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State of Health in the EU: Companion Report 2017

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Executive summary

This Companion Report draws five key conclusions from the 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 covers strongly related, cross-cutting policy levers that can improve the effectiveness, accessibility and resilience of health systems. Five key conclusions are drawn.

1. Health promotion and disease prevention pave the way for a more effective and efficient health system

Prevention is the key to avoid ill health and achieve a high level of mental and physical well-being effectively and efficiently. Despite this being a well-known fact, only small fractions of health care budgets, political attention and stakeholder engagement are dedicated to prevention. Guided by the UN Sustainable Development Goal for 2030 to reduce by one third premature mortality from non-communicable diseases, the Commission is working closely with Member States to focus more proactively on prevention and the social determinants of health. Breaking the vicious cycle of ill health and poverty will, however, require multi-sectorial collaboration with other policy fields. A wide range of actions are in place to support Member States, ranging from various mutual learning exercises to regulation and legislation. There is now a need to bring together lessons learned and good practices, in order to transpose, pilot and up-scale them in other countries, contexts and settings.

2. A strong primary care guides patients through the health system and helps avoid wasteful spending

Strong primary care can contribute to strengthening the overall health system's performance by, inter alia, providing affordable and accessible care; coordinating care for patients so that they are given the most appropriate services in the right setting; and reducing avoidable hospital admissions. The right combination of incentives helps achieve optimal delivery not only of primary care, but also of secondary care, hospital, and emergency services – and building in a gatekeeping or referral system is increasingly part of the mix. Yet more than one in four patients across the EU still visit an emergency department because of inadequate primary care. Strong primary care is the key to integration and continuity between and across levels of care, which is essential for patients, particularly those with complex needs. The EU Expert Group on Health Systems Performance Assessment is currently working on the identification of tools and methodologies to assess the performance of primary care systems and it is expected to present its findings in the first quarter of 2018.

3. Integrated care tackles a labyrinth of scattered health services to the benefit of the patient

The rising burden of chronic disease and multi-morbidity requires countries to confront the fragmentation of health services and shift towards integration: linking or coordinating providers along the continuum of care and putting the patient at the centre. Primary care is a key actor, but numerous integrated care models of different shapes and sizes are found across the EU, some highlighted by the *State of Health in the EU* profiles. Comprehensive evaluation of these models is less prevalent, though initial evidence flags their contribution to better effectiveness, accessibility

and resilience. It also demonstrates the importance of the right skill mix and training and of being able to share information effectively. The EU Expert Group on Health Systems Performance Assessment has provided tools and methodologies to assist these evaluations. Other EU value added manifests itself as financial support, with various Commission-funded projects operating across the EU and tailor-made technical assistance available.

4. Proactive health workforce planning and forecasting make health systems resilient to future shocks

To strengthen prevention, primary care and integrated service delivery, health systems need to find innovative solutions through new technologies, products and organisational changes. All of this depends on a health workforce of sufficient capacity and with the right skills and flexibility to meet the changing demands of health care. Yet many countries are confronted with critical health workforce problems such as supply, distribution and a traditionally oriented skill mix. Reforms in initial education and training programmes and investment in continuous professional development are needed to foster new and appropriate skill sets. Health workforce planning and forecasting can help countries to put the right number of health professionals in the right place at the right time. The Commission will continue to encourage EU level activities in health workforce planning and forecasting, so as to support Member States in putting theory into practice and building national capacities.

5. The patient is at the centre of the next generation of better health data for policy and practice

More holistic, person-centred health data will have an enormous potential for improving the quality of care and the performance of health systems across the EU. Data capturing patient experiences and outcomes could markedly enrich knowledge on all topics captured by this Companion Report, whether the effectiveness of prevention, the performance of primary care in reducing the need for acute care, the integration of service provision, or the planning of human resources. By developing this next generation of complementary health indicators, policy makers and health professionals will be given a set of tools to more effectively treat patients with increasingly complex conditions and multiple morbidities, and deliver the outcomes that patients value the most. Whatever the nature of the data, whether survey data or real-world data, a precondition is a coherent data governance framework, with clear rules about ethics and confidentiality. In the next few years, the Commission will support the OECD in the roll-out of their first Patient-Reported Indicators Survey (PaRIS).

What is the *State of Health in the EU*?

The Commission, jointly with the OECD and the European Observatory on Health Systems and Policies, is bringing together internationally renowned expertise in the *State of Health in the EU* cycle to strengthen country-specific and EU-wide knowledge in the field of health, supporting Member States in their evidence-based policy making. The recurring two-year cycle of knowledge brokering comprises the *Health at a Glance: Europe* report, twenty-eight Country Health Profiles, this Companion Report, as well as voluntary exchanges that Member States can request on the basis of the findings. This Companion Report complements the twenty-eight Country Health Profiles prepared by the OECD and the Observatory in cooperation with the Commission, the key findings of which are included here as Part 2. In the profiles, Member States are not ranked according to their overall performance, but rather assessed within each country's specific context. And though overall performance does indeed vary widely, each Member State reveals its own strengths and challenges.

Introduction

The case for health

Each EU country is different. Each Member State defines its own health policy, allocates its own resources, and delivers its own health services and medical care. Yet all share the ultimate aim for health systems to improve population health. In order to reach this aim, health systems have to be accessible for all, effective in terms of quality outcomes and experience, and resilient to changing environments and future challenges[1].

Indeed, Member States also face very similar pressures to evolve, modernise and adapt health systems to an ever-changing environment, be it because of demographic change (the effects of population ageing), changing epidemiology (the rising burden of chronic disease), new technologies (plus their interoperability and standardisation[2]), patient empowerment and the effects these various pressures have on health spending[3].

The case for prioritising health policy is strong across all countries too. *Health at a Glance: Europe 2016*, the first product of the *State of Health in the EU* cycle of knowledge brokering, revealed that across the EU, deaths from major non-communicable diseases translate into around 3.4 million life years lost, or EUR 115 billion in potential economic loss each year. Not surprisingly, a 2017 systematic review of public health interventions[4] found a median return on investment of 14.2 to 1, meaning that every EUR 1 spent can generate total savings of over EUR 14 down the road.

There is a growing understanding that investing in population health is not only valuable in and of itself, but contributes to economic growth and social inclusion. The links between public health and the economy cannot be overstated (see sidebar). Better health of citizens leads to higher productivity and lower levels of absenteeism at work or early retirement. Healthier citizens are also more likely to invest in their lifelong learning.

Enhancing health spending would seem like an obvious choice. But Health Ministries across the EU have to deal with persistent budgetary constraints, fiscal sustainability concerns and competition from other services for the same resources. Health is, on average across the EU, the biggest government expense after pensions. Currently, an average of EUR 2 797 is spent on health per capita, which translates into 9.9% of GDP. Per capita spending is at least 30% higher than the EU average in Luxembourg, Germany, the Netherlands, Ireland, Sweden, Austria and Denmark.

As documented in the 2013 Commission report *Investing in Health*, health is an essential component of Europe's social model and contributes to inclusive growth, social cohesion and to the nurturing of a healthy economic environment that is conducive to investment. In turn, the health sector offers great potential to promote growth, create new jobs, ensure fairness and trigger productivity gains through innovative technologies and treatments. The links between public health and the economy were reiterated in the Annual Growth Surveys issued by the Commission in the last few years at the start of each European Semester.

1 The objectives of effectiveness, accessibility and resilience were first set out in a 2014 Commission Communication (itself built on 2006 Council Conclusions on common values and principles in EU health systems). More recently, the European Pillar of Social Rights states that everyone shall have timely access to quality, affordable, preventive and curative health care.

2 See the 2017 Commission Communication on the mid-term implementation review of the Digital Single Market Strategy.

3 The 2015 Commission-EPC Ageing Report projects the effects on health care spending up to 2060.

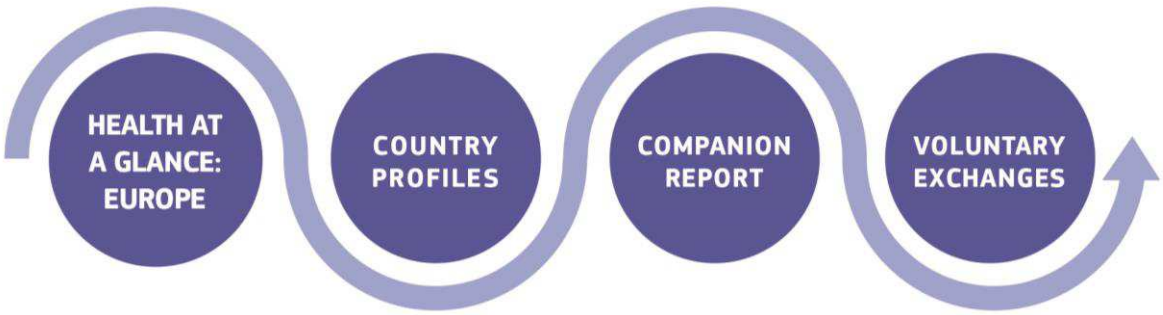
4 Masters, R. et al (2017), Return on investment of public health interventions: a systematic review, Journal of Epidemiology & Community Health (DOI: 10.1136/jech-2016-208141).

