positive impact might be to apply changes to both nurses' and pharmacists' education and training (see further below), which varies widely across the EU.

In France, a 2017 pilot project was implemented in two regions to extend the role of pharmacists in prevention by allowing them to vaccinate older people and other at-risk groups for whom influenza vaccination is recommended. During the winter season 2017/2018, 160 000 influenza vaccines were administered by about 5 000 participating pharmacists. In 2018, the pilot became more flexible, allowing participating pharmacists to vaccinate more people against influenza. Feedback from pharmacists and patients was very positive. Since February 2019, pharmacists can also provide pharmaceuticals needed to follow a treatment regime of at least three months, even when the prescription has expired (e.g. treatments for hypertension and diabetes, or contraception).

As a final example, the activities of community health workers often go unregulated and unrecognised. This public health workforce provides preventive, promotional and rehabilitation care – and studies confirm positive effects on patient navigation and patient centeredness. However, further evidence is required to detail the cost-effectiveness and impacts on accessibility, as well as clinical outcomes. Likely barriers to success are, again, adequate education and training, but also better supervision and a proper integration.

[77] A stronger advisory role for community pharmacists within the broader health system includes, for instance, raising awareness about vaccinations or antimicrobial resistance (AMR), and more generally supporting health promotion and disease prevention (counselling on topics such as weight management and smoking cessation). Furthermore, some countries have explicit Minor Ailment Schemes detailing the service that can be provided by pharmacies.

A closer look at what makes task shifting a successful reality

A forthcoming study on skill mix innovations from the European Observatory on Health Systems and Policies warns about the transferability of skill mix practices. Perhaps something is successful in one context, but this does not mean that it will necessarily work in another, given the diversity in health systems, public and professional expectations and regulation of professions. Nevertheless, it is clear that any successful task shifting acknowledges *(1)* the broader drivers, reasons and objectives; *(2)* the potential risks to be mitigated proactively; and *(3)* any hurdles that are to be removed by policy intervention.

Like many other countries, Slovenia faces a growing burden of non-communicable diseases, related to an ageing population and shortage of GPs. To address these challenges, in 2011 the Slovenian Ministry of Health piloted a new approach for the management of chronic conditions and disease prevention at the primary care level. The main innovation is adding a 0.5 full-time equivalent (FTE) qualified nurse with specific training in the prevention of non-communicable diseases, with responsibility for assessing the condition of chronic patients and coordinating care, carrying out preventive counselling and screening risk factors. These nurses collaborate closely with GPs, easing their workload and promoting a multidisciplinary approach to care. The full conversion of GP practices was expected by 2018, but budgetary constraints postponed the deadline to mid-2020. In 2017, 75% of all GP practices nationwide employed an additional 0.5 FTE nurse.

The broader drivers of a more flexible distribution of roles

The drivers for task shifting were summarised at the start of this chapter[78]. These comprise staff shortages and budgetary constraints, but also the broader goal to move care to its lowest point of complexity. The latter, itself driven by demographic and epidemiological forces, means that health systems are relieving pressure off emergency and acute care in hospitals by strengthening primary and community care, and by stepping up health promotion and disease prevention.

Member States are slowly shifting from a fragmented service delivery to a concept of integrated care, where service providers are coordinating with one another along the care continuum[79]. Such coordination – and the realisation of active multidisciplinary teamwork – while putting patients with their changing needs at the centre, reveals the scope for new areas of work and a more flexible distribution of roles among health workers[80]. It enables, for instance, an enhanced role for community health workers, pharmacists and general practitioners, among many others.

"Teamwork, coordination and integration reveal the scope for new areas of work and a more flexible distribution of roles among health workers."

Being mindful of the potential risks of task shifting

Any risks of task shifting in the health workforce, however likely or unlikely, become apparent when approaching the intended changes from the perspective of the patient. A fundamental reappraisal of who does what within the health system must be clear to all parties concerned, so that no patient will fall through the cracks of a rethought service delivery

Finland has expanded nurses' roles, in particular their ability to prescribe some medications, make referrals or interpret X-rays. Nonetheless, there are still certain restrictions on prescribing by nurses. For example, the range of medications is limited for both initial prescribing (limited for example to medicines for pharyngitis and contraceptives) and continued prescribing (limited to medicines to manage some chronic conditions like hypertension, diabetes and asthma).A nurse has to be employed with a municipal health centre, have at least three years of work experience as well as a postgraduate qualification, and be registered as a prescriber to be able to prescribe. Beyond prescribing, the role of nurses has mostly been strengthened in chronic care, including through involvement in multi-professional care coordination team, management of chronic diseases and conducting patient consultations.

"Any redistribution of tasks must be met with adequate changes to initial education as well as on-the-job training".

[78] Such drivers, along with barriers and enablers, were also identified as part of the MUNROS project on the changing roles in the health workforce, with evidence from nine European countries.

[79] More information specifically on integrated care can be found in the previous edition of this report, the State of Health in the EU's 2017 Companion Report (Part 1, Chapter 3).

[80] Electronic health records are an important precondition of integrated care and indeed task shifting while keeping the patient at the centre.

Moreover, any upskilling and reskilling required because of a redistribution of tasks must be met with changes to health workers' initial education and training, as well as adequate Continuing Professional Development (CPD) for those already on the labour market[81]. Indeed, approaching the intended changes from the perspective of the health workforce means making sure that no health worker becomes obsolete; that everyone secures and maintains a useful role as part of the health workforce despite making these roles more dynamic.

There is a risk of approaching task shifting solely as a cost-saving measure, due to the broader driving forces mentioned above, such as staff shortages and budgetary constraints. Any fundamental changes to the health system can potentially jeopardise patient safety, quality and continuity of care. For instance, prescribing by non-physicians, patient navigation by community health workers and vaccination advice from pharmacists all require involving patient and professional organisations while emphasising patient safety as part of any changes to education, training and CPD. In some cases, medical doctors will have to retain a central role in the diagnosis, treatment and coordination of care.

Transforming barriers into enablers

The challenge for policy is to remove any hurdles while being mindful of the objectives of task shifting as well as its potential risks. Opening up to a more flexible distribution of roles often means questioning a long-established tradition of working, by slowly changing professional attitudes and proactively involving professional associations along the way. One way to facilitate progress is to regard task shifting not as an abrupt top-down reform to be implemented across the board, but rather as a set of pilot projects that can be scaled up if and when they prove themselves to be successful given a particular context[82].

"A more flexible distribution of roles means questioning working traditions, by slowly changing attitudes and proactively involving professional associations."

EU level value added manifests itself in different ways when it comes to lifting barriers and mitigating risks. The Commission actively supports mutual learning through, for instance, the State of Health in the EU's voluntary exchanges, while offering possibilities for scaling up pilot projects through Horizon Europe. In addition, as part of the Structural Reform Support Programme, the Structural Reform Support Service of the Commission provides direct technical support to Member States that aim to empower their health workforce.

In Belgium, a variety of training programmes have been put in place in recent years to improve the skills and competencies of health workers providing dementia care. Many of these have targeted GPs and other primary care providers, pharmacists and home-care workers. Home-care organisations are now required to have at least some of their workers trained specifically in providing care for people with dementia. A programme in Flanders has trained pharmacists to identify symptoms of dementia and support people living with dementia, as well as their families. To improve GPs' capacity to identify and manage dementia, a new programme was designed to train 'reference' physicians, which would allow those GPs with fewer cases of dementia to refer them to such physicians to receive better care.

IN A NUTSHELL

Picking up from the previous Companion Report's discussion on health workforce planning and forecasting, Chapter 4 highlights how skill mix innovations show great potential for health system resilience, often responding to staff shortages within the available resources. Promising examples of task shifting among health workers are found across the EU, particularly when it comes to enhancing the role of nurses and pharmacists. Yet evidence remains limited about the cost-effectiveness of such task shifting and its impacts in terms of patient satisfaction and clinical outcomes. It is clear that task shifting should not be viewed in isolation but in the wider context of the health system. A change in roles will often have wide-ranging consequences, challenging traditional hierarchies and professional norms. Any such skill mix innovation should be accompanied by adequate education and training, as well as the active involvement of patient and professional organisations. The Commission supports Member States in testing and scaling up skill mix redistributions, while emphasising the power of mutual learning and exchange of good practices in this context.

[81] Education, training and CPD are a key enabler of successful task shifting. They not only provide health workers with the skills they need, but also convey and understanding of the need for and benefits of change. nion Report (Part 1, Chapter 3).

[82] Financial and non-financial incentives are another obvious enabler of successful task shifting. Financial incentives (i.e. remuneration conditions) on their own are rarely sufficient, and a 2015 Commission study focused on recruitment and retention found that tasks shifting, as well as new and extended roles that are perceived to be enriching jobs, are effective non-financial incentives in and of themselves. Continuing Professional Development (CPD), which enables successful task shifting and raises awareness about the need for and benefit of change, also adds to the attractiveness of the profession as a strong non-financial incentive.

CHAPTER 5.

Breaking down silos for safe, effective and affordable medicines

A comprehensive policy approach across the pharma life cycle

Health coverage gaps notwithstanding (see Chapter 3), Europe is generally viewed as a frontrunner in ensuring universal access to health care, including pharmaceuticals, for its citizens. As a global leader in health care R&D and a major exporter of pharmaceuticals, local manufacturing and innovation capacity positively support the availability of medicines in Europe.

However, the emergence of new medical technologies and other supply-side developments are rapidly transforming the nature of the main determinants of access to medicines in national health systems. These transitions are compelling Member States to devise new policies to ensure that citizens can continue to access cost-effective medicines in a timely, equitable and affordable way.

"A broad view on pharmaceutical policies is required to better understand the factors that affect patients' timely access to affordable and cost-effective medicines."

Taking into account the complex and dynamic nature of modern health systems, a broad view on pharmaceutical policies is required to gain a deeper understanding of the factors that affect patients' timely access to affordable and cost-effective medicines[83]. Such an approach covers both "pre-launch" activities, implying a forward-looking perspective on medicines in development, and "post-launch" activities, touching on pricing/value-for-money and appropriate use of medicines. It also includes everything from research funding and marketing authorisation to pricing and reimbursement policies, notably in relation to Health Technology Assessment (HTA). Acting at the appropriate health system level will enable EU health systems to make progress towards the dual objectives of promoting patient access to high-value innovation while ensuring sustainable health systems.

This chapter complements the work presented in *Health at a Glance: Europe 2018* (see sidebar) by putting a spotlight on areas where Member State cooperation can bring added value, while drawing upon the findings of the 2019 Country Health Profiles. In particular, this chapter explores the pharma life cycle in search of areas where better work-sharing and a complementarity of actions can help improve the availability, affordability and access to therapies for patients.

The OECD-Commission report ***Health at a Glance: Europe 2018***, which kicked off the second ***State of Health in the EU*** cycle, features a thematic chapter on strategies to reduce wasteful spending, which is estimated to amount up to one-fifth of health spending. The chapter has a particular focus on hospitals and pharmaceuticals. When it comes to pharmaceuticals, minimising waste and optimising the value derived from spending on medicines are also critical to achieving efficient and sustainable health systems. A mix of policy levers can support this goal, including: *(1)* ensuring value for money in the selection and coverage, procurement and pricing of pharmaceuticals through Health Technology Assessment; *(2)* exploiting the potential savings from generics and biosimilars; *(3)* encouraging responsible prescribing; and *(4)* improving patient adherence.

[83] In line with the European Pillar of Social Rights and the Sustainable Development Goals, the EU is committed to the principle of timely access to affordable, preventive and curative health care of good quality for all citizens.

Member States' different outlooks and shared challenges

In the EU, citizens from different Member States do not all have the same opportunity to access affordable pharmaceutical treatment. Moreover, the availability of certain essential medicines and early uptake of innovative therapies is markedly uneven across Member States. The actual market presence and coverage at national level of centrally authorised medicines varies widely too.

In May 2019, as part of the Commission's contribution to the EU's strategic agenda for 2019-24, it is suggested that "EU rules on pharmaceuticals should keep pace with scientific developments, combat antimicrobial resistance, address shortages of medicines and improve availability, affordability and access to therapies".

Based on existing EU initiatives, such as the work with Member States in the Commission Expert Group on Safe and Timely Access to Medicines for Patients ("STAMP") and the Pharmaceutical Committee, further work over the next years would allow the EU pharmaceutical sector to meet patients' needs and bring value to society, while remaining a world leader in the development of pharmaceuticals after 2030.

In addition to absorbing the greatest share of out-of-pocket co-payments for health, expenditure on medicines constitutes a sizeable share of public spending on health in the EU. In 2016, pharmaceuticals and other medical non-durable goods accounted for at least 17% of total health expenditure in EU countries[84]. Furthermore, this figure does not fully capture medicines used in hospitals, which in itself can amount to over 40% of total spending of pharmaceuticals[85].

"Pharmaceuticals account for at least 17% of total health spending across the EU – a figure that does not even fully include medicines used in hospitals."

Although selective funding of cost-effective, affordable medicines is key to safeguarding sustainable access to medicines in the EU, national health policymakers have struggled to strike a balance between ensuring accessibility to medicines, providing incentives for pharmaceutical innovation and ensuring the fiscal sustainability of health spending.

In a context where health systems are already subject to growing cost pressures from population ageing, increasingly high prices of new medicines in some therapeutic areas have made it especially difficult for payers to devise affordable and equitable access schemes. This challenge has further exacerbated existing concerns from Member States about the appropriateness of the current R&D model, as well as the future fiscal sustainability of current levels of pharmaceutical expenditure[86].

"Policymakers have struggled to balance accessibility to medicines, incentives for pharmaceutical innovation and the fiscal sustainability of health spending."

More recently, the 2019 European Semester Country Reports acknowledged that pharmaceuticals continue to pose a challenge for the vast majority of Member States. While the reports highlight the importance of pharmaceuticals for fostering innovation and economic growth in the EU, most countries continue to experience challenges related to the affordability of pharmaceuticals[87].

[84] See *Health at a Glance: Europe 2018*, part of the *State of Health in the EU* cycle.

[85] See, for instance, the 2019 Country Health Profile for Denmark.

[86] See also the 2016 Council Conclusions on strengthening the balance in the pharmaceutical systems in the European Union and its Member States.

[87] These include high expenditure levels, a suboptimal uptake of generics, high out-of-pocket payments, limited market competition and untapped potential for centralising public procurement, the need for a better uptake of HTA, etc. In particular, access barriers abide in a number of Member States (e.g. Cyprus, Hungary, Latvia, Lithuania, Malta and Romania).

Towards a comprehensive health system approach to appraise medicines

The EU benefits from a robust legal framework supporting the uptake of scientific discoveries that contribute to patients' health[88]. However, there is no guarantee that medicines can be accessed by all EU patients, since the definition of coverage entitlements, basic benefit baskets and co-pay rates differ greatly by Member State. These factors drive patient-reported financial difficulties for accessing medicinal care, which vary considerably across Member States in line with wide differences in public coverage of medicinal care (Figure 5.1). Until now, EU level efforts have focused on bringing promising products to the market sooner (such as PRIME[89]), but more could be done to highlight potential impacts on affordability.

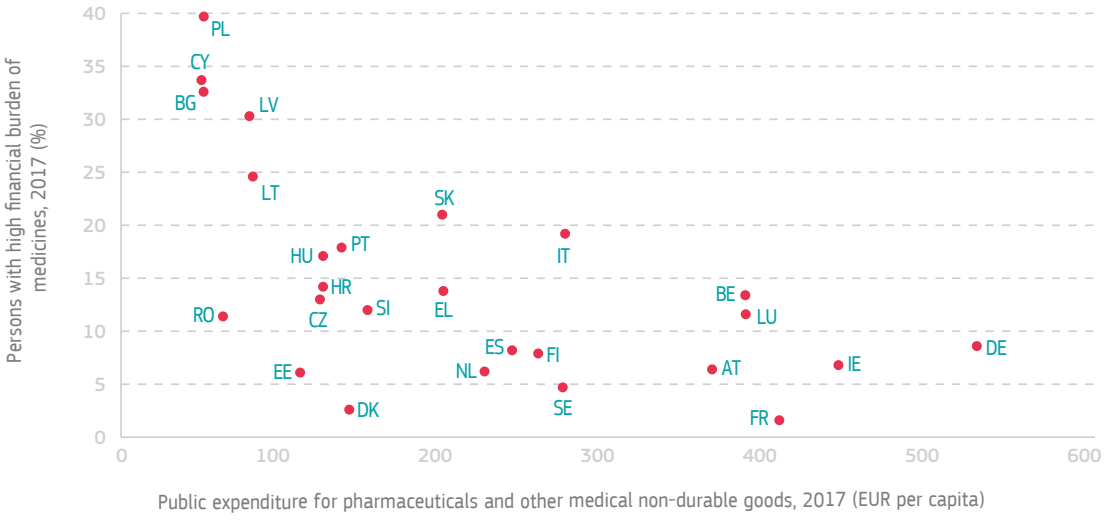
Decisions on the organisation of health systems, including the pricing and reimbursement of pharmaceutical care, are the purview of national authorities. Pharmaceutical companies can of course make decisions influencing the accessibility of their medical technologies. The inclusion of new products in he basket of covered services usually requires both parties to negotiate on the conditions for a product to enter a market. A first step towards balancing the bargaining power of stakeholders consists of bridging information gaps that may put payers at a disadvantage in the pricing and reimbursement negotiations with manufacturers. Fostering greater cooperation among EU countries in this regard could offer promising opportunities to improve the affordability of medicines through more transparent pricing and greater competition among manufacturers.

"Greater cooperation among EU countries could improve the affordability of medicines through more transparent pricing and greater competition among manufacturers."

Secondly, to date health systems show varying capacities to identify low value interventions and address affordability questions (complementing the existing cost-effectiveness appraisal mechanisms). Moreover, there are challenges in applying valuation methods that cover devices and services next to medicinal products. Promoting such a comprehensive approach would boost the efficiency and resilience of national health systems in the EU.

Health technology assessment (HTA) is gaining importance as a tool to assess the additional benefit of new medicines and other health technologies in the context of health systems. However, HTA-related resources and expertise vary widely across the EU. The Commission put forward a proposal for a Regulation to strengthen EU cooperation on HTA, which is currently in the legislative process involving the European Parliament and the Council. Strengthened EU cooperation on HTA aims to support all EU Member States in making timely, evidence-based decisions related to patient access to new medicines and other health technologies while at the same time reducing the administrative burden borne by the industry[90].

Figure 5.1. Financial burden on options versus public expenditure on medicines



Source: Eurostat database. Note: Data for Malta and the United Kingdom are missing (2016 expenditure data for BE, CZ, FR, HR, LV, LT, LU, HU, NL, PL, SI, SK, FI).

[88] The requirements and procedures for marketing authorisation, as well as the rules for monitoring authorised products, are primarily laid down in Directive 2001/83/EC and in Regulation (EC) No 726/2004.

[89] PRIME is a scheme launched by the European Medicines Agency (EMA) to enhance support for the development of medicines that target an unmet medical need. This voluntary scheme is based on early dialogue with developers of promising medicines, to optimise development plans and speed up evaluation so these medicines can reach patients earlier.

[90] Further, EU initiatives may have a complementary role and aim to foster further collaboration and information exchanges between different players. For instance, the European Medicines Agency (EMA) and the European Network for Health Technology Assessment (EUnetHTA), have been working together under the so-called "Synergy Group" to harness synergies along the lifecycle of a medicine while respecting their different remits.

EU level tools can help pricing and reimbursement decisions at national and local level

Currently, the Commission promotes the exchange of information between Member States on pricing and payment methods, under the so-called Transparency Directive (Council Directive 89/105/EEC). Its provisions do not affect national policies on the setting of prices and the organisation of social security schemes, except as far as necessary to achieve transparency. Previous attempts to simplify the rules and to better reflect the increased complexity of pricing and reimbursement procedures in EU countries have failed[91].

While it is clear that pricing decisions are a national competence, it is also evident that the pharmaceutical sector is subject to EU Antitrust rules under TFEU Articles 101 and 102, including on pricing. A 2019 Commission report on European competition authorities working together for affordable and innovative medicines describes how EU level work and cooperation with National Competition Authorities improves access to affordable and innovative medicines for patients. European competition authorities have been pursuing a number of investigations on possible abusive and "unfair" pricing cases in the pharmaceutical industry concerning off-patent medicines. Further collaboration with national competition authorities would improve knowledge on pricing methods and would help EU health systems to adapt accordingly.

Sharing experiences on pricing and payment methods

The comparison of the list prices of medicines is an important element of a widespread pharmaceutical pricing method used in Europe known as External Reference Pricing (ERP). Financial support from EU funds helped a number of Member States to develop the Euripid guidance document on ERP, so as to mitigate the unintended effects on access to medicines that occur as a result of cross-country coordination challenges. One example of such an effect would be companies refraining from entering a "low-priced" market to avoid price decreases in other countries through price benchmarking.

Any EU Member State can make use of the options under the Structural Reform Support Programme for an ad hoc technical assistance in line with the European Semester process and national reform priorities, or the use of voluntary exchanges under the *State of Health in the EU* cycle. Such services provide tailor-made assistance and support Member States that wish to reform their pharmaceutical care models with mutual learning opportunities or tangible design and implementation. For instance, recent pharmaceutical reforms in Greece to rationalise pharmaceutical spending benefited from such EU assistance. The reduction in expenditure over this period was achieved through a host of measures, including: major cuts to the wholesale price of medicines; improving the reference pricing; mandatory e-prescribing by active substance (INN); mandatory generic substitution by pharmacists; as well as introducing temporary rebates and clawback mechanisms.

[91] Member States continue working with the Commission to find alternative ways to keep pace with pharmaceutical market developments and to ensure the transparency of pricing and reimbursement measures. Such work includes meetings within the "Transparency Committee" to discuss implementation and inform about recent and forthcoming case law.

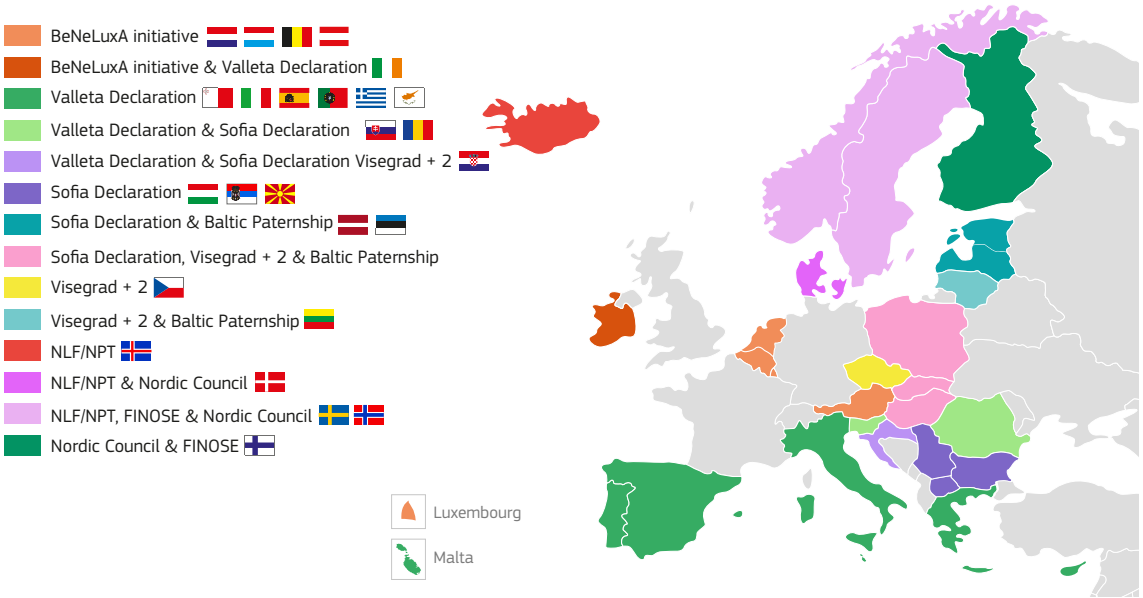
The pharmaceutical market is changing, partly due to technology advances that allow a more targeted approach in therapies. This usually comes at a higher cost. In general, the advent of new, high-cost medicines targeting small populations triggers a critical reflection on the need to redesign existing payment models, in particular with a focus on instalment plans to smoothen out upfront purchasing costs and pay-for-performance approaches to ensure high-value care is provided. Expertise can be pooled at EU level in this regard[92]. Finally, transforming conventional payment methods may prove promising in view of fostering a more responsible use of antibiotics.

"Expertise could be pooled across the EU to figure out how to adapt existing payment models to new, high-cost medicines targeting small groups of people."

Acknowledging that many challenges seem to be shared across countries, some Member States have taken up cross-country collaborative approaches in recent years (Figure 5.2). These may result in joint procurement and joint pricing (and reimbursement) negotiations for specific medicines, in addition to collaboration in other areas such as information sharing, HTA or horizon scanning. Under these initiatives, pricing (and reimbursement) continues to be a competence of the participant countries, but there is a keen interest in continuing the communication and exchange of information at EU level, for instance via a future platform for mutual exchange and learning.

The *State of Health in the EU's* 2019 Country Health Profiles feature interesting examples of Member States attempting to bring down pharmaceutical expenditure beyond the cross-country collaborative pricing approaches illustrated in Figure 5.2. The Danish Association of the Pharmaceutical Industry implemented a 10% reduction in the list of prices of hospital drugs from the years 2016-2019, while the Danish government announced that maximum reference prices for other pharmaceuticals will be calculated in 2019 (based on reference prices from nine EU countries). Portugal boosted the uptake of generics through incentives – by paying pharmacies an extra EUR 0.35 for each pack of generics sold –, increasing the number of generics sales in community pharmacies. Slovenia has created an opportunity for medicines to be bought at a higher discount price from pharmaceutical manufacturers, with a central public tendering process introduced for all approved inpatient medicines in all hospitals.

Figure 5.2. There are many cross-border market access collaborations in Europe



[92] For instance, a forthcoming OECD report flags caveats for pay-for-performance Managed Entry Agreements (MEAs). Preliminary findings stress that MEAs should not be considered as the default option for the uptake of new products; they should be time-bound and based on objective health outcome indicators. Further work from the OECD on the use of routinely collected data illustrates how Member States can tap into available observational data to inform coverage and pricing policies.

Maximising potential cost savings from generics and biosimilars

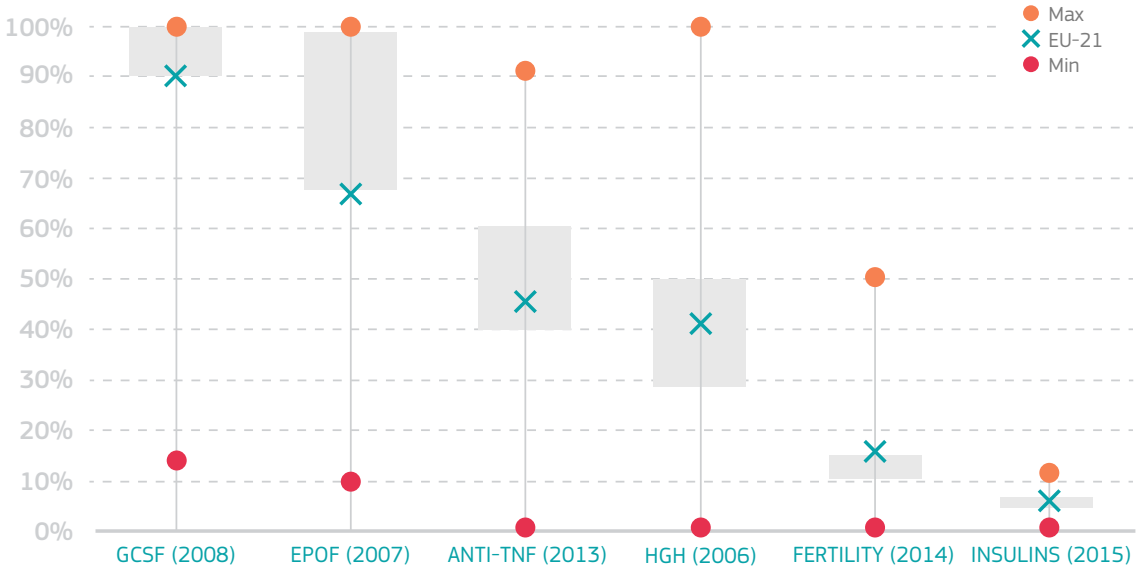
While many countries have not fully reaped potential cost savings from generic medicines[93], some have made tangible efforts to increase their uptake. Substituting originator medicines with cheaper generics significantly lowers costs. Introducing and fostering the uptake of generic medicines requires addressing market forces and challenges in public perception, while shaping sound policies to incentivise the uptake[94].

Biosimilars - biological medicines highly similar to other already approved biological medicines - differ in relevant ways from generics. So-called "first mover" advantages (i.e. competitive advantages from bringing a product first-to-market) are more pronounced in biologicals[95]. This makes biosimilar competition less straightforward compared to generic competition. There is a need for policymakers to focus on key aspects to stimulate market competition for biologicals.

"Greater biosimilar competition can improve access to safe and effective biological medicines in health systems across Europe."

The urgency of policy action is heightened by the fact that biologicals already make up around a quarter of pharmaceutical expenditure, while the uptake of biosimilars shows a mixed picture across Member States, with differences in the uptake of biosimilars across Member States as wide as between 0% and 99% observed within the same interchangeable product class (see Figure 5.3). This high variance hints at a large untapped potential for efficiency gains for several countries.

Figure 5.3. Significant cross-EU differences persist in the uptake of biosimilars for the same interchangeable product class



Source: Quintiles IMS (2018). Notes: The grey boxes represent the interquartile range (Q1-Q3) of the 21 EU countries included here. Therapy areas (year of first biosimilar launch in EU): epoetin (EPO), granulocyte colony-stimulating factor (G-CSF), anti-tumor necrosis factor (Anti-TNF), human growth hormone (HGH), fertility (Follitropin alfa), and insulins.