Meanwhile, to a great extent due to concerns about the long-term sustainability of public finances, the debate has shifted from how to invest more to how to invest better. Though this sounds rhetorical, an ever-strengthening knowledge base shows that it is not. With internationally comparative evidence improving, so has awareness of "best buys" and wasteful spending in health care. The 2016 Commission-EPC Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability presents policy options for how to contain spending pressures through efficiency gains, while a recent report from the OECD suggests that no less than one-fifth of health spending could be channelled towards better uses.

This report singles out some of the many policy levers that have been established to contribute to the aims of effectiveness, accessibility and resilience – without impeding fiscal sustainability. Examples are the shift towards health promotion and disease prevention, a stronger role for primary care, a rethink of the generally fragmented service delivery, proactive planning and forecasting in the health workforce and better patient-centred data across the EU.

A two-year cycle of knowledge brokering

Europe's shared health system aims and pressures signal the potential for mutual learning and exchange of good practice. This is where the *State of Health in the EU* can be of support to the Member States. The *State of Health in the EU* is a two-year cycle of knowledge brokering that was launched in 2016 with the publication of the joint OECD-Commission report *Health at a Glance: Europe* (see sidebar).



Health at a Glance: Europe 2016, 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 strengthening primary care and the labour market impacts of ill health.

Put in motion by President Juncker's 2014 mission letter to Commissioner Andriukaitis, the objective of the cycle is to build up country-specific and cross-country knowledge to inform policies at national and EU level. Crucially, the *State of Health in the EU* is an expert-driven exercise, relying on a trilateral partnership between the Commission, the OECD and the European Observatory on Health Systems and Policies.

This report accompanies the twenty-eight succinct Country Health Profiles, which are the mainstay of the *State of Health in the EU*. Whereas *Health at a Glance: Europe* provided the horizontal, cross-country starting point to the two-year cycle, the profiles comprise a more vertical, country-specific assessment of each health system's strengths and challenges.

The Country Health Profiles, prepared by the OECD and the Observatory in cooperation with the Commission, provide those interested in health with a snapshot of a population's health status and key risk factors, but also a succinct description of a country's health system and a brief assessment of its performance in terms of effectiveness, accessibility and resilience. The profiles

are built on a consistent structure and methodology, but the contents of each is specifically adapted to what is relevant for the respective Member State.

The aim of the profiles is to provide the means for mutual learning and exchange of good practice. The profiles, together with this Companion Report and *Health at a Glance: Europe*, offer both country comparisons and case study examples – which feed into the voluntary exchanges at the close of the *State of Health in the EU* cycle (see sidebar). The country-driven and expertise-based exchanges will investigate how its findings could be translated into potential policy responses.

Health Ministries across the EU can use the lessons learned from *Health at a Glance: Europe 2016*, the Country Health Profiles and this Companion Report in voluntary exchanges with the experts behind all the material, supported by the Commission. The final product of the *State of Health in the EU cycle*, voluntary exchanges can take the form of seminars, symposia, workshops or policy dialogues, tailored to the needs of a specific Member State or a small group of Member States. They build on the *State of Health in the EU*'s findings – looking to translate its assessments into potential policy responses – and are led by the OECD and the European Observatory on Health Systems and Policies. Further information can be found on the cycle's web page: ec.europa.eu/health/state.

The Companion Report

The overall aim of the *State of Health in the EU*'s biennial Companion Report is to supplement the picture drawn by *Health at a Glance: Europe* and the Country Health Profiles, highlighting cross-cutting policy implications, linking them to common health policy priorities across the EU and revealing potential for EU value added.

The Commission's value added manifests itself, first and foremost, in encouraging cooperation between Member States and organising exchange of good practice. The Commission is exploiting the full potential of mutual learning through various groups, platforms and networks, and indeed through the *State of Health in the EU* knowledge brokering cycle. When it comes to financial support, the Commission is co-funding numerous projects through, for instance, FP7, Horizon 2020 and the Health Programme. In addition, the European Structural and Investment Funds (ESIF) have supported interventions in health systems for a number of years, while the European Fund for Strategic Investments (EFSI), part of the Investment Plan for Europe, is adding a different opportunity for public and private sectors to join together in health investments that are deemed high-risk. Finally, the Structural Reform Support Programme (SRSP), established in 2017, provides tailor-made technical support to Member States in cooperation with the relevant Commission services.

This report is structured in two parts. Part 1 distils from the *State of Health in the EU* profiles a concise synthesis of "best buy" policy levers to strengthen the effectiveness, accessibility and resilience of health systems. The five selected, inter-related topics by no means exhaustively cover all challenges identified in *Health at a Glance: Europe* or the Country Health Profiles. But they all link to priorities on the EU agenda and hold potential for meaningful value added at the EU level (see sidebar). All five of these policy levers were also included in the aforementioned 2016 Commission-EPC Joint Report, as well as in multiple Country Reports in the context of the 2017 European Semester.

With less than 3% of health spending devoted to health promotion and disease prevention, Chapter 1 emphasises the importance of a greater focus on risk factors and preventive tools, and explains their intricate relation to broader social inequalities within society at large. Chapter 2 looks at the criteria for strengthening primary care and the reasons for doing so, such as enabling affordable and accessible care whilst reducing avoidable hospital admissions. Picking up from issues of coordination and consistency, Chapter 3 furthers the notion of integrating service delivery, helping a growing number of people with chronic diseases and complex needs.

The two remaining chapters are even more cross-cutting, in the sense that they have a close bearing on all three preceding chapters. The many forces shaping and challenging the health

workforce are outlined in Chapter 4, along with specific policy levers such as skills forecasting, redistributing tasks and continued up-skilling. Chapter 5, finally, takes a step back and looks at one of the most prominent knowledge gaps in the field of health. It explains how a new generation of better, patient-centred data will fundamentally improve both health care policy and practice in the next few years.

Part 2 of the Companion Report, subsequently, provides one-page summaries of the most prominent lessons from the Country Health Profiles. These key findings are lifted directly from each of the profiles, prepared by experts from the OECD and the Observatory. They reflect many of the issues raised throughout Part 1, such as extended roles for nurses, a shift away from hospital inpatient care, a greater coordination of care for those with chronic diseases, behavioural risk factors and social determinants. The key findings comprise both challenges and strengths, and reflect the unique specificities of each Member State.

Framing the analysis: raising effectiveness, accessibility and resilience

The five chapters of Part 1 deal with the shift towards health promotion and disease prevention, a stronger role for primary care, a rethink of the generally fragmented service delivery, proactive planning and forecasting in the health workforce and better patient-centred data across the EU. These are inter-related policy levers that have been selected from the Country Health Profiles, the key findings of which are summarised in Part 2 of this Companion Report.

The underlying framework for selecting these cross-cutting policy levers, and indeed for the *State of Health in the EU* as a whole, is the EU agenda for effective, accessible and resilient health systems[5]. This section takes a step back to provide a short, complementary synthesis from the perspective of these three broad objectives. For each of them – effectiveness, accessibility and resilience – the synthesis below briefly provides the rationale, current context and most prominent contributions of the policy levers captured in Part 1, along with a few key findings from Part 2.

Effectiveness

Effectiveness refers to the extent to which health services 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, safety and patient experience.

In the *State of Health in the EU* profiles, health system effectiveness is captured first and foremost using the concept of amenable mortality, defined as premature deaths that could have been avoided through timely and quality health care. According to *Health at a Glance: Europe 2016*, ischemic heart diseases are the leading cause of amenable mortality, accounting for nearly one-third of the total. For women, amenable mortality ranges from 59.3 deaths per 100 000 in Cyprus to 223.3 deaths per 100 000 in Romania. For men, it ranges from 87.0 deaths per 100 000 in France to 470.3 deaths per 100 000 in Latvia.

Another key indicator of effectiveness is whether primary care is able to sufficiently absorb the treatment of widely prevalent chronic conditions such as asthma, chronic obstructive pulmonary disease (COPD) and congestive heart failure, thereby reducing avoidable hospital admissions. Incentivising a shift from hospital care to primary care essentially contributes to all three objectives of effectiveness, accessibility and resilience at once. Many countries across the EU have been introducing mandatory referral from primary to secondary care, thereby strengthening the gatekeeper function of primary care.