[93] A generic medicine is a medicine that is developed to be the same as a medicine that has already been authorised. Its authorisation is based on efficacy and safety data from studies on the authorised medicine. A company can only market a generic medicine once the 10-year (or exceptionally 11-year) exclusivity period for the original medicine has expired.

[94] Barriers to wider generics use may include mistrust from both providers and patients as to the quality of generic products, policies that incentivise the use of high-cost brand name products and a lack of regulation on generic substitution.

[95] Biosimilar medicines are biological medicines highly similar to another already approved biological medicine (the 'reference medicine'). Biological medicines contain one or more active substances made by or derived from a biological source, such as blood or plasma. Some of them may be already present in the human body and examples include proteins like insulin and growth hormone. The active substances of biological medicines are larger and more complex than those of non-biological medicines. Only living organisms are able to reproduce such complexity. The degree of first mover advantage depends, in part, on the switching costs between reference product and the generic or biosimilar. Switching costs for biosimilars tend to be higher than for generics, including switching studies, longer-treatment periods, physician-acceptance and other entry barriers.

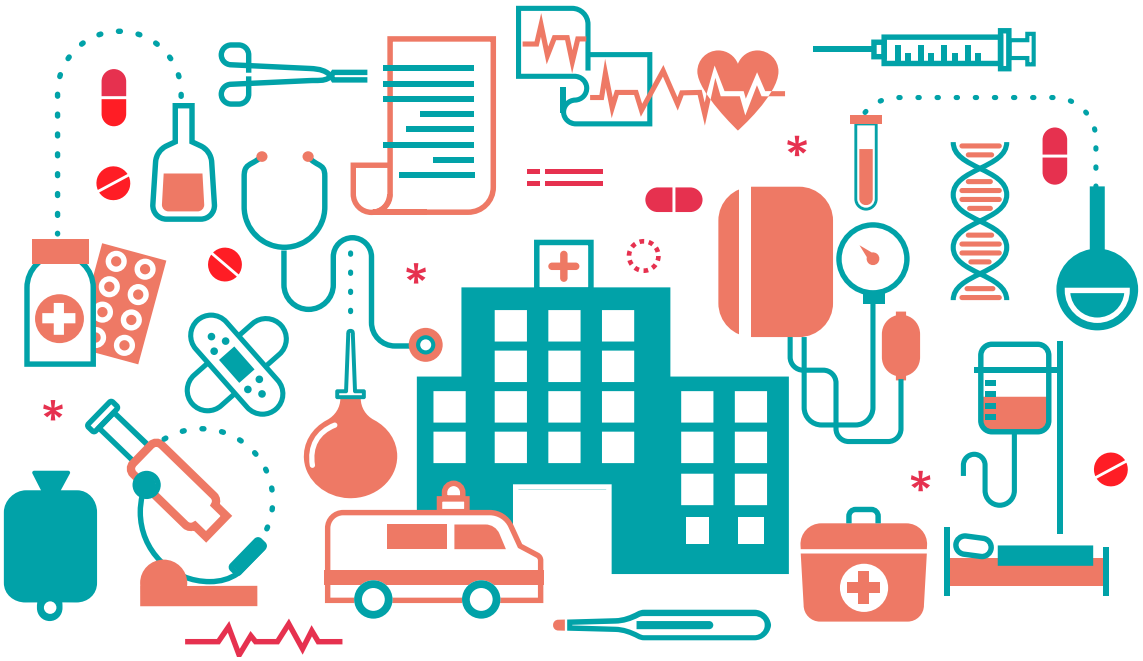
Key enablers are sound governance principles and appropriate use of medicines in hospital settings

Hospital pharmaceutical budgets, accounting roughly for 20-30% of hospital expenditure, grow faster than retail spending, in line with noted budget increases for specialty medicines. Moreover, for many medicines hospitals act as a strategic gateway where the start-up of chronic treatments may be initiated. Related budget impacts hold for retail settings and health systems overall, underlining the need for aligning incentives across care settings to avoid segmented approaches to budgeting for pharmaceuticals.

There is, therefore, a need to revisit the follow-up of recommendations formulated under the 2010 Pharmaceutical Health Information Systems (PHIS) Hospital Pharma Report. A repository of practices on appropriate governance principles for the procurement and use of medicines in hospitals would help support the sound management of pharmaceutical budgets.

IN A NUTSHELL

Complementing the assessment in Health at a Glance: Europe 2018 *of wasteful spending on pharmaceuticals, Chapter 5 looks across the pharma life cycle – from "pre-launch" to "post-launch" activities – in search of opportunities for Member State cooperation and EU value added. The cost-effective use of medicines ranks highly on the EU agenda for effective, accessible and resilient health systems. A broad view on pharmaceutical policies enables a deeper understanding of all the relevant factors that influence access to affordable medicines. As the availability, affordability and access to therapies poses challenges at Member State level, it is necessary to overcome information gaps and ultimately improve resilience. Key enablers in this regard include:* (1) *building Member State capacities to appraise the value of medicines in a more comprehensive manner;* (2) *a continued effort to share experiences and pool expertise on pricing and procurement methods to avoid potential negative effects on patients' access to medicines;* (3) *the maximisation of savings to be reaped from generics and biosimilars; and* (4) *renewed attention to sound governance principles and the appropriate use of medicines in hospital settings.*



PART 2

Key Findings from the Country Health Profiles

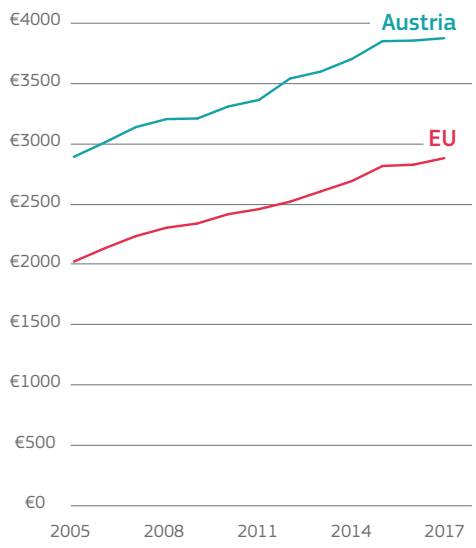
Disclaimer: The key findings presented in Part 2 of the 2019 Companion Report are lifted directly from the 2019 Country Health Profiles, which were prepared by the OECD and the European Observatory on Health Systems and Policies in the context of the *State of Health in the EU* cycle. The profiles in full can be accessed at ec.europa.eu/health/state, where translations into respective national languages are also available. The opinions expressed and arguments employed are solely those of the authors and do not necessarily reflect the official views of the OECD or of its member countries, or of the European Observatory on Health Systems and Policies or any of its Partners. The views expressed can in no way be taken to reflect the official opinion of the European Union.

AUSTRIA

Life expectancy in Austria has increased in recent years and remains above the EU average. However, Austrians spend less of their lives in good health than people in many EU countries. About 70% of the population report being in good health, but this proportion is smaller among the lowest income groups. While low mortality from treatable causes suggests that health care is relatively effective, preventable mortality is higher than in many other EU countries.

Behavioural risk factors remain a major driver of morbidity and mortality in Austria. Smoking among adults has not declined over the past two decades, and is now more prevalent than in most other EU countries. Progress with restricting smoking in public places has been slow, and a smoking ban in establishments that provide hospitality was delayed again to late 2019. Although alcohol consumption has decreased since 2000, it remains above the EU average.

Spending per capita, EUR PPP



Health care coverage is near-universal, and accessibility of services is generally good. Austria is among the countries with the lowest self-reported unmet medical needs in the EU. Nevertheless, there are concerns that a wave of physician retirements and a stagnant number of physicians with social health insurance contracts might reduce service availability and accessibility in the future. Meanwhile, the number of physicians without contracts is increasing, particularly in urban areas; this may increase financial barriers to accessibility and have a negative effect on equity.

The Austrian health system is characterised by decentralised decision-making and self-governance by corporate entities. To some extent, the coordination challenge is being tackled by a new governance structure since 2013, which brings together the most important actors – the federal government, social health insurance funds and regional governments. A reform to reduce the current 21 health insurance funds to five will take effect in 2020. It is intended to reduce administrative costs, although doubts have been raised that this will be achieved. Structural and financial fragmentation – for instance between hospitals and care provided by office-based physicians – continues to impede greater integration of care and efficiency gains. Programmes for patients with chronic diseases and multi-morbidity remain underdeveloped.

Despite some improvements over the past decade, the number of avoidable hospitalisations for chronic conditions remains above the EU average. Primary care reforms had made only slow progress until recently, but are now under way. Nine multidisciplinary primary health care units were operational by early 2019. By the end of 2021, 75 units will aim to reduce reliance on solo-practising physicians to improve accessibility and coordination of care.

Overall, the Austrian health system is comparatively costly, and spending remains highly concentrated in inpatient care. Some efficiency gains may be achieved through the reform of primary care, if this successfully reduces the avoidable use of inpatient services. Budget caps agreed between the main actors in the new governance system are currently the main cost-control mechanism. So far, public expenditure on health care has remained below these ceilings, while growth in spending on prevention has somewhat accelerated. However, without structural reforms it will be difficult to comply with these spending limits in the future. Further efforts are necessary to reduce reliance on hospitals and expensive curative care, while improving health promotion and prevention.

BELGIUM

Life expectancy in Belgium has increased by nearly four years since 2000, but there continue to be large inequalities by gender and socioeconomic group: the least educated men live about six years less than the most educated. While this gap is slightly smaller than the EU average, it is one of the largest among western European countries. To a large extent these differences are due to greater exposure to environmental and behavioural risk factors.

Some behavioural risk factors such as tobacco smoking have been addressed effectively, but excessive alcohol consumption remains an important public health issue. Increasing overweight and obesity rates are also of growing concern among adolescents and adults. Scope remains for improving coordination across the federal and federated entities to strengthen prevention while encouraging primary care providers to play a greater role in promoting healthy lifestyles for the whole population.

Belgium spends a relatively high proportion of its GDP on health (10.3% in 2017 compared with an EU average of 9.8%), and nearly 80% of health spending is publicly funded. The reduction in the ceiling for public spending growth since 2013 has contributed to keeping the growth rate in line with GDP growth. Given the measures in place, budgetary pressures in the future are expected to come mainly from growing needs for long-term care due to population ageing, which creates a potential risk for fiscal sustainability.

Access to health care is generally good, but co-payments are common and 18% of health spending is borne directly by households, a share higher than the EU average of 16%. People on low incomes report relatively high unmet needs for medical care and even more so for dental care, mainly for financial reasons. This is mainly related to the lower coverage of dental care by social health insurance.

Although the number of doctors in Belgium has increased slowly over the past 15 years, about 45% of doctors are now over the age of 55, raising concerns about growing shortages in the future. In response, the number of students admitted to medical schools has increased strongly in recent years, and a growing share of internship places have been opened for general medicine to increase the future supply of general practitioners.

Belgium has taken several steps since 2015 to strengthen primary care and promote greater integrated care for people with chronic conditions. A number of pilot projects have been launched to test new delivery and financing models, notably by encouraging multidisciplinary teamwork for patients with chronic diseases, such as diabetes.

The social health insurance started to work with medical associations to promote more appropriate use of health services in 2017; by 2019 this programme covered more than 40 diagnostic and surgical procedures. This work is starting to signal the potential misuse of some services in some geographical areas, as well as opportunities to shift some activities from inpatient cases to day cases.

Numerous measures have been taken over the past few years to speed up the digital transformation of the health system, notably to develop the use of electronic medical records and ePrescriptions. The eHealth plan for 2019-21 will pursue digital transformation further and expand the range of digital tools available to health professionals and patients.

BULGARIA

Despite significant improvement in life expectancy since 2000, Bulgaria records the lowest life expectancy in the EU. The high prevalence of risk factors such as smoking, alcohol consumption and poor diet contribute to high mortality rates from stroke, ischaemic heart disease and lung cancer.

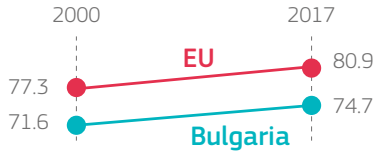
The implementation of primary prevention and health promotion activities is relatively weak, as reflected by the high rate of preventable mortality. Similarly, mortality from treatable causes in Bulgaria is the fourth highest in the EU, indicating that the health system is generally failing to treat patients effectively and in a timely manner. About one fifth of hospital procedures could be implemented in outpatient care, while a tenth of hospitalisations and related procedures could be avoided altogether if better outpatient care were available.

The underdevelopment of primary and preventive care partly explains Bulgaria's high levels of hospital activity and hospitalisation rates, but strong growth in the number of hospital beds in urban areas and in the private sector also reinforces the concentration on inpatient care. Reforms have sought to contain hospital activity and strengthen outpatient care, including initiatives such as the National Health Map, medical guidelines, and a stricter licensing regime. However, some major reforms have been challenged by stakeholders and overturned by the courts.

Although health spending in Bulgaria is still relatively low compared to other EU Member States, it has increased steadily over the last 15 years. However, the rise in health expenditure has been mainly fuelled through out-of-pocket spending. In fact, the health system now relies almost equally on private spending and public sources as its sources of revenue, with the share of public financing (52%) having declined in recent years. This trend raises equity concerns over the affordability of health care, particularly for people on lower incomes.

Out-of-pocket spending is a key barrier to access: making up 47% of current health expenditure, Bulgaria reports the highest share in the EU. Pharmaceuticals account for the overwhelming proportion of private expenditure on health, followed by spending on outpatient care. Informal payments, in the form of 'gratuities' to doctors, are estimated to make up a considerable share of out-of-pocket payments. While reported unmet needs for both medical and dental care have dropped steeply over the last decade, there are large differences in unmet needs between high- and low-income groups – with cost remaining the most cited reason for foregoing care.

Life expectancy at birth, years



The biggest challenge for accessibility of health care is the significant proportion of the population (around 14%) not covered by health insurance. The gap in population coverage disproportionately affects the long-term unemployed, the Roma population and those living in disadvantaged areas. The uneven distribution of health care facilities, health professionals and services across the country also hampers accessibility, with rural areas often underserved while larger cities have an oversupply of services.

Shortages of health professionals, especially nurses and general practitioners, are hindering the development of primary care and the delivery of services in underserved areas. Strategies to increase the number of medical and nursing graduates and to improve salaries and working conditions have been launched to address these challenges.

CROATIA

Life expectancy in Croatia is increasing, but still lags about three years behind the EU average. One of the reasons for this persistent gap is the low effectiveness of public health interventions. Anti-tobacco policies are underdeveloped, indoor smoking in public places is still widespread, and rates of teenage smoking are the third highest in the EU. Obesity rates are rising, particularly among children. Preventable mortality is well above the EU average.

Croatia spent 6.8% of its GDP on health in 2017, much less than the EU average of 9.8%. Although it is also among the three lowest spenders in the EU in terms of health spending per capita, Croatia has maintained a relatively high share of public spending, resulting in high levels of financial protection. However, levels of public debt still exert constraints on public spending on health. In addition, only around one third of the population is liable to pay health insurance contributions, thereby limiting the revenue base available to the health system.