Together, low rates of amenable mortality and avoidable hospital admissions can point to a cost-effective use of timely and quality health care. There is, however, no higher return on investment than a comprehensive effort to prevent treatment from ever having been necessary in the first place. Health promotion and disease prevention are both more effective and efficient than a focus on sickness and cure alone (Chapter 1). Yet even though up to 80% of health care costs are spent on the treatment of non-communicable diseases that are, to a large extent, preventable, only around 3% of health budgets is currently spent on prevention measures.

[5] This section does not exhaustively cover all dimensions of health systems' effectiveness, accessibility and resilience. Other examples can be found in the 2014 Commission Communication that first introduced the EU agenda that is used as a framework for the *State of Health in the EU*.

Policy makers have multiple effective preventive measures at their disposal, such as promotional tools incentivising healthy lifestyles, vaccinations and screening programmes, as well as measures in a range of other policy areas, including education, sports, urban planning, marketing, research and taxation. All twenty-eight of the Country Health Profiles discuss preventable risk factors such as smoking, alcohol consumption, obesity and physical inactivity. Part of the challenge is to break the vicious cycle of ill health and poverty, with, for instance, wide disparities in the prevalence of these risk factors according to education and income.

However, whether the focus is on avoiding hospital care, preventing the need for care altogether, or the intricate relation with health inequalities, the EU lacks the reliable, comparative health data to truly capture the effectiveness of its health systems. A quick look at the European Core Health Indicators (ECHI) or the Joint Assessment Framework (JAF) on Health[6] confirms that a fair amount of detail is available about inputs and outputs, but particularly little about, for instance, whether a procedure could restore the patient's quality of life.

Truly capturing the quality of health care provision requires complementing already existing indicators with new, patient-centred data (Chapter 5). These include patient-reported outcomes (such as whether a treatment reduced pain or enabled a person to live more independently), as well as patient-reported experiences (such as whether they felt involved in decisions about their care or whether a treatment was properly explained to them). The Commission co-funded OECD Patient-Reported Indicators Survey (PaRIS) will be filling this major knowledge gap within the next few years.

Accessibility

Timely access to health systems, including prevention services, is considered to be one of their core objectives and a key indicator of their performance. If access to health care is impeded, or if it strongly varies between population groups, broader societal inequalities may increase, affecting, in turn, the overall effectiveness of the health system.

Access to good quality health care is recognised as a fundamental principle in many health systems across the EU. It is mentioned in the EU Charter of Fundamental Rights (Article 35) and it is one of the UN Sustainable Development Goals (Goal 3). The European Pillar of Social Rights, launched in April 2017, reaffirms the commitment of the Commission to further develop the European social model around twenty key principles, including access to health care[7].

The aim of the European Pillar of Social Rights is to foster upward social convergence towards labour markets and social protection systems that are more resilient to economic shocks. The Pillar is accompanied by a "social scoreboard", which will monitor implementation by tracking trends and performances across the Member States in twelve areas, one of which is health care. The scoreboard will serve to assess progress towards a social "triple A" for the EU as a whole.

The *State of Health in the EU* profiles feature the same core indicator for accessibility as the Pillar's social scoreboard, namely the share of persons declaring an unmet need for medical examination. Unmet need occurs when people need health services, but are unable to use them due to access barriers. In the Netherlands, Austria, Slovenia and Germany, 0.5% of the population or less report having foregone needed care (2015 figures), whereas Estonia, Greece, Romania and Latvia all register shares of 8.0% or higher. Reasons for these unmet needs have to do either with financial obstacles, waiting lists or distances to the service provider required.

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6 Developed by the Social Protection Committee (SPC) and its Indictors' Sub-Group (ISG).

7 More specifically, the European Pillar of Social Rights states that everyone shall have timely access to quality, affordable, preventive and curative health care.

The objective of accessibility is fundamentally related to broader social inequalities within society at large. Though health inequalities are captured in this Companion Report mainly through the disproportionate prevalence of risk factors found amongst disadvantaged groups, health system accessibility is another key obstacle for a fair and equitable society. Unmet need for medical care due to cost is on average ten times more likely amongst the poorest quintile than it is amongst the richest.

This touches upon another crucial dimension of health systems' accessibility, which is the question of affordability. Financial hardship can arise when using health services and medicines and having to pay out-of-pocket at the time of using them, whether through formal or informal payments. Out-of-pocket expenditure (a proposed secondary indicator in the social scoreboard) is complemented with a measure of catastrophic expenditure[8] in the Country Health Profiles. Together, these indicators can inform better health financing and social policies to break the aforementioned cycle of ill health and poverty[9].

Strong primary care plays an indispensable role in providing affordable and accessible care for all (Chapter 2). Most importantly, it contributes to overall accessibility not only by functioning as a powerful entry point *into* the health system, but also by guiding patients *through* the health system to find the most appropriate care – whilst reducing avoidable hospital admissions. Indeed, strong primary care entails, amongst many other factors, the responsibility for coordination and continuity within the broader health system.

The notion of integrated care comprises any initiatives seeking to improve outcomes of care through linkage or coordination of services and providers along the continuum of care (Chapter 3). Primary care has a key role to play if Member States are to tackle the generally fragmented service delivery in their health systems.

Together, primary care and integrated care bring elements of flexibility to service delivery through a more holistic approach, and allow more efficient communication and exchanges across the different sectors that make up the health system. Both primary care and integrated care focus on the person as a whole, including the personal and family history, instead of concentrating on individual diseases or being organised according to the anatomy of the patient.

Resilience

The concept of resilience refers to health systems' capacity to absorb disturbance created by changing environments, sudden shocks or crises, whether observed or anticipated; to adapt and respond effectively with the provision of needed services[10]. Creating resilience is not an action to be implemented but rather a dynamic objective of investments and reforms.

Enhancing the fiscal sustainability of health systems, crucial to their resilience, requires policy makers to tackle existing inefficiencies in the service delivery. Borrowing both from the 2017 OECD report on wasteful spending and the 2016 Commission-EPC Joint Report, some of the policy levers are the aforementioned avoidable hospital admissions, a cost-effective use of medicines (favouring generic drugs over originators) and better governance through, for instance, budgetary and performance-based planning tools.

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8 Following the WHO Europe methodology, catastrophic expenditure is defined as household out-of-pocket spending exceeding 40% of total household spending net of subsistence needs (i.e. food, housing and utilities).

9 Protecting the population from falling into poverty or social exclusion due to ill health and related expenditure was emphasised as an essential priority, both from a social and economic view-point, in the European Semester's 2017 Annual Growth Survey, adding that high levels of inequality reduce the output of the economy and the potential for sustainable growth.

10 This definition is based on the one adopted in a 2017 WHO bulletin.

Health Technology Assessment (HTA) is a key tool for Member States to promote the rational and transparent use of public resources. In this context, the Commission is working on an initiative to strengthen EU cooperation on HTA beyond 2020, starting with a public consultation that ran in 2016. Many stakeholders emphasised that, in the long run, EU cooperation on HTA can indeed lead to savings, ultimately contributing to the resilience of health systems.

When it comes to the adaptability to changing environments, a prime example is the pressure of population ageing. The 2015 Commission-EPC Ageing Report projects that by 2060, the old-age dependency ratio (people aged 65 or above relative to those aged 15-64) will have increased from 27.8% (2013 value) to 51.1% in the EU as a whole. This implies that the EU would move from having four working-age people for every person aged over 65 years to about two working-age persons.

Of course, this has major repercussions for health care spending. The projected change in total age-related expenditure is, in fact, mostly driven by health care and especially long-term care spending, which together is expected to rise by about 2 percentage points of GDP by 2060[11]. No fewer than ten Member States can expect an increase between 2.5 and 6.8 percentage points of GDP by 2060 (Finland, Austria, the Czech Republic, the Netherlands, the Slovak Republic, Germany, Belgium, Luxembourg, Malta and Slovenia).

But the future challenge of population ageing goes beyond old-age dependency ratios. Combined with advances in health care and overall economic progress, it means that an increasing number of persons is suffering from and surviving (multiple) chronic diseases. The rising burden of chronic disease requires a fundamental rethink of the aforementioned fragmentation of service delivery in order for health systems to remain resilient to a changing environment.

Though manifesting themselves in many different shapes and sizes across the EU, integrated care initiatives share a number of "building blocks" relevant to their effective design and implementation (Chapter 3). Those factors touch upon, inter alia, financial models and incentives, performance evaluation systems and workforce education and training.

Indeed, the health workforce is challenged by the rising burden of chronic disease not just because of the need to cope with patients suffering from multiple chronic conditions, but also because of the necessity to work within a wider inter-disciplinary team whilst fostering patient-centeredness and patient empowerment – all requiring skills and competences that might not have been part of health professionals' formal education (Chapter 4).

A resilient health workforce will depend on proactively forecasting future skills and competences, redistributing roles in the health workforce (such as new and expanded roles for nurses), and a continued upskilling through Continued Professional Development (CPD). Most of these preconditions also contribute to the attractiveness of the profession, helping to recruit and retain the health professionals needed for an effective, accessible and resilient health system.

[11] The 2015 Commission-EPC Ageing Report is quoted in many of the *State of Health in the EU* profiles. Its next edition, with updated budgetary projections, is foreseen for the first quarter of 2018.

PART 1

Cross-cutting policy levers

Part 1: Cross-cutting policy levers

Chapter 1. Switching the focus to prevention and the social determinants of health

Prevention is better than cure

The old saying that an ounce of prevention is worth a pound of cure rings particularly true when it comes to health. Health promotion and disease prevention are essential for reducing the burden related to both communicable and non-communicable diseases. They are the key to enable people to live and age in good health, to help them contribute to society even as they grow older and to keep health systems and social protection fiscally sustainable.

Prevention has been estimated to offer an enormous return on health expenditure[12], be it through better health outcomes, higher productivity and employability, or saved treatment costs. Yet Member States continue to devote only a small fraction of their attention and resources to preventive interventions.

Non-communicable diseases account for the vast bulk of the money spent by health and social systems (up to 80% of health care costs according to a 2012 report), but they are, to a large extent, preventable. Many non-communicable diseases share the same behavioural risk factors, such as smoking, alcohol consumption, unhealthy diets and physical inactivity. And the EU as a whole is not doing well when it comes to these risk factors. For instance, almost one in five in three 15-year-olds is obese or overweight and Europe is the region with the highest alcohol consumption in the world.

According to estimations reported in each of the Country Health Profiles, 30% of the overall burden of disease across the EU can be attributed to such risk factors. In fact, due to dietary risks alone EU citizens collectively lose nearly 15 million life years – each year[13].

Despite the fact that prevention is the key to saving lives and saving money, only around 3% of health budgets are currently spent on prevention measures. This is why a shift in focus from sickness and cure to prevention is needed; and it is all the more pressing as the EU's population ages and the management of long-term medical conditions and other issues relating to old age are of increasing concern. Health care systems focused on treatment rather than prevention will struggle to meet the challenges of tomorrow.

The 2016 Commission-EPC Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability emphasised the switch to health promotion and disease prevention as one of its policy options to enhance the fiscal sustainability and cost-effectiveness of health systems. In the European Semester it was picked up as an important challenge in recent Annual Growth Surveys, as well as the 2017 Country Reports for no fewer than eleven Member States (Austria, Cyprus, France, Croatia, Hungary, Ireland, Lithuania, Latvia, Poland, Portugal and Romania). Naturally, the *State of Health in the EU* profiles feature a strong focus on risk factors and prevention as well.

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12 See, for instance, a comprehensive 2015 report by WHO Europe, the OECD and the European Observatory on Health Systems and Policies.

13 For a recent review of the literature, see a 2017 report of the European Observatory on Health Systems and Policies.

Supporting Member States to move from reflection to action

Prevention has many facets, be it primary (staying in good health and avoiding diseases[14]), secondary (detecting or addressing a disease before symptoms appear) or tertiary (reducing the harm of a disease). Prevention also comprises both individual healthy behaviours (not smoking, eating healthily, avoiding alcohol, exercising more) and management/political choices that help create school, work and community environments conducive to these healthy behaviours. Even if people are already suffering with an illness, practicing healthy lifestyle habits and being mindful of risk factors can have a huge impact – at little expense to anyone and great benefit to many.

The Commission supports Member States' action to address healthy lifestyles under the framework of the strategy on nutrition, overweight, and obesity-related health issues through the High Level Group on Nutrition and Physical Activity and the EU platform for action on diet, physical activity and health. Work has been increasingly focused on issues that can only be efficiently dealt with across borders, on useful instruments for the national authorities, and on having the most practical solutions for citizens. For example, the Commission supports Member States to provide better consumer information via improved labelling, to progress on food reformulation and to reduce aggressive marketing of foods high in fat, salt and sugar.

Eight Member States have introduced taxation on sugar and/or sweetened beverages (Belgium, Denmark, Finland, France, Hungary, Latvia, the United Kingdom and Malta) and others are considering doing so. Furthermore, the Tobacco Products Directive became applicable in 2016 (requiring health warnings on the front and back of cigarette packages, characterising flavours and introducing rules on e-cigarettes) and is expected to lead to a 2% reduction in smoking over five years – equivalent to 2.4 million fewer smokers.

To actively support Member States in progressing from the exchange of good practices to fostering implementation, the European Commission called the Member States' Steering Group on Health Promotion and Prevention and Management of Non-Communicable Diseases into life in 2016. This Group will help to select good practices, based on pressing health issues identified in the Country Health Profiles with a view to transferring them between Member States or scaling them up. All of this work should contribute towards achieving the UN Sustainable Development Goals by 2030 (see sidebar).

Risk factors are linked to the UN Sustainable Development Goals (SDGs), in particular Goal #3 on "Good Health and Well-Being", which specifies amongst many other targets that by 2030, premature mortality from non-communicable diseases through prevention and treatment should be reduced by one-third. In November 2017, the Commission (Eurostat) is publishing a monitoring report detailing a quantitative assessment of EU progress towards the SDGs. The report's EU health indicators are used throughout the *State of Health in the EU* profiles too: life expectancy at birth, self-perceived health, smoking prevalence, death rate due to chronic diseases, suicide death rate and self-reported unmet need for medical care. For further information, see Eurostat's web page on the SDGs.

[14] Though beyond the scope of this chapter, vaccination is the most powerful 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 sustainability of preventive measures.

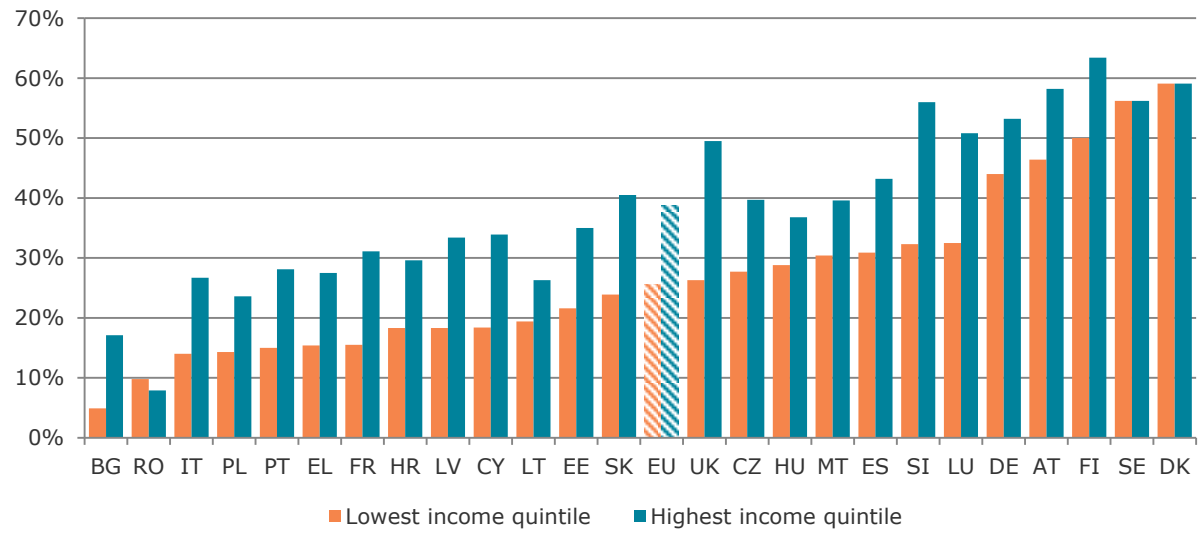
Serious health inequalities persist across the EU

The Swedish Government established in 2014 as the objective for public health to close the avoidable health inequalities within one generation. The national public health policy is cross-sectoral and based on the social determinants of health. Its overarching aim is to create societal conditions that will ensure good health, on equal terms, for the entire population. A National Commission for Health Equity started its work in 2015, submitting proposals on measures to reduce health inequalities in society, which are directed to the state as well as to local government s and other relevant actors in society.