A large share of health expenditure goes to pharmaceuticals, far exceeding the EU average. Policy initiatives to address this include evolving centralised procurement for hospitals, but there is large scope for further action, such as increasing the share of generics. In contrast, a very small share of health expenditure is spent on long-term care, which is generally underdeveloped. In view of the ageing of the population, it will be important to increase the availability of community-based long-term care.

There are fewer unmet needs for medical care in Croatia than on average in the EU, yet variations across income groups are substantial, pointing to potential problems in accessibility. In particular, unmet needs due to geographical distance are higher in Croatia than in any other EU Member State; moreover, unmet needs among older people are higher than the EU average. The strategic planning of human resources could be improved. Although the number of doctors and nurses has increased in recent years, they are unevenly distributed across the country, and many are either moving abroad or nearing retirement.

Primary care is fragmented and seems to be underutilised compared to inpatient and hospital outpatient care. Long waiting lists for secondary and tertiary care are also a challenge. In 2017, the Ministry of Health introduced a system that provides patients with suspected serious illnesses (such as cancer) accelerated access to specialist care, following referral from their general practitioner. Information available so far indicates that the system has been successfully implemented.

There is a lack of data on quality of care and on the effectiveness of health technologies. An Agency for Quality and Accreditation was established in 2007, but it has recently been subsumed under the Ministry of Health and its role has been limited in terms of both quality assurance and accreditation. The information that does exist on quality of care points to substantial scope for health system improvement.

The strategic planning and financing of hospitals are key problems, with hospitals routinely accruing substantial debts. While the payment system for hospitals has been reformed, several attempts to rationalise and restructure the sector as a whole have stalled, prompting a new hospital plan for the period 2018-20.

CYPRUS

The Cypriot population enjoys good health overall, with one of the highest life expectancies in the EU. While the mortality rates from the leading causes of death - ischaemic heart disease, stroke and diabetes - has decreased by more than 20% over the last two decades, the death rate from diabetes is the highest in the EU, which prompted the government to issue a national diabetes strategy in 2016.

Adult obesity reflects EU levels, but overweight and obesity rate among six- to nine-year-old children in Cyprus is very high, at about 43%. Smoking is also a major public health issue and one in five deaths is attributable to direct and second-hand smoking. Reinforced legislation banning smoking in public places is a step in the right direction; however, loopholes exist and enforcement will need to be strengthened if it is to have an impact.

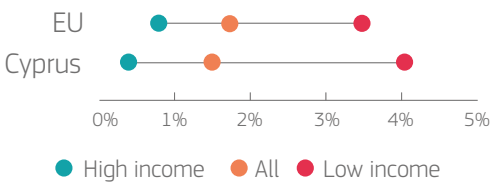
The greatest challenge by far for the Cypriot health system is the phased implementation of the new General Healthcare System, which began in June 2019. Reforms are designed to expand coverage (in practice only 76% of the population had access to public services until recently), raise the quality of publicly provided care, and reduce the fragmentation of services delivered by state-run health centres and hospitals, alongside a largely unregulated but widely used private sector.

A major objective is to ensure that a sufficient number of general practitioners and specialists enter into contracts with the Health Insurance Organisation, to enable the General Healthcare System to build capacity, reduce long waiting times and, in particular, strengthen the provision of primary care. The new system is expected to improve coordination across and among public and private providers through gatekeeping and an electronic medical records system. The current level of service fragmentation has been a challenge for the effective allocation of doctors and nurses, health workforce planning and strategic purchasing of medical technology.

The new General Healthcare System also aims to reorganise the way public hospitals are managed, granting them more autonomy. However, some delays are being experienced in operationalising the new governance arrangements and in negotiating contractual agreements with public providers. The planned introduction of a new case-based payment system for inpatient care is designed to rationalise reimbursement and improve resource use.

Although mortality rates from preventable and treatable causes are low, there are variations in access to different services that affect health outcomes. For example, although cervical cancer screening rates compares well with the EU average, despite the existence of a national screening programme only about 35% of women aged 50-69 have been screened for breast cancer in the past two years, far below the 60% screening rate in the EU.

Accessibility
% reporting unmet medical needs



Just over half of all health spending in Cyprus comes from private sources, primarily out-of-pocket payments, which is the highest share in the EU. The extensive use of private services, especially for specialist visits and diagnostics, also leads to very high out-of-pocket payments, almost 45% of health spending, far higher than the EU average (16%) and second only to Bulgaria. Although the level of reported unmet medical needs in Cyprus is slightly lower than the EU average, it is ten times higher for low-income groups than high-income groups, indicating financial barriers to access and problems with affordability.

CZECHIA

Although life expectancy in Czechia remains almost two years below the EU average, great progress has been achieved in reducing mortality from ischaemic heart disease, stroke and several types of cancer. This decrease can be attributed to reductions in the prevalence of risk factors and especially to the concentration of care in specialised centres and new available treatments. Success in containing communicable diseases through close surveillance is also noteworthy. However, more could be done to reduce risk factors by organising targeted public health programmes. In addition, the rapid rise in chronic diseases, such as diabetes, challenge the system to find more integrated solutions to the delivery of care for these patients.

The population's health status is characterised by substantial inequalities by education and income. Higher health needs in some Czech regions are not properly accounted for in the planning of health care services, which is aggravated by fragmented responsibilities in planning between several stakeholders, including health insurance funds, self-governing regions, the Ministry of Health, and the Ministry of Social Affairs (for long-term care). Disparities in the distribution of health personnel, for example, are likely to deepen, as fewer doctors are willing to settle in rural and deprived regions.

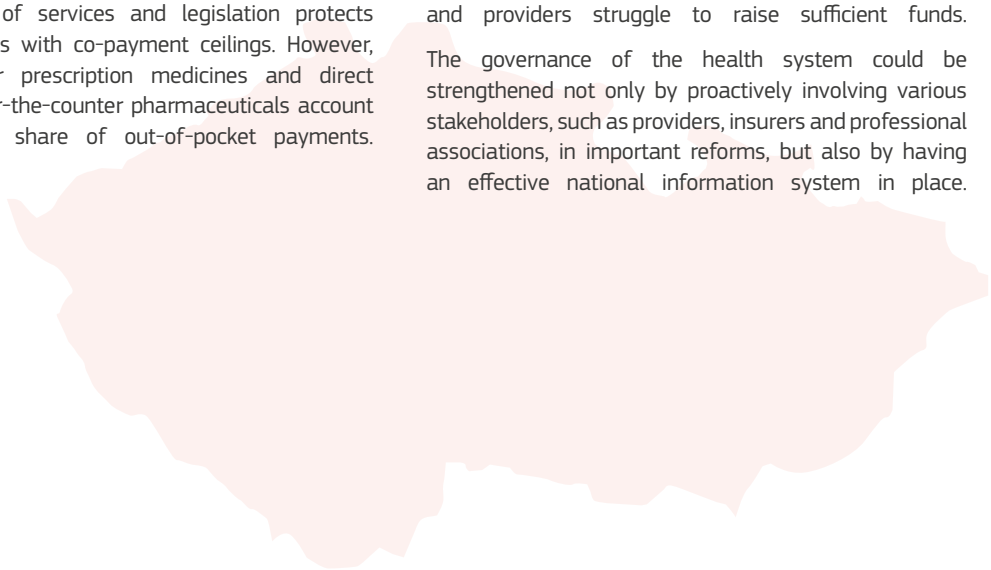
The Czech health system offers universal health coverage, a high level of financial protection and low out-of-pocket spending. The benefit package includes a broad range of services and legislation protects vulnerable groups with co-payment ceilings. However, co-payments for prescription medicines and direct payment for over-the-counter pharmaceuticals account for the highest share of out-of-pocket payments.

Although health spending per capita and as a share of GDP is below the EU average (7.2% of GDP compared with 9.8% for the EU average), a higher demand for health care and long-term care is likely to put pressure on budgets. A dense inpatient sector with comparatively high numbers of beds and hospital discharges as well as comparatively long average length of stay and low hospital bed occupancy rates signal room for efficiency gains in the hospital sector.

Bolstering the resilience of the health system presents a considerable challenge. The current public financing framework is heavily reliant on payroll contributions from economically active individuals, even though the majority of Czech people are covered by state contributions that are funded from general tax revenue. Such a system is vulnerable to economic shocks and population ageing, yet there is currently no political agreement on how to diversify the sources of revenue. Attempts to raise more private revenues through user fees in the period 2008–15 were not successful due to opposition from a wide range of stakeholders.

The ageing of the workforce is likely to aggravate existing regional disparities and challenge equity of care access. There are several policy measures aiming to increase the influx of young health professionals into the health system, but progress needs careful monitoring. Moreover, capital investments are too low relative to the need to modernise and refurbish infrastructure, and providers struggle to raise sufficient funds.

The governance of the health system could be strengthened not only by proactively involving various stakeholders, such as providers, insurers and professional associations, in important reforms, but also by having an effective national information system in place.



DENMARK

The life expectancy of Danish people has increased rapidly since 2000 and now slightly exceeds the EU average, although it remains lower than in all other Nordic countries. This is partly due to persistently high mortality rates from causes of death that could be avoided through more effective public health and prevention policies.

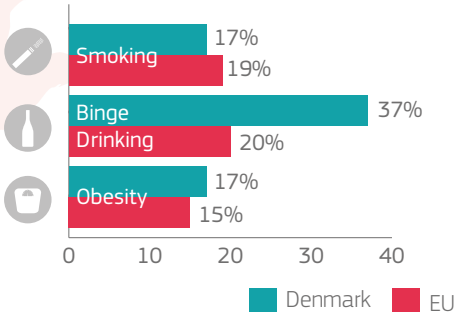
Some behavioural risk factors such as tobacco smoking have been addressed effectively, although new tobacco products such as e-cigarettes are becoming more popular and pose new challenges. Binge drinking among adolescents and adults remains an important public health issue. Despite measures to promote more responsible alcohol consumption, the effects appear to have been limited so far. Overweight and obesity rates are also of growing concern among both adults and teenagers.

Accessibility to health care in Denmark is relatively good. Residents enjoy access to a comprehensive package of health services. Unmet needs for medical care are low, but because dental care is less well covered, unmet needs for dental services are higher, particularly among lower income groups.

Denmark spent 10.1% of GDP on health care in 2017, a higher share than the EU average. Overall, the system appears to allocate and use its resources efficiently. Reductions in the number of hospital beds and average length of stay over the past decade have been accommodated by greater supply and access to primary and community care. The implementation of various eHealth and telehealth options has enhanced access to care, including in patients' own homes. However, there is scope for further improvement in care coordination outside hospitals for people with chronic conditions.

The Danish government launched a new strategy in 2018 to strengthen general practice across the country by increasing the number of students choosing general medicine and improving the remuneration and working conditions of general practitioners. Another element of the strategy is to provide additional training for nurses to play more advanced roles in general practice.

The government has also taken a number of measures over the past decade to ensure timely access to new medicines while at the same controlling the growth of pharmaceutical costs. The creation and expansion of a single purchaser for pharmaceuticals dispensed in hospitals has contributed greatly to achieving this dual goal. Outside hospitals, greater use of generics has been promoted through a series of measures targeting physicians, pharmacists and patients, although further progress could be achieved in the area of biosimilars.



The Danish health system has a first-rate information infrastructure, including an electronic medical record system that has a large degree of interoperability across settings and is used across the whole health care system. The Strategy for Digital Health aims to provide greater opportunities for patients to participate in their own care. Monitoring progress in the quality of care will include not only traditional clinical measures but also increasingly patient-reported outcome measures, to reflect more thoroughly what matters to patients.

ESTONIA

The life expectancy of the Estonian people continues to rise, and rapidly approaches the EU average of 80.9 years. Estonia has experienced the highest increase in life expectancy in the EU between 2000 and 2017 – from 71.1 up to 78.4 years. However, wide inequalities exist across gender, regional, income, and educational groups. Three out of four Estonians in the highest income quintile consider themselves to be in good health compared with only one in three in the lowest income quintile, the highest gap in Europe.

Unhealthy lifestyle factors, including smoking, binge drinking, poor diet and lack of physical activity, result in nearly half of all deaths being attributed to these risk factors, a proportion that is higher than the EU average of 39%. Estonia has the third highest adult obesity rate in Europe, with worrisome trends in children. Although smoking rates and alcohol consumption have declined, the higher prevalence of these risky behaviours among men contributes to their life expectancy being nine years lower on average than that of women. Recent policies on smoking and drinking and a lack of policies to curb the rise in obesity may not do enough to reach the population and especially more vulnerable groups.

Health spending per capita in Estonia is approximately half the EU average, at EUR 1 559 in 2017. Three quarters of health spending comes from government and compulsory insurance schemes, while 24% of spending consists of out-of-pocket payments, largely in the form of co-payments for outpatient medicines and dental care. A large part of spending is allocated to outpatient services, as Estonia relies on general practitioners and outpatient specialists to provide the primary point of care.

Many Estonians report that their health needs are not met, with 11.8% of them experiencing unmet needs compared to an EU average of 1.7%. This is largely due to waiting lists: Estonians are 15 times more likely to report unmet needs due to waiting lists than the EU average. Waiting lists are most common in specialist care, although day surgery and inpatient care are increasingly provided outside the time frames set by the health insurance system.

In 2017, the Estonian government passed a reform to diversify the revenue base of its single-payer health insurance system. Previously, financing came from an earmarked earnings-based employer contribution on wages. Starting from 2018, the government has added a contribution on behalf of pensioners to improve the fiscal sustainability of the health system. In effect, this change also increases the scope of the Estonian Health Insurance Fund to purchase health services for the entire population and not only the 94% who have insurance. Although this reform will improve fiscal sustainability, the currently low spending level in the health system is not expected to increase substantially.

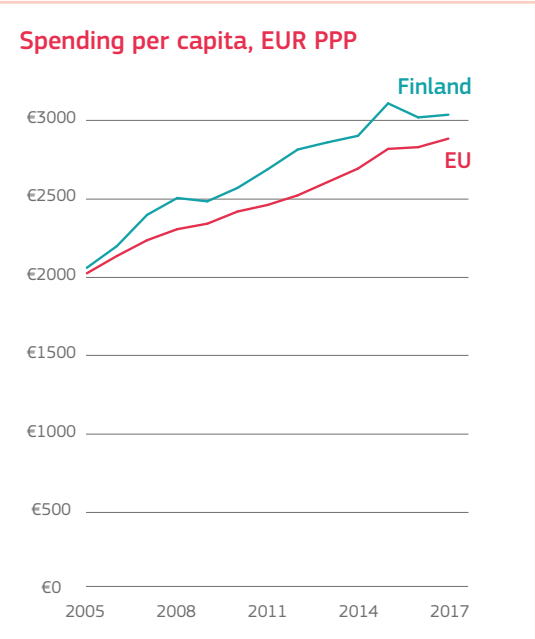
Targeted investments in key areas, including health technology assessment, primary health care and eHealth, offer promising opportunities to increase the resilience of the health system in the future. However, insufficient supply of newly trained doctors and especially nurses may compromise the health system in the upcoming years, particularly in light of the increasing prevalence of chronic diseases and the subsequent need for more integrated care. Generally low levels of spending on health, as well as an excessive reliance on EU Structural and Investment Funds for capital investments, may threaten broader goals, including universal health coverage.

FINLAND

Life expectancy in Finland has increased steadily since 2000, reflecting the positive impacts of public health policies and health care interventions in reducing mortality from preventable and treatable causes. While disparities in life expectancy by socioeconomic status are below the EU average, they remain important: the least educated men can expect to live 5.5 years less than the most educated, while this education gap among women is 3.5 years.

Substantial progress has been achieved in reducing important risk factors to health such as smoking. However, obesity rates have increased among both children and adults, and most interventions aimed at curbing this growth have shown only modest results so far. The inequalities in health status are to a large extent due to the greater prevalence of risk factors among people with the lowest level of education and income, as shown by higher smoking and obesity rates among the least educated. An important challenge for public health policies is to find effective ways to reach these disadvantaged groups.

Alcohol consumption remains an important public health issue in Finland, with more than one-third of adults reporting regular binge drinking. The liberalisation of alcohol sales in 2017 resulted in a slight increase in alcohol consumption in 2018, reversing a previous decade-long reduction, although the increase was more modest than anticipated.



Health spending per person in Finland is slightly higher than the EU average, yet slightly lower as a share of GDP (9.2% compared with 9.8% for the EU average in 2017) and much lower than in Sweden, Norway and Denmark. Public spending accounts for 75% of health spending, below the EU average (79%) and other Nordic countries (all above 83%). The rest is paid mainly out of pocket by households.

Public expenditure on health and long-term care as a share of GDP is projected to increase in the coming decades due to population ageing and slower economic growth. These projections reinforce the need to achieve efficiency gains in health and long-term care delivery to ensure the long-term sustainability of these services.

An important challenge is to strengthen access to primary care and promote greater coordination between primary care providers and hospitals, as well as with social welfare services. More timely and effective access to primary care could help reduce unnecessary visits to specialists or hospital emergency departments, especially for the growing number of people with chronic conditions. The role of nurses has been expanded to improve access to primary care, but so far the implementation of these new roles has been limited.

A particular concern is that both occupational health care directly funded by employers and primary care provided through private providers reinforce inequalities in access to care. These mainly facilitate faster access for people from higher socioeconomic groups, while those from lower socioeconomic groups and retired people have to wait longer. The overcapacity in occupational health care also raises issues about allocative efficiency in the system.

The new government has proposed to reform the organisation of health and social care services, the funding mechanisms and the regional governance structure. There will be 18 self-governing counties in charge of social and health care services. Most services will, however, continue to be delivered by public providers.

FRANCE

Life expectancy in France remains one of the highest in the EU, but progress has slowed in recent years and there remain large disparities by socioeconomic status. As in other EU countries, many years of life after age 65 are spent with some chronic diseases and disabilities.

Public health and prevention policies have traditionally been neglected in France. As part of the National Health Strategy 2018-22, the government has allocated EUR 400 million over five years to support prevention programmes across all ages. Some policies have already had a positive impact in reducing important risk factors: smoking rates and alcohol consumption have fallen over the past decade, yet remain above the EU average. To improve nutrition and reduce obesity, a 'nutri-score' food label was developed in 2017 to help people make healthier choices.

In response to falling vaccination rates among children, the government made a further eight vaccinations mandatory in 2018 (for a total of 11 mandatory vaccinations). Public awareness campaigns were also launched to restore public trust in the benefits of vaccination. Preliminary evidence suggests that these measures have successfully led to an increase in childhood vaccination rates.

In 2017, France spent more than 11% of its GDP on health, the highest share among EU countries along with Germany. On a per capita basis, health spending in France was the sixth highest in the EU. Public insurance schemes funded 78% of all health spending, while private compulsory insurance covered another 5%. Unmet needs for medical care are generally low, but they are higher for services less covered by public insurance, such as optical and hearing aids and dental care.

There are concerns about growing shortages of doctors, as 45% of all doctors are aged 55 and over. In response, the number of students admitted to medical schools has been increased and will be increased further by 20% by 2020. The government also plans to abolish the rigid numerus clausus policy and exam determining entry into medical education and to give more flexibility to universities in the student admission process.

Medically underserved areas ('medical deserts') are a concern in France. Up to 8% of the population live in areas where access to doctors is potentially limited, mainly in rural and deprived areas. A series of measures has been taken over the past decade to promote the recruitment and retention of doctors in underserved areas, including financial incentives for doctors to set up their practice in these areas and the creation of multidisciplinary medical homes, which the government wants to double between 2017 and 2022.

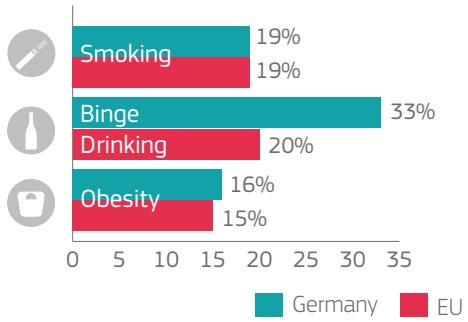
Recent measures have also been taken to expand the roles of some health professionals, with the aim to improve access to care. Nurses and pharmacists are now allowed to administer flu vaccinations to older people and other at-risk groups, nurses can play a greater role in the management of chronic diseases such as diabetes, and a new medical assistant role to reduce general practitioners' administrative workload has been introduced.

Since 2016, the government has been providing support to expand inter-professional networks, which aim to strengthen coordination between primary care providers and specialists and to improve care for the growing number of people living with chronic conditions. The goal is to multiply by five the number of these local networks by 2022.

GERMANY

Life expectancy in Germany is around the EU average but lower than most Western European countries. This is mainly due to comparatively high mortality rates from causes of death that could be avoided through more effective public health and prevention policies. Although smoking and alcohol consumption rates have decreased they are still above the EU average, and the number of overweight and obese adults is rising.

The German health system provides almost universal health coverage with a broad social health insurance benefit basket, and access to services is good. Few people report foregoing care for financial reasons, waiting times or distance, and the gaps between socioeconomic groups are relatively small. The low share of out-of-pocket payments in health financing contributes to strong financial protection and catastrophic health expenditure levels are lower than in most other European countries. Recent legislation aimed to close remaining coverage gaps, for instance by reducing minimum contributions for self-employed people on low incomes and simplifying coverage for migrants.



The number of doctors and nurses is higher than in many other EU countries and is increasing. However, there is currently a shortage of skilled health workers, especially in rural and remote regions. The expansion of publicly funded long-term care benefits is also increasing the demand for nurses. Germany has sought to counteract a potential health workforce shortage, by making the nursing profession more attractive and providing incentives to young doctors to open a practice in rural areas. However, skill mix innovations, which extend the tasks of nurses to relieve general practitioners, have not yet been implemented nationwide.

Utilisation of both inpatient and outpatient care in Germany is substantial and leads to oversupply, particularly in some urban areas. The large number of services provided in an inpatient setting raises some doubts as to the appropriateness of these utilisation patterns. Germany still has the highest ratio of hospital beds per population in the EU and hospital discharge rates have increased significantly in recent years (partly reflecting population ageing). Services are provided in many small and often inadequately equipped hospitals, resulting in lower quality. Policymakers are aware of this problem and reforms are under discussion to promote the centralisation and specialisation of hospitals.

The German health system is moderately effective, but more expensive than most other EU countries. It is effective in avoiding mortality from treatable causes and provides substantial human and infrastructural resources, which translate into the second highest health expenditure as a share of GDP in the EU, after France. However, the costs of Germany's health system do not match the often average health outcomes of the population, leaving room for further efficiency gains.

The German health system is complex, with shared responsibilities between different levels of government and self-governing bodies of payers and providers. Delegation of responsibilities to bodies of self-governance assures well informed decisions, but also contributes to the fragmented structure of the system with its plurality of payers and providers.

There is no systematic and integrated evaluation across different health care sectors or regular performance assessment to better understand processes and outcomes. Overcoming this obstacle would increase the scope for health system improvements and possibly reduce expenditures.

GREECE

The Greek population enjoys a relatively high life expectancy at birth, but the lead over the EU average has narrowed over the past decade. Cardiovascular diseases continue to be the leading causes of death; however, mortality from diabetes, some cancers, respiratory and kidney diseases have increased. As in many other EU Member States, the prevalence of risk factors such as smoking and obesity is much higher in people with lower education, which contributes to a wide socioeconomic divide in population health.

Since 2010, efforts started under the Economic Adjustment Programme have been consolidated. Greece is implementing an ambitious set of reforms to improve health system efficiency and reduce waste. Issues like fragmentation of benefits and coverage, excessive pharmaceutical spending, inefficient procurement and weak primary care have been, or are in the process of being, addressed. Others, such as prevention, patient and citizen engagement, and meaningful accountability and transparency mechanisms, have been targeted by specific measures, but additional efforts are needed. Tackling residue supplier-induced demand for some health services and inefficient spending remain concrete objectives.

Despite the end of its Economic Adjustment Programme in August 2018, Greece's economic indicators remain under the close supervision of the EU and health spending will likely remain bound by fiscal constraints. Nevertheless, the fall in public spending on health halted in 2015 and has since stabilised. Moreover, due to the clawbacks in place, the value of publicly financed health care is higher than the level of public spending on health by about 1% of GDP. Private spending on health, mainly in the form of household payments, is still very high, and results in a third of health care being paid out of pocket.

Crucial legislation in 2016 succeeded in re-establishing coverage for the two million people who lost health insurance during the crisis. In addition, coverage was expanded to previously uncovered groups such as refugees, so the health system now offers universal coverage. As a result, unmet needs for health care decreased in 2017, particularly among the poorest. However, factors such as formal and informal user charges, thresholds on reimbursed services, and uneven availability of physical and human resources still contribute to the high levels of self-reported unmet needs.

Existing financial protection measures mainly focus on pharmaceuticals. For example, there are exemptions from user-fees on medicines for people with certain conditions or on low incomes. Despite these, one in ten households experience catastrophic payments for health care, which is among the highest levels in the EU.

The roll-out of primary care since 2017 has proceeded at a relatively good pace, with just over half (127) of the planned primary care units operating in the summer of 2019. These now cover about a fifth of the population, providing much needed preventive, primary care and some specialist services, particularly in rural areas. Further progress on this major strengthening of primary care depends largely on the availability of doctors – as the number of general practitioners is reaching the full capacity threshold and many doctors working in the private sector are reluctant to sign up. Adequate funding is also a pre-requisite.

Organisational and operational improvements rely on strengthened governance and appropriate resourcing of policy priorities. Greece would benefit from an overarching and comprehensive reform plan that takes into account health system performance, population needs and provides for adequate planning and distribution of services.

HUNGARY

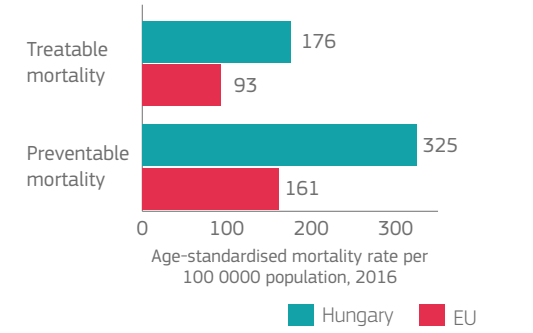
The life expectancy of the Hungarian population has improved substantially since 2000 but remains almost five years below the EU average and the lowest among the countries of the Visegrád Group. Substantial inequalities persist across genders, with women living seven years longer than men, and even more so by education level: at age 30, the most educated men live 12 years longer than the least educated, a much larger gap than the EU average of seven years.

Half of all deaths in Hungary can be attributed to behavioural risk factors, including poor nutrition, high tobacco smoking and alcohol consumption, and low physical activity. More than one in four adults reported smoking daily in 2014, one of the highest rates in the EU. Smoking rates are more than two-times higher among the least educated people than the most educated. The obesity rate in adults is also among the highest in Europe, with one in five adults being obese in 2017, with disparities by education level. This high prevalence of lifestyle-related risk factors contributes to high mortality rates from cardiovascular diseases and cancer. The Hungarian government has taken a series of measures to improve nutrition, including the introduction of a public health product tax to reduce consumption of unhealthy food in 2011 and the adoption of a legislation to control trans-fatty acids in food in 2013.

The Hungarian health system is organised around a single health insurance fund and is highly centralised. It provides coverage to nearly all the population, but the benefit package is less comprehensive than in most EU countries. The health sector remains chronically underfunded and health does not appear to be a high priority, as reflected by the relatively small share of government spending allocated to health. The public share accounts for only two-thirds of health expenditure, much less than the EU average (79%), resulting in high levels of out-of-pocket spending (27%) compared to the EU average (16%).

The high levels of co-payments disproportionately affect low-income groups and lead to significant rates of catastrophic health expenditure. Almost half of all out-of-pocket spending goes to pharmaceuticals and medical devices – one of the highest proportions in the EU – and protection mechanisms for vulnerable populations are weak.

The shortages and uneven distribution of health professionals also undermine access to health services. The government substantially raised the remuneration of doctors and other health professionals in recent years in an attempt to attract and retain them, but improving other aspects of their working conditions and career prospects may also be required.



Overall, health care provision remains highly hospital-centric and primary care does not yet play a prominent role in Hungary. There have been some efforts in recent years to shift more care to the outpatient sector, by promoting group practices for general practitioners as well as greater task-sharing between doctors and other health professionals such as nurses. Recent pilot projects in primary care have shown promising results, but ongoing funding and scaling up of these initiatives remain unclear.

ICELAND

Life expectancy in Iceland is above the EU average, although recent gains have been small compared to EU countries. The gap in longevity between those most and least educated has widened since 2011, as the life expectancy of the most educated continued to increase while there was no gain among the least educated. Women still live a few years more than men do, but the gender gap in the number of healthy years is in favour of men, as Icelandic women tend to live a greater proportion of their lives with chronic diseases and disabilities.

Tobacco and alcohol consumption are substantially lower than in most other European countries, which is credited to longstanding and comprehensive efforts to combat their use. However, the rising rate of overweight and obesity is a growing public health issue, with one in five adolescents now being overweight or obese, and one in four adults obese. Iceland has begun to respond to this public health concern by issuing guidelines on nutrition and physical activity, as well as restricting marketing of certain foods towards children. The results so far appear modest, however.

Health expenditure per capita in Iceland is above the EU average, yet as a percentage of GDP it is below the EU average (8.3% compared with an EU average of 9.8%). Most expenditure is publicly funded (82%), with out-of-pocket payments accounting for most of the remaining expenditure, as private health insurance only plays a marginal role. More than two-thirds of out-of-pocket payments are for dental care and pharmaceuticals, with these services and goods covered to a lesser extent by health insurance. This results in higher unmet needs for dental care than for other care, particularly among people on low incomes.