No discussion on risk factors, determinants of health or indeed prevention is complete without a better understanding of their intricate relation to broader inequalities within society at large[15]. Life expectancy across EU Member States has increased by more than six years since 1990, rising from 74.2 years in 1990 to 80.9 years in 2014. However, as becomes clear from the *State of Health in the EU* profiles, not all population groups have benefited in the same way from these advancements: major inequalities persist not only across but also within countries.

Significant disparities can be observed between population groups within most if not all Member States. These follow a clear social gradient and they reflect the situations in which people live, their occupational status and also their lifestyles. Poverty, unemployment and material deprivation are all major risk factors for mental and physical health. They contribute to poorer health and to an earlier onset and a higher number of chronic conditions. Recent research even points to low socioeconomic status as the third most important factor associated with increased mortality, after smoking and physical inactivity.

Figure 1.1. Regular physical activity is less common amongst low income groups in the vast majority of Member States



Source: Eurostat. Note: indicator shows the percentage of European adults being active at least 150 minutes per week.

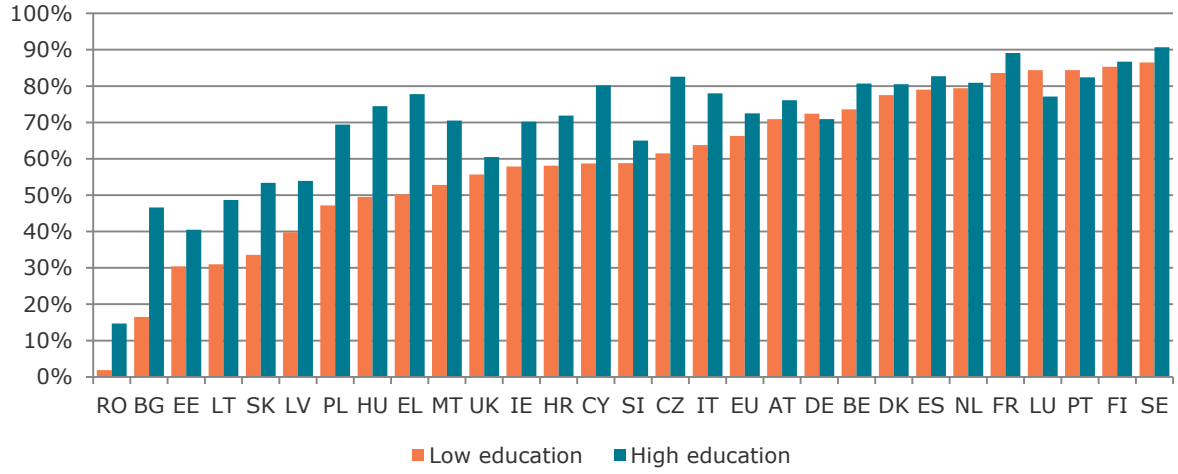
15 Of course, the effect of socioeconomic status goes beyond the disproportionate prevalence of risk factors found amongst disadvantaged groups, as clearly confirmed by the *State of Health in the EU* profiles. Accessibility is another key issue, with unmet medical need due to cost (e.g. out-of-pocket payments) on average ten times more likely amongst the poorest quintile than it is amongst the richest. See also the 2009 Commission Communication Solidarity in Health: Reducing Health inequalities in the EU.

Regarding primary intervention, Figure 1.1 illustrates how Europeans with lower incomes are generally less likely to get the recommended 150 minutes of physical activity per week. But regular exercise can be common across income groups, as illustrated by the data for Denmark and Sweden. Another example is tobacco, with recent Eurobarometer figures showing particularly high smoking rates amongst the unemployed (46%) and amongst those with frequent difficulties paying the bills (43%).

When it comes to secondary prevention, breast cancer screening programmes are well established as an effective and efficient public health tool[16]. Yet there are, again, important differences not only between Member States but also amongst social groups. Looking at the share of women aged 50 to 69 years reporting a breast exam less than two years ago, the difference between higher educated women (72.5%) and lower educated women (66.3%) is more than 6 percentage points across the EU on average (see Figure 1.2). This inequality based on education reaches over 20 percentage points in Bulgaria, Poland, Hungary, Greece, Cyprus and the Czech Republic.

The Slovenian National Programme on Nutrition and Physical Activity for Health 2015-2025 promotes healthy nutrition and physical activity habits from birth to old age. It mainstreams and puts in practice *health in all policies*, stakeholder involvement, monitoring and evaluation. Actions include agreements with industry on salt, added sugars and trans fats, a code of conduct to protect children from excessive marketing and fiscal measures. Slovenia also provides healthy meals to school children, promotes access to water and bans vending machines and energy drinks in schools. Physical activity is a part of the education curriculum and comprises a comprehensive regular monitoring of children's body and fitness measurements.

Figure 1.2. Education strongly determines the likelihood of having had a breast exam in over a half of the Member States.



Source: Eurostat. Note: Indicator shows the 2014 share of women aged 50 to 69 years that reported having had a breast examination less than two years ago. Low education is anything below upper secondary attainment (ISCED 0-2), whereas high education is tertiary attainment (ISCED 5-8).

Health inequalities are one of today's major public health challenges. They signal that health systems are not sufficiently able to effectively deliver preventive and curative services to those populations with the greatest needs. This is a non-optimal use of the increasingly scarce and valuable human and financial resources of health systems. A 2011 study estimated that inequality-

[16] The European Commission Initiative on Breast Cancer promotes a quality assurance scheme for breast cancer services addressing all care processes including screening, diagnosis, treatment, rehabilitation, survivorship care and palliative care.

related losses to health account for 20% of the total costs of health care and 15% of the total costs of social security benefits[17].

Breaking the vicious cycle of ill health and poverty

In order to break the vicious cycle of ill health and poverty – and indeed to make health systems more effective, accessible and resilient – health policies need to adapt and focus on providing universal health care and preventive interventions with a particular focus on the population groups with the greatest vulnerabilities and health-related needs. Protecting the population from falling into poverty or social exclusion due to ill health was emphasised as an essential priority, both from a social and economic view-point, in the European Semester's recent Annual Growth Surveys, adding that high levels of inequality reduce the output of the economy and the potential for sustainable growth.

However, health systems alone cannot overcome this challenge. *Health in all policies* requires health systems to build up multi-sectorial collaboration with other policy fields, in order to shape the social determinants of health[18]. Amongst the targets for multi-sectorial collaboration are education and training (e.g. health literacy), labour market policies (e.g. healthy work environments), transport (e.g. incentivising active commuting) and food policies (e.g. food reformulation).

The European Pillar of Social Rights, presented by the Commission in 2017, is creating new opportunities for the required multi-sectorial collaboration. It reaffirms the values and rights that are crucial to progress towards more equal societies, ranging from inclusive education to gender equality and from housing to social assistance. These challenges all touch upon social determinants of health and can only be addressed in a holistic and integrated approach[19].

In a nutshell

Prevention is the key to avoid ill health and achieve a high level of mental and physical well-being effectively and efficiently. Despite this being a well-known fact, only small fractions of health care budgets, political attention and stakeholder engagement are dedicated to prevention. Guided by the UN Sustainable Development Goal for 2030 to reduce by one third premature mortality from non-communicable diseases, the Commission is working closely with Member States to focus more proactively on prevention and the social determinants of health. Breaking the vicious cycle of ill health and poverty will, however, require multi-sectorial collaboration with other policy fields. A wide range of actions are in place to support Member States, ranging from various mutual learning exercises to regulation and legislation. There is now a need to bring together lessons learned and good practices, in order to transpose, pilot and up-scale them in other countries, contexts and settings.

[17] Mackenbach, J.P. et al (2011), Economic costs of health inequalities in the European Union, Journal of Epidemiology & Community Health (DOI: 10.1136/jech.2010.112680).

[18] This of course requires other policy fields, in turn, to include a focus on health. *Health in all policies* links directly to Article 9 of the Lisbon Treaty, which stipulates that "in defining and implementing its policies and actions, the Union shall take into account requirements linked to the […] protection of human health".

[19] Indeed, access to affordable, preventive and curative health care of good quality is one of the twenty principles of the European Pillar of Social Rights.

Chapter 2. Guiding patients through the health system with strong primary care

Why stronger primary care is needed all across the EU

Primary care plays a key role in prevention (Chapter 1 of this Companion Report), but also, more broadly, in an effective, accessible and resilient health system. Strengthening primary care by moving care into the community and developing the role of providers outside the hospital is another important policy lever that can be distilled from the *State of Health in the EU* profiles. It is a way of improving the experience of patients and of using resources more effectively.

The 2016 Commission-EPC Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability advocated a stronger role to primary care, improving its performance and strengthening its role in gatekeeping and referral for a better access to appropriate care. In the European Semester, the need to encourage the provision of and access to effective primary health care services was reaffirmed by recent Annual Growth Surveys, whilst the role of primary care in the broader health system was questioned in the 2017 Country Reports for Austria, the Czech Republic, France, Croatia, Ireland, Latvia, Poland, Romania, Slovenia and the Slovak Republic.

Health at a Glance: Europe 2016 included an in-depth thematic chapter on primary care using indicators such as pharmaceutical prescribing and avoidable hospital admissions as measures of effective primary care. While singling out good performers in primary care such as Denmark and the Netherlands, the thematic chapter also emphasised that *all EU countries* need to pursue comprehensive reforms to further strengthen their primary care system in order to better address the needs of ageing populations and reduce the unnecessary use of hospital care.

Primary care can be defined as the provision of universally accessible, integrated, person-centred, comprehensive health and community services provided by a team of professionals accountable for addressing a large majority of personal health needs[20]. These services should be delivered in a sustained partnership with patients and informal caregivers, in the context of family and community, and play a central role in the overall coordination and continuity of people's care.

Strong primary care can contribute to consolidating the overall health system's performance by providing affordable and accessible care, coordinating care so that patients receive the right care in the right place, reducing avoidable hospital admissions, supporting primary and secondary prevention, and focusing on individual needs so as to offer tailored, person-centred care.

Indeed, strengthening primary care can be supported from different perspectives. When it comes to accessibility, there is a sound body of evidence indicating that strong primary care plays an important role in reducing health inequalities and improving the conditions of disadvantaged groups. In terms of effectiveness, strong primary care contributes to patient-centeredness and quality of care. Resilience, finally, requires policy makers to rethink the health system, whilst efficiency efforts and budgetary constraints across the EU call for a changing role of hospitals, with shorter lengths of stay and a reduction of the number of unnecessary treatments.

Resilience also requires stronger primary care because of a broader demographic and epidemiological transition visible across the EU. This theme is developed in greater detail in Chapter 3: it concerns the rising burden of chronic disease and multi-morbidity as populations age,

[20] Following a 2014 report of the Expert Panel on effective ways of investing in health.

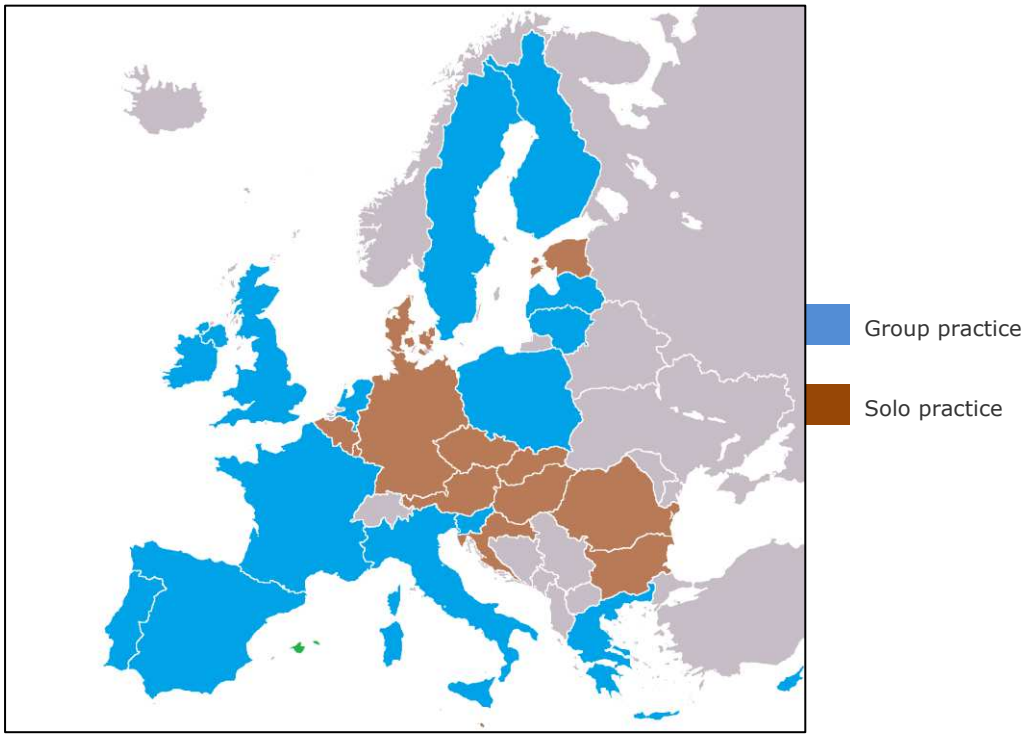
which has put the spotlight on the fragmentation of services in most Member States. Primary care's paramount responsibility in coordination and continuity is addressed towards the end of this chapter, whereas Chapter 3 deals with models of integrated care more broadly.

Primary care models need continuous assessment and reassessment to keep pace with evolving challenges. While some countries are reinforcing and innovating models of primary care already in place, others have not substantially invested in primary care before and are only now implementing models. The EU Expert Group on Health Systems Performance Assessment is currently working on the identification of tools and methodologies to assess the performance of primary care systems and it is expected to present its findings in the first quarter of 2018.

Primary care is team work, with the patient at its core

Primary care is not just a doctor's business. The professionals active in primary care teams include, amongst others, dentists, dieticians, general practitioners (GPs) or family physicians, midwives, nurses, occupational therapists, optometrists, pharmacists, physiotherapists, psychologists and social workers[21].

Figure 2.1. Solo practices are still the predominant form of primary care provision in over a third of the Member States



Source: Health at a Glance: Europe 2016 (based on Table 2.1).

In over a third of the Member States, primary care is still provided mainly by a solo practitioner (see Figure 2.1). Yet evidence consistently shows the importance of support staffs, cooperation and multi-disciplinary team practice, so as to improve accessibility and broaden the supply of

[21] Indeed, several self-reported experience measures show that patients in primary care not just accept a task shifting for many conditions (as discussed in Chapter 4), but often express higher satisfaction when dealing with allied professions (for example nurses in areas such as chronic care or prevention).

services[22]. Practices that group different professions and promote multi-disciplinary team working are generally associated with better patient outcomes, reduced hospitalisation, and enhanced patient and staff satisfaction. Furthermore, multi-disciplinary team working fosters collaboration between providers and, as such, tends to encourage better care coordination and quality.

Innovative forms of primary care delivery foster new skill mixes, rethinking and redistributing some of the tasks, and more effective organisation of work (as presented in detail in Chapter 4). New roles for primary care providers and task shifting will need tailored investment in specific training, as well as the development of new education pathways that focus, for instance, on person-centred approaches, continuity of care, chronic disease management, prevention, and work organisation techniques.

Furthermore, the patient is more and more considered as full member of the health care team and not just as a passive subject of care. Chronic patients in particular are becoming experts on the conditions they live with and what is needed to improve their well-being. Patient-centeredness means that design, implementation and assessment of all the processes taking place in the health system have to be done, first and foremost, from the patient's perspective (see also Chapter 5).

Strong primary care is a powerful means to involve patients in the decisions about their health care and engage them to actively participate in the care process. Moreover, evidence suggests that investment in patient-centred communication substantially increases the number of patients adhering to the recommended course of treatment, and ultimately improves patient as well as practitioner satisfaction.

Interesting examples of primary care team practices are found in Portugal and Spain.

Portugal introduced in 2016 the multidisciplinary Family Health Unit model, leading to an improvement in care quality but also patient and practitioner satisfaction.

In Spain, primary health care centres are run by multidisciplinary teams composed of GPs (family doctors), paediatricians, nurses and social workers. Some also include physiotherapists and dentists' surgeries, and are linked to basic laboratory and image diagnostic resources.

Technology has a key role in strengthening primary care

Technological innovation enables primary care to provide a wider range of treatments and take care of several conditions that were previously addressed only by specialised care or in hospital settings. Tailored diagnostic devices such as miniaturised ultrasound scanners and portable pulmonary functioning tests already have the capacity to preclude hospitalisation and reduce waiting times for patients. Home-based devices, such as the 24-hour electrocardiogram (or Holter monitor) enable patients to significantly reduce the time they spend within health care facilities.

Similarly, the development of telemedicine, eHealth and mHealth solutions – including e-prescriptions and e-referrals – increasingly provide occasions to reduce the time patients spend dealing with the health system, whilst increasing quality of care and safety. As reflected in the Country Health Profiles, some countries (e.g. Estonia, Spain, Sweden and Finland) already have e-prescription and e-referral systems in place, which could achieve interesting results in terms of safety and quality.