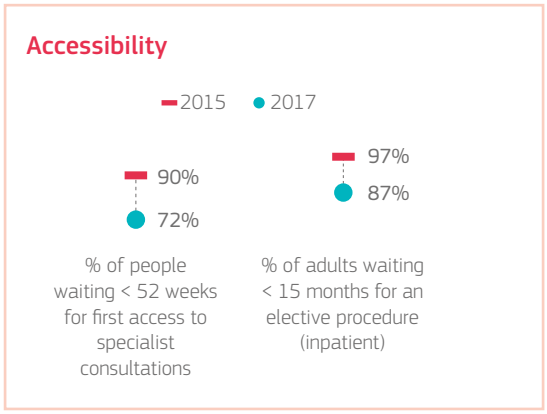
Iceland has a relatively high number of doctors and nurses compared with most EU countries, but there are persisting issues regarding the composition and geographical distribution of the medical workforce, as well as growing concerns about shortages of nurses. Only one in six doctors is a general practitioner, and availability is particularly low in the Capital and South-west Regions. While primary care clinics should be the first point of contact for patients, specialists provide a significant proportion of first contacts, as general practitioners do not provide a gatekeeping function. Nurses have started to play a greater role in primary care and in emergency departments in hospitals, but these new roles are rare, and the number of advanced practice nurses is still limited.

Long waiting times for some health services are a persistent issue in Iceland, which became more pronounced following the economic crisis and a series of strikes among health professionals. A 2016 government plan that defined waiting time targets and allocated additional funding has resulted in shorter waiting times for operations like cataract surgery and cardiac angioplasty. However, waiting times for hip and knee replacements still exceed the targets.

Iceland continues to work towards the creation of a more integrated and interconnected health information system. The overall aim is to be able to share information with patients and across institutions, the public and private sector, and the seven health regions, in order to improve care coordination and reduce duplication of tests and procedures.

IRELAND

Life expectancy in Ireland has increased more rapidly than in nearly all EU countries since 2000 and is now more than one year above the EU average, but not all additional years are lived in good health. Around one-third of years after age 65 are lived with some chronic diseases and disabilities, increasing demands on health and long-term care systems.



The health system is generally effective in avoiding deaths from preventable causes. As part of further efforts to reduce smoking, plain packaging for all tobacco products became mandatory in October 2018. Overweight and obesity among adults and children are growing public health issues in Ireland. To tackle this problem, a tax on sugar-sweetened drinks was adopted in 2017.

Ireland spends around one-fifth more on health per capita than the EU average, but the share of public spending is below the EU average. This can be explained by the important role of private health insurance: Ireland has the largest market for duplicate insurance in Europe. Consequently, the financing share of private health insurance is three times higher than the EU average.

Ireland remains the only western European country without universal access to primary care. More than 50% of the population have to pay out of pocket for a general practitioner visit. For those without coverage this can lead to delayed and more expensive treatment in hospitals. While addressing this problem stands at the heart of the recent Sláintecare reform proposal, the measures taken thus far do not wholly commit to providing universal health coverage through legislating for entitlement to care.

Waiting times for treatment are widespread in the Irish health system, be it in the community or for specialist visits or elective surgery in hospitals. A two-tier health system, where those with the ability to pay for treatment privately get faster access to care, combined with low levels of hospital capacity and the inappropriate use of some hospital resources, contribute to this problem. Initiatives taken in 2018 appear to have been somewhat effective in reducing waiting times in some areas, but it remains to be seen whether this trend will continue.

The high reliance on foreign-trained doctors and the fact that a high number of medical graduates in Ireland will never work in Ireland raise serious questions about coherence between the education, training and employment policies of doctors. Increasing internship and postgraduate training places for new medical graduates would go a long way in addressing the current bottleneck and increasing the number of fully trained doctors.

Managing to stay within allocated health budgets continues to be an issue at all levels of the Irish health system. This refers to the Health Service Executive at large, but consistent overspending at the hospital level is a particular challenge.

The Sláintecare Report of 2017 laid out the ten-year vision for a modern patient-centred single-tier health care system with universal access for everyone. The publication of the very detailed Action Plan in 2019 is an important step and shows the commitment of the current government to implementing this vision. However, there are questions over whether sufficient financial resources will be made available to implement all central elements of the reform as envisaged in the original Sláintecare Report.

ITALY

The health of the Italian population is generally good and life expectancy is the second highest in the EU after Spain, but gaps persist by socioeconomic status and region. The least educated men live 4.5 years less than the most educated (which is nonetheless a smaller gap than the EU average), and the gap in life expectancy between those living in southern and northern regions can reach up to three years in favour of the latter.

Although tobacco-control policies have succeeded in reducing smoking rates among adults, the proportion of adolescents and adults who smoke remains higher than the EU average. While obesity among adults is lower than the EU average, the proportion of children and adolescents either overweight or obese is greater. In February 2019, the Ministers of Health and Education adopted a set of integrated policy guidelines to promote better nutrition, physical activity and other health promotion activities in schools.

Following the economic crisis in 2008-09, health spending fell initially, but has remained stable in recent years. Health spending accounted for 8.8% of Italy's GDP in 2017, a lower share than the EU average of 9.8%. About three-quarters of health spending is publicly funded, a lower share than in 2010 (79%) and lower than the current EU average (79%). Out-of-pocket payments increased following the introduction of new co-payments for many health services and pharmaceuticals after the economic crisis. Unmet needs for medical care are generally low, although they are higher for people on low incomes.

Italy can build on a strong primary care system to address the needs of an ageing population. Several regions are piloting new service delivery models, adding multispecialty community-based centres and intermediate care facilities between primary care and hospitals, developing case management capacity and combining them with social care. Although these initiatives aim to identify new models of chronic care, most of these pilots have not been subject to a formal evaluation process yet.

Italy has faced important challenges in restoring public trust in the benefits of vaccination: inadequate vaccination coverage, both now and in the past, has led to several measles outbreaks in recent years. A national vaccination plan was approved in 2017, creating a single national vaccine schedule, and including ten mandatory vaccines for children. However, misinformation and weak policy coherence continue to hinder the implementation of this plan.

While the numbers of doctors and nurses per population have slightly increased over the past decade, there are growing concerns about workforce shortages, with more than half of all doctors over the age of 55. The training and recruitment of new doctors has been limited in recent years due to a shortage of internship and postgraduate specialty training places and good job opportunities for newly trained doctors, which led to the emigration of many medical graduates and young doctors. The scope of practice of nurses remains limited and no expansion has been envisaged to improve both access to care and career prospects for nurses.

As in other EU Member States, population ageing and moderate economic growth are projected to put pressure on public spending on health and long-term care in the coming years and decades. Better coordination across the country in the development of digital health solutions could help improve access and efficiency in health service delivery.

LATVIA

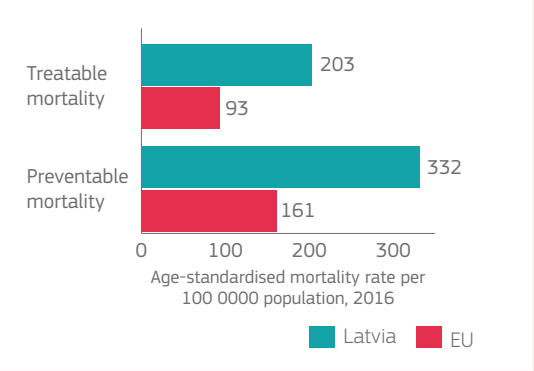
While the health of Latvians has improved since 2000, life expectancy remains six years below the EU average and the second lowest in Europe. Moreover, substantial inequalities persist by gender and socioeconomic status. On average, Latvians aged 65 can expect to live an additional 17 years, but three-quarters of this time is likely to be spent with chronic disease and disability.

More than half of all deaths in Latvia are attributable to behavioural risk factors, including poor nutrition, tobacco smoking, alcohol consumption and low physical activity. While one in four adults reported smoking daily, the average conceals a strong gender difference, with Latvian men being among the heaviest smokers in the EU. Alcohol consumption per capita is higher than in most other EU countries, at 11.2 litres compared to 9.9 in the EU, and has risen in the past decade. The obesity rate is also above the EU average: one in four women and one in six men in Latvia are obese.

Latvia has the second highest preventable mortality rate in the EU after Lithuania. A number of steps have been taken to deliver preventive care more effectively, but given the substantial impact of behavioural risk factors, further attention to prevention could greatly improve the health of the population. Mortality from treatable causes is also substantially higher than the EU average. These indicators suggest that the general effectiveness of the health system could be improved.

Latvia has a national health service system with universal population coverage and general tax-financed health care provision. However, with a relatively small share of government spending allocated to health, the health system remains significantly underfunded. Despite recent increases in spending, the share of GDP spent on health was 6.0% in 2017, well below the EU average (9.8%) and 0.5 percentage points less than the other Baltic states.

Latvia is one of the few countries that has increased the proportion of spending on outpatient care – by almost 20% since 2010 – but over-reliance on the hospital sector persists. The publicly funded benefit package is relatively limited, and the Latvian population is not well protected from the costs of poor health. The uneven distribution of health services across the country is a further barrier to health care accessibility.



The proportion of the Latvian population reporting unmet medical needs is among the highest in Europe, with 6.2% of Latvians reporting having foregone medical care. One of the major barriers to access is the level of out-of-pocket payments, which represent 41.8% of total health spending (the third highest level in the EU and mainly driven by the costs of medicines). This means that significant numbers of households incur catastrophic expenditure.

Substantial improvement in accessibility to care will remain difficult given the current level of resources in the Latvian health system. While some improvements may bring efficiency gains, most may require at least some upfront investment. To achieve health outcomes closer to EU averages, while making real inroads into problems of access and quality, dedicating a higher share of public budget to health will be needed.

LITHUANIA

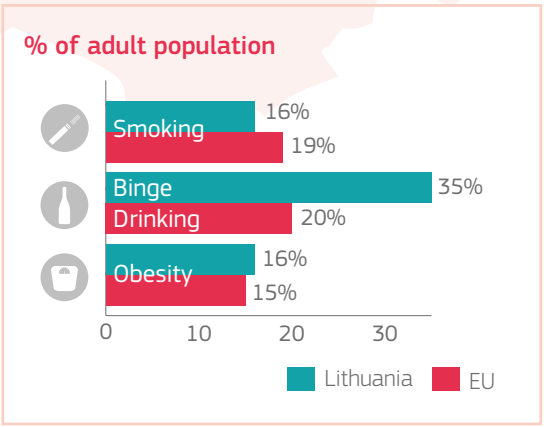
Lithuania has one of the lowest levels of life expectancy in the EU. Although it has increased steadily since 2007, it only reached 75.8 years in 2017, more than five years below the EU average. In addition, substantial inequalities persist by gender: women live nearly ten years more than men, mainly because men have greater exposure to risk factors. Overall, the majority of the population – particularly people on low incomes – reports not being in good health.

More than half of all deaths in Lithuania can be attributed to behavioural risk factors, including dietary risks, tobacco smoking, alcohol consumption and low physical activity. Despite some recent reductions brought about by alcohol control measures, alcohol consumption is still the highest across EU countries, 25% above the EU average. High smoking prevalence, especially among men, and obesity rates add to this challenge. In recent years, the authorities have taken action to curb unhealthy behaviours, including through the National Health Strategy 2014-25. Some of the measures have started to bring positive results, as testified by the recently observed reduction in alcohol consumption.

Lithuania also grapples with some specific health challenges. Mental health is a major public health issue, with the country reporting the highest mortality rate from suicide in the EU. Important efforts have been made in recent years to improve mental health services, which have contributed to initiate a reduction in the number of deaths by suicide. Containment of some infectious diseases, such as tuberculosis and measles, also constitutes a public health challenge.

Lithuania spends considerably less on health than most other EU countries. In 2017, health expenditure accounted for 6.5% of GDP, the fifth lowest in the EU, and well below the EU average of 9.8%. Furthermore, only about two-thirds of health expenditure is publicly funded in Lithuania, with out-of-pocket spending accounting for a much greater share than nearly all other EU countries. Greater public funding for prevention and health care could help improve health outcomes and reduce the financial burden for patients.

General access to health services is good, yet high out-of-pocket payments on outpatient medicines remain a major barrier. Pharmaceuticals are the main driver of catastrophic expenditure on health, disproportionately affecting low-income populations. It is expected that the recent reform of the co-payment system will contribute to reducing the number of patients enduring financial hardship when accessing pharmaceuticals. Continuing the monitoring and evaluation of these measures and their impact on health will help to guide future policy actions.



Lithuania stands out as having much higher mortality rates from preventable and treatable causes than other EU countries, even those with similar health expenditure levels. The quality indicators of outpatient and inpatient care also lag behind those of most other EU countries. These indicators suggest that the system could improve its effectiveness substantially. A further shift from inpatient to primary care appears necessary to improve health service quality and responsiveness. Although health care quality monitoring and analysis have gained attention in recent years, Lithuania lacks system-wide support for continuous health care quality improvement.

LUXEMBOURG

Life expectancy in Luxembourg is among the highest in the EU. Relatively low mortality rates from treatable causes indicate that the health system generally provides good quality care and significantly contributes to improving population health. However, some risk factors have a negative impact on life expectancy. In particular, alcohol consumption is among the highest in the EU and represents a major public health challenge.

Despite cost-containment efforts, health spending per capita (EUR 3 575 in 2017) is one of the highest among EU countries. Although health care is well funded, projected increases in public spending in the health sector, as well as on long-term care, are significant due to the additional needs arising from population ageing. The public share of spending on health (83%) is above the EU average (79%) while nearly 11% is paid directly out of pocket by households.

Luxembourg's population generally has good access to care with few barriers arising from distance, waiting times or cost. Out-of-pocket spending and cost sharing are low. The benefit basket covers a wide range of services and is being continuously expanded. There are, however, inequalities of access, with people on low incomes reporting unmet medical needs for financial reasons. If adopted, the extension of the third-party payer model for outpatient services may further improve access to health care, particularly for vulnerable groups.

New domestic training opportunities for doctors and nurses are designed to address Luxembourg's over-reliance on foreign-trained workers and boost the number of doctors in the longer term. However, skill mix innovations and the development of professional roles will be needed in parallel to keep the health sector an attractive place to work, both for domestic and foreign health professionals. Task sharing and substitution will also be key, given the relatively low number of doctors.

Luxembourg has embarked on important reforms and strategies to improve the efficiency of health care delivery and to strengthen primary care. Diverting people from seeking care in hospitals and emergency departments is also a key focus and, to this end, the government supports general practitioner group practices that have extended opening hours. Key hospital reforms include promoting the use of more day surgery and enhanced cooperation between outpatient and inpatient providers through multidisciplinary care competence networks. Reducing the number of acute care hospital beds and the average length of stay as well as expanding the policy on generic substitution could also improve efficiency.

Although digital infrastructure is already advanced in Luxembourg, efforts are still ongoing to implement eHealth solutions that would further increase the transparency and efficiency of processes (such as digital solutions for the reimbursement of providers), enhance collaboration and improve integration of care. Important steps have been taken to improve documentation and monitoring in health. For example, the recent hospital reform legislation mandates the documentation of hospital activities, while a new Health Observatory will gather all the data needed to assess the performance of the health system. In light of fiscal sustainability concerns, it is important to focus on those interventions that would improve efficiency without driving costs higher.

MALTA

Maltese people enjoy generally good health and one of the longest life expectancies in the EU. Improved health system performance over the last two decades has helped to reduce mortality rates from treatable causes, particularly cardiovascular diseases and some cancers, while public health policies have contributed to low levels of preventable mortality. Further reductions in mortality from cardiovascular diseases have been targeted by increasing timely access to quality acute care. The rising disease burden from diabetes and mental health issues has led to them being recognised as priorities for the health sector.

Obesity is a major public health challenge, with adult and childhood obesity rates the highest in the EU. Binge drinking among adolescents also remains a concern. Recent initiatives addressing food provision in schools and alcohol sales to minors aim to tackle these risk factors. Socioeconomic inequalities in health status and related risk factors persist and tackling health inequalities and their causes is a new cross-sectoral political focus.

Malta spent 9.3% of GDP on health care in 2017, which is slightly below the EU average (9.8%). Reorienting services away from hospital settings towards primary and outpatient care to improve efficiency and enhance care for chronic conditions is a priority. Primary care is being strengthened through upskilling the workforce, building new facilities and upgrading existing ones, and expanding the range of services. A reorientation of services to more cost-effective settings will help accommodate future projected increases in spending due to an ageing population.

Reported unmet needs for medical care in Malta are generally low, but some evidence points to a higher impact on lower income groups. A comprehensive benefit package is available free of charge; however, out-of-pocket spending is among the highest in the EU, due to private expenditure on primary and outpatient care. This is partly due to attempts to bypass long waiting lists for specialist services and a large proportion of the population being required to pay out of pocket for some pharmaceuticals prescribed in these settings. While efforts to reduce waiting lists for inpatient care have been largely successful, waiting lists for outpatient services are growing.

Reforms to education, training and working conditions for health professionals have successfully increased the number of physicians and nurses working in Malta. An increasing reliance on migrant nurses in acute and long-term care, and an ageing private general practitioner workforce may pose future workforce challenges.

As a small country, Malta faces difficulties in ensuring availability of new medicines. This is now a critical issue, with the government's list of approved medicines struggling to keep up with innovation. The increased use of Managed Entry Agreements, biosimilars and clinical pathways, and protocols for the evaluation of new medicines has contributed to improved access in recent years. Stronger cross-border collaboration and policy options facilitating the use of generics and biosimilars, as well as new models encouraging joint procurement and price transparency, are key strategies to further enhance access to medicines.

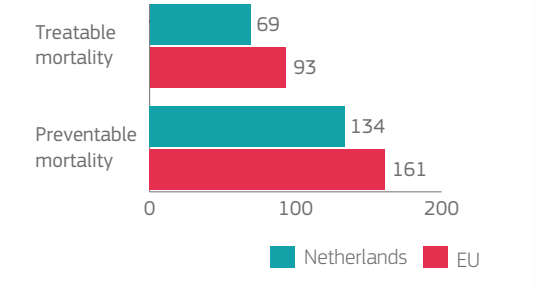
New public capital investment has been made to upgrade medical equipment in hospitals and to build additional hospital units to improve capacity for outpatient services, mental health care and mother and child care. A new public-private partnership aims to secure further capital investment to modernise hospitals and improve capacity, but careful monitoring is needed to ensure it improves quality of care, while maintaining equitable access and safeguarding health system sustainability.

NETHERLANDS

Life expectancy in the Netherlands is almost one year higher than the EU average. Yet progress in life expectancy gains have slowed considerably since 2011, mainly due to a slowdown in mortality improvements among those aged over 85. Mortality rates from heart attack and stroke have declined substantially, but mortality from lung cancer and chronic obstructive pulmonary disease – linked to high rates of smoking in previous generations – is among the highest in the EU. Risk factors, including smoking and poor diet, account for a third of all deaths.

Low mortality rates from preventable and treatable causes suggest the Dutch health system provides effective public health and health care interventions. Nevertheless, mortality from lung, colorectal and breast cancers is high, vaccination coverage is declining, avoidable admission rates for asthma and chronic obstructive pulmonary disease are slowly rising, and social inequalities persist. Several public health policies under the umbrella of the National Prevention Programme and screening programmes aim to tackle these issues, yet will take time to show results.

Access to the health system is good, with virtually no differences in unmet needs across income groups. The system protects its citizens from financial hardship, while out-of-pocket spending is low. However, workforce shortages and waiting times have increased in recent years, potentially threatening accessibility. The government has responded with a workforce action plan, which hopes to train and retain more health professionals.



The introduction of high-cost technologies, an ageing population, and the corresponding rise in chronic conditions will strain health budgets and challenge future sustainability. This will also affect the long-term care sector, which is already the largest in the EU. The 2015 reform tried to address this by shifting more responsibility to citizens; however, the new quality framework for long-term care will put additional pressure on the budget.

Misaligned incentives in long-term care could negatively influence the efficiency of the system. The new arrangements for patients who need long-term care could hinder care coordination, if long-term care purchasers (regional care offices, municipalities and health insurers) do not align their purchasing policies but shift responsibility for long-term care onto each other. Moreover, lack of care coordination between these schemes for vulnerable groups such as frail older people may negatively affect quality of care. Monitoring and better aligning the implicit incentives of the system would ensure that access and quality are not compromised.

Data governance is an area where large gains can be made. Until now, there has been no standardised electronic patient record and there still is room to scale up eHealth solutions. This has been acknowledged by the government, which has been taking a more active role in recent years. Among other things, a broad sectoral agreement has put improving data exchange and eHealth on the agenda, and progress will be keenly watched.

The government sees competition and active purchasing by insurers as the main instrument for improving efficiency. Although insurers negotiate on price and volume, negotiation on quality and outcomes is limited. Nevertheless, there are some promising initiatives where long-term contracts are awarded that focus on innovation, appropriate care and eliminating waste. Scaling-up such initiatives could help transform the system from one focused on volumes and prices to one focused on quality and value.

NORWAY

Life expectancy in Norway increased by nearly four years from 2000 and is now one of the highest in Europe at 82.7 years. Gains in life expectancy are largely due to reductions in mortality from cardiovascular disease, driven at least partly by effective public health policies aimed at reducing risk factors like smoking. The number of preventable deaths is among the lowest in Europe, having decreased by 10% between 2011 and 2016.

Norwegians have a healthier lifestyle than most other Europeans. The relatively low alcohol consumption and low obesity rates contribute to the overall good health status and high life expectancy of the Norwegian population. Since 2000, Norway has seen a 30% drop in smoking rates among adults. However, Norwegians' consumption of snus (a moist tobacco) has more than tripled in the meantime, with the majority of users being young adults aged 16 to 24. Although the adverse effects of snus on human health are less severe than smoking, this may constitute a public health challenge in the future.

The Norwegian health system is comparatively accessible and the population enjoys a broad benefit package. Means-tested ceilings protect vulnerable groups from facing high direct health spending, and unmet needs for medical care are low. However, unmet needs for dental care are more often reported by people on low incomes, as this is not covered for adults under the national health insurance scheme.

Norway spent 10.4% of GDP on health in 2017, the fourth highest share compared to EU countries, of which 85% is publicly funded (the highest share in Europe). A large share of public spending on health is allocated to long-term care, reflecting the government's goal of enabling family carers to stay in the labour force. The most recent projections foresee that budgetary pressures in the coming decades are likely to come mainly from rising long-term care expenditure due to population ageing.

The growing demands of an ageing population have led to several reforms to increase the value for money spent. There has been a gradual shift to care provided in the community, allowing people to continue living independently as long as possible. Recent reforms have also aimed to strengthen the municipalities' capacity to provide chronic care to frail and elderly people, in order to reduce delayed discharges from hospital and readmissions. However, the results of these reforms have not fully met the initial expectations, with many municipalities lacking the capacity to provide appropriate care in outpatient facilities.

Cancer care is generally good in Norway. Survival rates are well above the EU average for many types of cancer, indicating good access to early diagnosis and quality of care. In 2015, Norway implemented cancer patient pathways, which focus on improving coordination, continuity and patient involvement throughout the cancer treatment process.

People-centredness is an important element of the Norwegian health system. Since the 1990s, patient-reported information has been used as a measure of health care quality alongside more traditional clinical measures. Recent initiatives from the Norwegian Ministry of Health and Care Services have focused on including patient-reported experience and outcome measures in the different quality registries used for performance evaluation.

POLAND

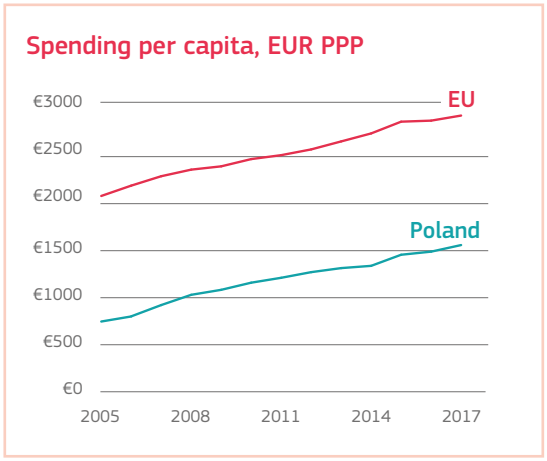
Since 2000, life expectancy at birth has increased by four years in Poland, but remains three years below the EU average. Inequalities in life expectancy by gender and education are marked: men with the lowest level of education live about 12 years less than the most educated. Life expectancy at age 65 has also increased, yet two thirds of older people live with at least one chronic disease and almost half live with depressive symptoms.

Behavioural risk factors account for almost half of all deaths. While smoking rates have decreased, and lung cancer deaths have fallen, they are higher than the EU average and much greater for men than for women. Obesity rates have also increased over the last ten years for adults and particularly for children, although both are still below the EU averages. Unhealthy dietary behaviours and low physical activity contribute to this growing public health issue, which has been largely neglected so far.

Mortality from treatable causes continues to be much higher than the EU average and survival rates for cancers are consistently lower than in the EU, indicating that there is much scope for improvement in early diagnosis and timely, effective treatment.

Total health spending per capita (EUR 1 507) and as a share of GDP (6.5%) is among the lowest in the EU. A recent pledge to increase public spending on health from 4.6% of GDP in recent years to 6.0% of GDP by 2024 acknowledges this underfunding issue. The injection of extra funds, if invested effectively, could go a long way in addressing the main barriers to accessing care. This would comprise tackling long waiting times for medical services, and shoring up capacity to meet population needs, particularly in underserved areas.

Lack of affordability also hinders equity of access to health care. Out-of-pocket spending is comparatively high, at nearly 23% of health expenditure. Most of it is due to limited public coverage for outpatient pharmaceuticals, the largest single driver of catastrophic health spending, which affected some 30% of low-income households in 2014.



Despite a surge in medical graduates over the last decade, shortages of health professionals in public facilities, particularly doctors and nurses, are among the most acute in Europe. Since training health professionals may take time, human resources planning requires urgent action, along with attention to recruitment and retention policies. In particular, shortages of general practitioners will continue to pose a major challenge for the effective delivery of primary care.

The avoidable hospitalisation rate for chronic conditions that could be treated in outpatient settings is one of the highest in Europe, reflecting issues in access to and quality of primary care. Related to this, the provision of care continues to be over-reliant on hospitals and the shift to more community-based care has not yet materialised. However, recent reforms and ongoing pilots targeting coordination of care may help with this shift.

Health care governance is fragmented and helps explain the slow progress with reforms, such as reducing the number of hospital beds and clearing hospital debts. A unified strategic vision for the health system has so far been lacking, but work is ongoing to remedy this.

PORTUGAL

Life expectancy in Portugal has increased substantially in the last decade (driven by falling mortality from stroke and ischaemic heart disease), but the gender gap is above the EU average and there are inequalities by level of education. Notably, lung cancer has increased, reflecting the legacy of past smoking rates. Still, only half of the population reports being in good health in contrast to most of the EU where two thirds of adults rate their health positively.

Levels of physical activity are low compared to the EU average. There are concerns about adult alcohol consumption and the rise in overweight and obesity levels, particularly among children. There are multiple efforts to address these concerns, including taxing all drinks with added sugar or sweeteners. Around one in six adults are daily smokers, although the rate has decreased since 2000. The indoor smoking ban, first introduced in 2007, was recently extended to ban smoking to protect children outdoors, such as in playgrounds and holiday camps.

The National Health Service provides universal coverage to the entire population. Until recently, user charges were levied on almost all services within the National Health Service (NHS), such as general practitioner or emergency visits, but a large share of the population (60%) was exempted. New legislation in 2019 abolished user charges for primary care services and other health care prescribed within the NHS. However, given the small value of user charges and the large exemptions in place, this reform is not expected to reduce Portugal's high level of out-of-pocket spending, which currently makes up 27.5% of total health expenditure, significantly higher than the EU average (15.9%).

Portugal has a strong primary care system, which manages to keep patients out of hospital when appropriate. Since 2016, it has successfully increased the number of general practitioners, creating new positions across the country, and increasing postgraduate training. Nonetheless, some 0.6 million NHS users were not registered with a general practitioner in early 2019. Current programmes and incentive schemes are also in place to tackle the uneven distribution of health care resources. Notably, new hospitals have been established, and incentive schemes are in place for health personnel to move to underserved areas.

There are two significant challenges to the health system's financial and fiscal sustainability. The first is the need to care for an ageing population with rising health needs and chronic conditions. The cost-cutting and efficiency measures that followed the economic crisis contributed to the health system delivering better value for money, spending less than the EU average. This has been achieved alongside relatively low levels of mortality from preventable and treatable causes, and a continued focus on further opportunities to increase the efficiency of the health system is as relevant as ever. Secondly, the high and steadily growing arrears of NHS hospitals are a long-standing and serious problem. A new programme introduced in 2019 aims to address the underlying causes of the hospital arrears and find a more durable solution.

The Portuguese health system is formally committed to public participation and patient empowerment. It has progressively increased transparency, mainly through its NHS Portal, which shares information on spending and waiting times, and the National Health Council, which strives to engage NHS users in the policymaking process.

ROMANIA

Life expectancy in Romania is among the lowest in the EU and, although it has increased since 2000, it remains almost six years below the EU average. High preventable mortality and avoidable deaths from treatable causes indicate scope for improvement in tackling risk factors and in the effectiveness of health care services. Life expectancy at birth varies substantially by gender and education. In particular, men with the highest level of education live ten years longer than those with the lowest education.

Behavioural risk factors are widespread and constitute a serious threat to population health. Poor nutrition and lack of physical activity are major concerns. Although adult obesity rates are among the lowest in the EU, overweight and obesity levels among children have increased significantly in recent years. Over 30% of men smoke (but only 8% of women), and regular smoking among teenagers is also high. Alcohol consumption is heavy, with 50% of men engaging in binge drinking regularly. There have been no recent initiatives on alcohol and it remains to be seen if the new tobacco regulation introduced in 2016 will be effective.

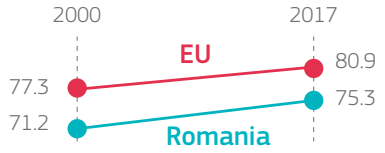
Health spending is historically low and less than in any other EU country, both in per capita terms and as a proportion of GDP (5.2% of GDP in 2017 compared with an EU average of 9.8%). The underfinancing of the system undermines Romania's ability to meet current population needs, which will become increasingly challenging as the population ages and the resource base shrinks.

The limited spending is skewed towards hospital and inpatient care. This helps to explain why primary and community care remain underdeveloped. Health service inefficiencies, including the oversupply of hospital beds, underdevelopment of day surgery and poor care integration exacerbate the situation. The National Health Strategy 2014-20 and financial incentives from the EU support the delivery of services in the most cost-effective settings and aim to improve links across health care, as well as to other sectors.