[22] See a 2015 report from the European Observatory on Health Systems and Policies.

Belgium developed in 2016 new multidisciplinary group practices and horizontal governance, under the responsibility of a case manager. Case managers are usually GPs, but can also be nurses, allied health professionals and social workers. They have the responsibility for managing pathways of care within the health system.

Slovenia is currently developing the Family Medicine Model Practice. In this new multidisciplinary approach, nurses with an advanced degree are taking new roles to ensure care coordination and continuity, assisting patients in navigating the health system.

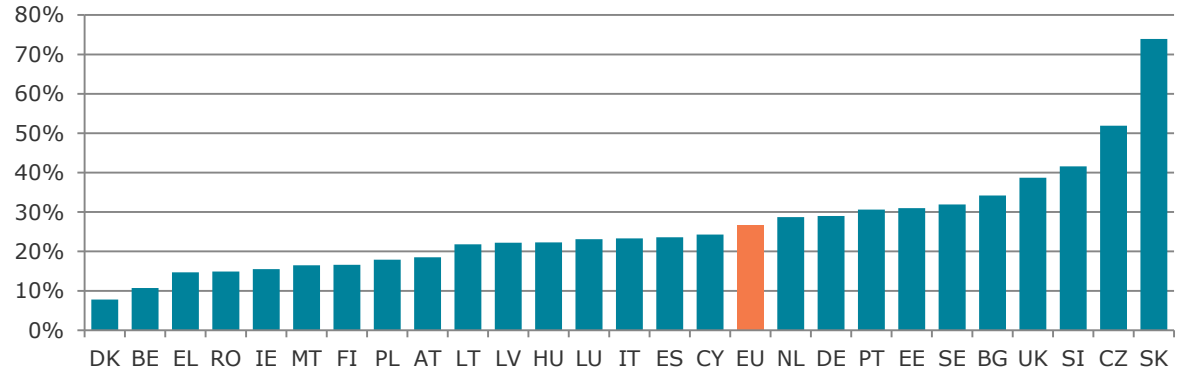
Technology is also a strong driver of the aforementioned patient empowerment: tailored apps and smart portable devices provide effective support for healthy lifestyles and for involving the patient directly in the management of chronic conditions. Finally, strongly related to the Digital Single Market Strategy, advanced information and communication technologies will allow for the creation of large and interconnected databases of medical and health data (see also Chapter 5).

At the same time, new technologies are a key driver of health spending and its projected growth. It is therefore crucial to carefully evaluate the cost-effectiveness of new technologies and assess what works and does not work for patients and providers[23]. In order to reap the benefits of technology and effectively enhance the quality of care, it requires adequate training of the health workforce (Chapter 4), as well as a supportive environment in terms of professional culture, incentives and organisational arrangements.

The right incentives help shaping effective primary care

The right mix of incentives (both financial and non-financial) can encourage the most appropriate and effective use of care. It can guard against under-provision of primary care and other barriers to access, but also avoid inappropriate use of secondary care and hospital services. Any treatment in the wrong setting tends to hamper the resilience of the health system and have detrimental effects on both the individual's experience and system efficiency. Indeed, an over-use of emergency care because of inadequate primary care has been flagged in the *State of Health in the EU* profiles for a number of Member States, ranging from top performance in Denmark to bottom performance in the Slovak Republic (see Figure 2.2).

Figure 2.2. More than one in four patients across the EU visit an emergency department because of inadequate primary care



Source: Health at a Glance: Europe 2016. Note: Indicator shows the proportion of patients who visited an emergency department because the primary care physician was not available. EU figure concerns the 26 Member States with data available. UK figure concerns England only. Data were collected within the QUALICOPC study (Quality and Costs of Primary Care in Europe) between 2011 and 2013.

[23] Health Technology Assessment (HTA) is a key tool for this purpose.

Member States organise payment and reimbursement in primary care through capitation, fee for service or salary from a global budget. However, only few countries rely on a single payment mechanism for primary health care, since this creates challenges to achieving an optimal task profile and an optimal mix of services that will best improve health outcomes.

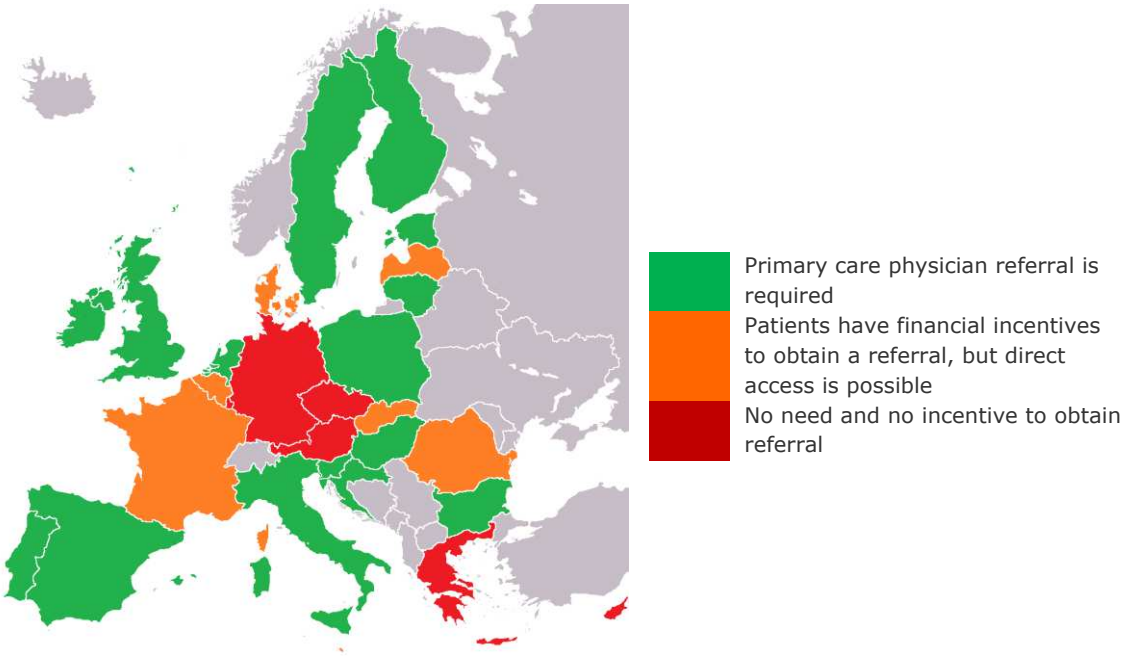
Whereas fee-for-service may lead to inefficient over-provision of services, salary systems tend to incentivise under-provision of services, and capitation may lead to a preference for less demanding patients, thereby reducing attention to clinical needs. As such, the trend in EU countries is toward mixed solutions, which best meet new health care needs and different policy goals.

Innovative forms of payment and reimbursement can be found, firstly, in the Netherlands, which introduced bundled payments to improve the delivery of care for patients with chronic conditions. For type 2 diabetes the bundled payment consists of a single annual payment per patient for all standard diabetic care made to care groups. The care group is free to decide how to deliver the services contained in the bundle (including by subcontracting them).

Secondly, France introduced add-on payments (*Expérimentations de nouveaux modes de remuneration; ENMR*) in 2009 to encourage greater care coordination and to provide more appropriate services to patients. The new payment scheme entails lump-sum payments per patient for coordinating activities, provision of new services, and inter-professional cooperation.

Interestingly, some of the Country Health Profiles (e.g. France, the Netherlands and the United Kingdom) mention innovative forms of payment mechanisms such as pay-for-coordination and bundled payment to encourage care coordination and continuity, and improve care delivery for patients with chronic illnesses (also see sidebar).

Figure 2.3. Mandatory primary care referrals indicate strong gatekeeper systems in half of the Member States



Source: Health at a Glance: Europe 2016 (based on Table 2.1).

Coordination and continuity are key responsibilities of strong primary care

Many health problems can be effectively solved within primary care. Effective networking *between* primary care providers therefore ensures the largest possible set of treatments and services within the boundaries of the primary care sector. Moreover, primary care plays a key role in increasing the efficiency of the health system as a whole, by managing care pathways *across* sectors. Good coordination and continuity between and across levels of care is particularly essential for patients with complex needs, who are likely to navigate between different parts of the health system over a longer period of time (see Chapter 3).