Most health spending is publicly funded (79%), but the share of out-of-pocket expenditure (around 20%) can be substantial, particularly for vulnerable people.

Most out-of-pocket spending is on pharmaceuticals. Besides cost, the unequal distribution of health facilities and health workers poses barriers to accessing care, especially for those living in rural areas. Current gaps in population coverage for social health insurance also leave certain groups exposed, such as people without an identity card (affecting the Roma population disproportionally), people without income who are not registered for social benefits, or those in the informal economy who do not declare their incomes.

Life expectancy at birth, years



Health workforce shortages remain critical, with the number of doctors and nurses among the lowest in Europe. In 2018, the government addressed this under an Emergency Ordinance with substantial and rapid increases in pay, which more than doubled junior doctors' salaries in public hospitals. This was a response to protests and it is hoped that improved pay will help to retain medical personnel and reduce emigration.

Romania's health system is also challenged by governance issues. There is no systematic performance assessment, and transparency is generally lacking. There have been frequent changes in leadership, with more than a dozen health ministers over the last decade, as well as frequent changes in the leadership of the National Health Insurance House. This undermines stability, coordination and the progress of reforms.

SLOVAKIA

The health status of the Slovak population has improved since 2000. Life expectancy increased by four years to reach 77.3 years in 2017, but it remains almost four years below the EU average. Substantial inequalities persist by gender and education level. Women tend to live seven years longer than men, while the life expectancy at age 30 is 14 years longer for the most educated men compared with the least educated.

Around half of all deaths in Slovakia can be attributed to behavioural risk factors, a proportion far above the 39% EU average. Persistently high tobacco consumption and the rising overweight and obesity rates among children are threats to the health of the Slovak people. While in most EU countries smoking rates have decreased substantially over the past decade, tobacco consumption remained stable in Slovakia, with more than one in five adults still smoking on a daily basis.

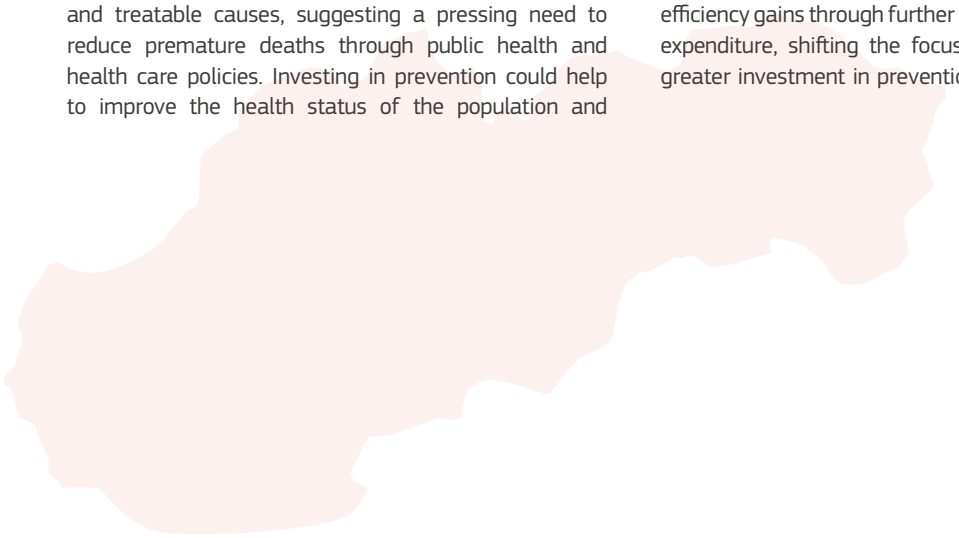
Health spending in Slovakia is much lower than most EU countries, at 6.7% of GDP compared to 9.8% in the EU. Despite this relatively low level of expenditure, the Slovak health system provides a comprehensive benefit package to nearly the entire population, with limited levels of out-of-pocket expenditure. Nevertheless, the system remains hospital-centric and has yet to prioritise expansion of its primary care sector.

Slovakia reports high mortality rates from preventable and treatable causes, suggesting a pressing need to reduce premature deaths through public health and health care policies. Investing in prevention could help to improve the health status of the population and reduce health inequalities. Only 1% of health spending is allocated to prevention, compared with an EU average of 3%. Strengthening the primary care sector could also enhance the detection and management of chronic diseases and reduce unnecessary hospitalisations.

While access to health care is generally good for most of the population, some marginalised populations (such as ethnic minorities and those living in deprived areas) face considerable barriers to accessing care. In principle, Roma people have equal access to health services, but lower vaccination coverage, lower consumption of health services and considerably higher mortality rates are the reality. Some initiatives to improve their access to health care have been introduced in recent years.

Doctors are unevenly distributed across the country and the current workforce is ageing. There are concerns about the future retention of young doctors currently being trained to replace those who will retire in the coming years. Important actions have been taken in recent years to address this issue, such as pay increases for health professionals and a reform of training curricula.

Population ageing will put significant pressure on health and long-term care expenditure in Slovakia, and the growth rate of health expenditure is expected to be above the EU average in the next few decades. At the same time, the current health system shows great potential for efficiency gains through further control of pharmaceutical expenditure, shifting the focus to outpatient care and greater investment in prevention and health promotion.

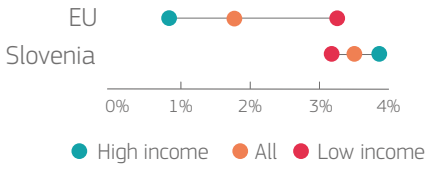


SLOVENIA

The health of the Slovenian population continues to improve, although gaps in life expectancy by gender and socioeconomic groups persist. The considerable increase in life expectancy partly results from declining cardiovascular mortality. However, ischaemic heart disease and stroke lead as the main causes of death, followed by lung cancer. High suicide rates are also prevalent despite a reduction in overall numbers. Behavioural risk factors, in particular dietary risks, are an important public health concern, especially with regard to children, adolescents, and disadvantaged populations.

Although there has been gradual progress in reducing mortality due to cardiovascular disease, differences between genders remain marked. The five-year survival rates for lung, breast, colorectal and prostate cancers have also improved. Lower mortality rates and improved survival reflect more effective therapies, but also partly result from population-based screening programmes and a higher focus on prevention.

Accessibility
% reporting unmet medical needs



An important development in recent years has been the reorientation of the health system towards prevention and public health activities, particularly aimed at non-communicable diseases and risk factors, through health promotion centres, model practices, counselling and screening in primary health care. These services also aim to tackle geographic barriers to health care and increase equity of access and outcomes for underserved populations.

The compulsory health insurance system provides universal coverage to all permanent residents, yet private spending is relatively high. About 95% of the population purchases complementary voluntary health insurance, mainly to cover co-payments. Given the high uptake of voluntary insurance, out-of-pocket spending is low, which indicates that households are mostly protected against catastrophic expenditure.

Long waiting times have been an enduring challenge, despite efforts to address them, for example through occasional added funding. Survey results show that waiting times are the main reason for self-reported unmet medical and dental needs. On a positive note, little variation in levels of unmet needs among income groups indicates that access to care is generally equitable.

The shortage of doctors is a major health system challenge in Slovenia. In particular, the low numbers of general practitioners negatively influence waiting times. More doctors are currently being trained, and salaries have been corrected to reduce the wage gap in comparison to hospital specialists.

Slovenia is one of the most rapidly ageing countries in the EU, and health spending as a share of GDP is forecast to increase in the coming years. The country also faces a major challenge with the projected growth of long-term care expenditure and the need for a shift in care models. These are projected to pose fiscal sustainability risks in the medium to long term. Given that the current system is heavily dependent on payroll contributions, there are proposals to diversify the health system's funding sources. There are plans to reform both health care and long-term care financing, but legislation has been postponed to mid-2020 at the earliest.

SPAIN

Life expectancy in Spain is the highest in the EU, although many years of life after age 65 are spent with some chronic diseases and disabilities, adding pressure to health and long-term care systems.

Preventable and treatable causes of mortality are lower in Spain than in most EU countries, reflecting strong public health policies and the effectiveness of the health care system in treating people with life-threatening conditions. Further progress in reducing mortality from important causes of death such as lung cancer and colorectal cancer could be achieved by reducing risk factors like smoking and increasing screening rates.

Obesity rates have increased in Spain, which may hamper progress in further reducing cardiovascular mortality and other obesity-related causes of death. One in six adults was obese in 2017, up from one in eight in 2001. In 2005, the government launched a strategy to improve nutrition, promote physical activity and prevent obesity, followed by new measures in 2011, but the effects so far appear to be modest.

Following the economic crisis, health spending decreased for several years, but started to increase again from 2015. In 2017, Spain allocated 8.9% of its GDP to health spending, a lower proportion than the EU average of 9.8%. Budgetary pressures in the coming decades are expected to arise from growing needs for health care and long-term care due to population ageing.

While potentially avoidable hospital admissions for some chronic diseases such as diabetes are comparatively low in Spain, they are close to the EU average for others. Regional initiatives have been launched to promote more integrated care for the growing number of people living with chronic conditions. A number of telehealth services have also been implemented in different regions to overcome geographic barriers and promote care continuity. One challenge for the future will be to scale up those initiatives that are proving to work well.

The number of doctors, nurses and other people employed in the national health system has increased over the past few years, but a large number are on temporary contracts, increasing turnover rates. Concerns about shortages of nurses and doctors – particularly of general practitioners – are growing as many approach retirement age. More coherent medical education and training policies have been hampered by the lack of a clear and shared vision between educational and health authorities on needs over the medium and long term.

The role of nurses in the provision of some services was expanded in 2018 to increase access to care and improve career prospects for nurses and retention rates. Nurses are now allowed to prescribe some medicines and vaccines included in the official vaccination calendar.

Primary care remains a central element of the Spanish health system, with general practitioners and nurses providing care for the whole population, as well as preventive and health promotion services targeting children, women and elderly people. However, growing demands on the primary care system arising from population ageing may require more and a better use of resources. A new Strategic Framework for Primary and Community Care was adopted in April 2019, including a set of ambitious goals, but the budget to support implementation has not yet been allocated.

SWEDEN

Swedish people live longer than people in most other EU countries, although progress in life expectancy has been slower in Sweden than the EU average since 2000. The gender gap is relatively small, but socioeconomic disparities persist. Many years of life after age 65 are spent with one or more chronic diseases and some disabilities.

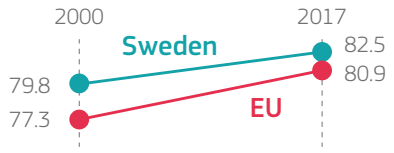
Some important risk factors to health like smoking and alcohol drinking are generally low in Sweden, but overweight and obesity are growing public health issues among adolescents and adults. Almost one in five 15-year-olds are overweight or obese, and almost one in eight adults are obese, up from one in eleven in 2000. Many risk factors are more prevalent among populations with lower income or education, contributing to socioeconomic disparities in health and life expectancy. In 2014, the government set a goal to eliminate avoidable health status gaps between population groups within one generation. This has been followed up by the adoption of a new public health policy in 2018, aiming to facilitate the implementation of actions in eight target areas and to evaluate progress.

The decentralisation of the Swedish health system into 21 counties contributes to regional differences in access to care and outcomes, which goes against Sweden's aim of health equity. To mitigate these disparities, a new redistribution system has been suggested to ensure a more equitable distribution of resources across regions. Additional funding is available for targeted programmes. The new government announced a broad primary care reform, including plans to reduce regional disparities and improve access in rural areas.

Sweden allocates a large amount of money to health, with spending per capita and as a share of GDP the third highest among EU countries. However, the country spends comparatively little on hospital inpatient care, focusing instead on outpatient care and long-term care. This reflects deliberate strategies over the past two decades to move care from hospitals to primary care or community care as much as possible.

Sweden has relatively high numbers of doctors and nurses, but problems persist with recruiting staff, particularly in rural areas. Only 15% of doctors are general practitioners, restricting timely access to primary care. Some effective task-sharing between nurses and doctors has been implemented in primary care, with nurses playing a greater role, for example, in managing chronic diseases. However, the lack of advanced practice and specialist nurses hampers greater task-sharing in primary care and in hospitals. In January 2019, the government announced a plan to train more specialist nurses and to strengthen the role of assistant nurses.

Life expectancy at birth, years



Waiting times for health services are a longstanding issue and are increasing in some cases. For example, about 20% of patients were on waiting lists for cataract surgery for over three months in 2018, up from 10% in 2013. The new government announced its intention to allocate more money to reducing waiting times for elective surgery and other health services. Another important challenge is to improve care coordination and the timeliness of services for patients with cancer, mental illness, Alzheimer's disease and other dementias.

UNITED KINGDOM

The population of the United Kingdom enjoys high life expectancy, and the overall health status of the population is good. However, these average figures mask wide disparities in health by socioeconomic status. The gap in life expectancy at birth between the most affluent and most deprived is 9.3 years for men and 7.4 years for women. Improvements in life expectancy have slowed since 2011, mainly due to the slowdown in mortality improvements at older ages.

Although the proportion of deaths attributed to behavioural risk factors is below average for the EU, over one third of all deaths in the United Kingdom can be attributed to tobacco smoking, dietary risks, alcohol consumption and low physical activity. The United Kingdom spends considerably more on preventive services than other countries, yet there has been little progress in reducing preventable mortality since 2011.

The four nations of the United Kingdom all have tax-funded health systems that provide universal access to a comprehensive benefit package. Overall, there are low levels of unmet needs, low out-of-pocket spending and good financial protection. This is achieved with average levels of health spending.

Waiting times are the main barrier to access and are used to ration care in the face of resource constraints and increasing demand. Waiting times are increasing, but are similar across socioeconomic groups. As in other countries, increasing demand in the United Kingdom is largely due to population ageing; while people are surviving previously untreatable conditions, they are living longer with chronic diseases and multi-morbidity.

The health system has been a site of policy innovation as decision makers have sought to meet increasing health demands with limited resources. Innovations in workforce policies have focused on greater team working and task shifting in both primary and specialist care. Increasingly, the use of remote consultations relying on modern communications technologies have become a reform target for both primary and hospital outpatient (ambulatory) care. While these innovations may improve accessibility and integration, it is not clear that they will automatically contain costs.

In 2018, an injection of funding for the many English National Health Service providers in deficit relieved some of the financial pressure in the system as it cut deficits, but disbursements were conditional on providers achieving even more efficiency gains. Hospitals are already working at near full capacity with high occupancy rates and short lengths of stay. It is unlikely that additional efficiency gains alone can be sufficient to reduce health spending. The system is already efficient, and overspending is driven by the need to meet increasing demand for services. In social care, funding cuts have pushed many providers to the brink of financial insolvency.

Beyond underfunding, shortages in the health workforce are a key challenge. The United Kingdom relies on migration to sustain its health system. International recruitment is hampered by restrictive migration policies, uncertainties around the United Kingdom's position vis-à-vis the EU and the rights of EU nationals living there. In turn, staffing shortages make the working environment more stressful and difficult.

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