Policy makers across the EU are strengthening the gatekeeping and referral function of primary care (Figure 2.3), so as to ensure the most appropriate level of care to patients and the reduction of wasteful spending (by avoiding unnecessary hospital admissions). Indeed, as stressed in *Health at a Glance: Europe 2016*, gatekeeping is associated with a lower overall utilisation of health services and lower expenditure. Yet successful gatekeeping is not primarily about cost-containment or rationing care, but rather about properly navigating the patient across the health system, contributing to effectiveness, accessibility and resilience along the way[24].

In a nutshell

Strong primary care can contribute to strengthening the overall health system's performance by, inter alia, providing affordable and accessible care; coordinating care for patients so that they are given the most appropriate services in the right setting; and reducing avoidable hospital admissions. The right combination of incentives helps achieve optimal delivery not only of primary care, but also of secondary care, hospital, and emergency services – and building in a gatekeeping or referral system is increasingly part of the mix. Yet more than one in four patients across the EU still visit an emergency department because of inadequate primary care. Strong primary care is the key to integration and continuity between and across levels of care, which is essential for patients, particularly those with complex needs. The EU Expert Group on Health Systems Performance Assessment is currently working on the identification of tools and methodologies to assess the performance of primary care systems and it is expected to present its findings in the first quarter of 2018.

[24] See also the 2014 report of the Expert Panel on effective ways of investing in health.

Chapter 3. Integrating care for a sustainable and effective service

Tackling the fragmentation of services to face tomorrow's challenges

All twenty-eight of the Country Health Profiles capture the spectacular rise in life expectancy that has been observed across Member States in the last decade or so. Advances in health care, general economic progress and improvements in living conditions have all led to an increasing number of European citizens living longer lives. Yet many of them live with chronic diseases and have to manage multiple morbidities at the same time. Add population ageing to the mix and it becomes quickly apparent that it is a world in which a growing number of people are having complex care needs[25].

The rising burden of chronic disease and multi-morbidity requires countries to confront the immense complexity of different services that patients are expected to navigate, and to develop a different approach to service delivery. Today's health systems are no longer predominantly occupied with acute diseases, of limited duration, with effective cures and little patient engagement. Instead, Member States need to shift from disease orientation to a person-centred focus and enable service delivery of indefinite duration, addressing multiple causes, uncertain prognoses and with the expectation of strong patient involvement.

The key challenge is to overcome the fragmentation of services and medical records, as patients with complex conditions increasingly require experts and expertise from different fields; services from a number of different cares and institutions; and care in more than one place in the health care structure. The challenge for many countries is to develop care delivery systems that pool together professionals and skills from different areas, within and outside the health system.

Integrated care can contribute to the overall resilience of the health system, when models contribute to a more efficient use of services. The Scottish Patient at Risk of Readmission and Admission programme provides strong evidence of improved efficiency: enrolled patients' emergency services use was 29% lower and the number of occupied bed days was reduced by 47%.

Crucially, integrated care is not another sector or silo within the health system, but rather an aim that expands upon the coordinating role of primary care discussed in the previous chapter, extending it to the wider health system. It includes any initiatives seeking to improve outcomes of care through linkage or coordination of services and providers along the continuum of care[26]. Integrated care is multi-dimensional and almost as complex as the needs of those to whom it is provided.

While traditional care focuses on helping patients make a full recovery from acute disease, integrated care can help patients with long-term conditions to improve or maintain their functional status, prolonging life and enhancing its quality by reducing discomfort caused by symptoms. To do this successfully, health care must overcome its fragmentation and actively link with e.g. social services.

The 2016 Commission-EPC Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability emphasised the need for integration across the whole spectrum of health service

[25] Of course population ageing itself has major repercussions for health care financing and spending. The 2015 Commission-EPC Ageing Report projects the effects on health care spending up to 2060.

[26] See also the 2014 report from the European Observatory on Health Systems and Policies titled "What is the evidence on the economic impacts of integrated care?".

provision, as one of its policy options to enhance the fiscal sustainability and cost-effectiveness of health systems. In the European Semester, similar emphasis was put on the integration of care in recent Annual Growth Surveys, whilst under-developed coordination or integration was identified as challenges in the 2017 Country Reports for Cyprus, Estonia, France, Hungary, Poland, Portugal, Slovenia and the Slovak Republic.

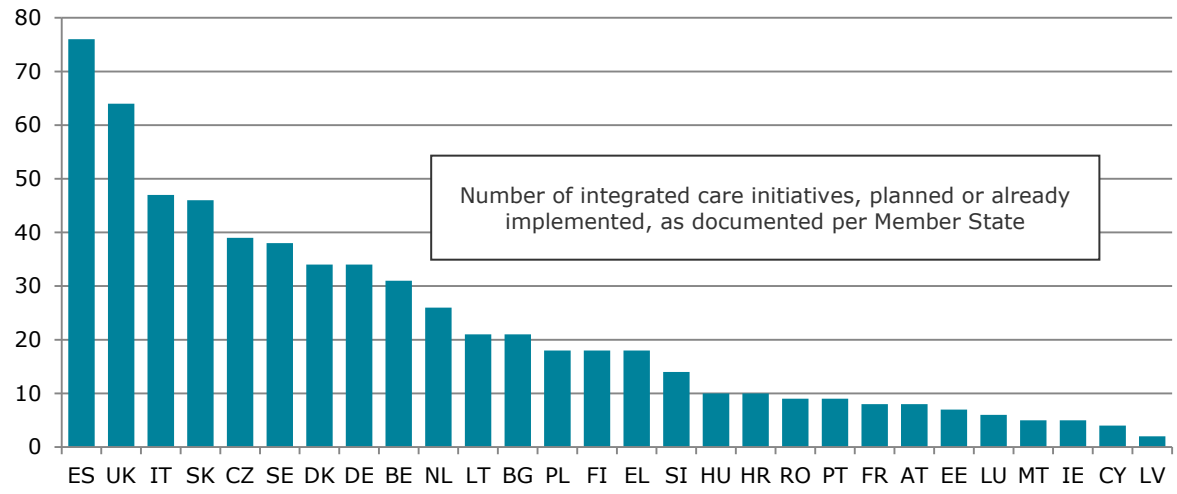
All Member States are developing models of integrated care

All Member States are active when it comes to the development of integrated care (Figure 3.1), as becomes evident from many of the *State of Health in the EU* profiles. Due to the complex and multi-dimensional character of integrated care, there exists a wealth of different models and approaches across the EU, with no single one that would fit all purposes and contexts. Some initiatives are very local, whereas others are larger-scale projects. Across these many examples, the degree of integration varies, as does the specific type of integration.

Some initiatives are disease management focussed, whereas others look at system integration. Many integrated care initiatives were traditionally disease-centred, focussing on one specific disease only, and failing to tackle multi-morbidity, patient-centred approaches or the involvement of multi-disciplinary treatment teams. These initiatives are, in many respects, outdated and have begun to give way to comprehensive disease management programmes that are becoming increasingly indistinguishable from integrated care programmes.

Examples of *disease management* initiatives that focus on a single condition include Germany's TK Integrated Care Contract for Back Pain. More general *system integration* programmes, such as the Basque Strategy for tackling the challenge of chronicity in Spain, are person-centred and cover the whole spectrum from healthy people without major health risks to terminally ill patients who need complicated and highly specialised care.

Figure 3.1. All Member States are active in integrated care development



Source: Preliminary findings (September 2017) from a non-exhaustive depository of different types of integrated care initiatives across the EU, as part of a Commission study on the performance assessment of integrated care (forthcoming). Country figures underestimate each total number, which is likely to include numerous innovative but unreported initiatives.

Another meaningful distinction is between horizontal and vertical integration. *Horizontal integration* links services that are on the same level in the health care process, such as general practice and community-based or social care. In Finland, the national Patient Data Repository (Kanta) has been developed to enable integration of health and social care by means of e-prescription or sharing of health records. Such horizontal integration is also the case in North West London, where health care integrated with social services is provided.

Vertical integration brings together organisations at different levels of a hierarchical structure under one management umbrella, such as primary care and secondary care. Portugal, through Local Health Units, has made attempts to enhance vertical integration, combining hospitals and primary health care units in the same organisation.

Central to the success of all these examples is the active cooperation between people. Getting health professionals to work together with other professional carers is crucial to enabling integration of care. Individuals steer *professional* and *clinical integration*, and even where there is well-developed *organisational* or *system integration*, lack of cooperation between carers can seriously jeopardise the projects. All activities aimed at integration of care demand a focus on skill mix and getting the combination of skills, tasks and teams right, which in turn implies investment in training (see Chapter 4).

Key elements in designing a successful integrated care system

Patient satisfaction can be strengthened by integrated care, itself a proxy for health system effectiveness. Putting the patient at the centre, the Greek eTrikala programme is an initiative that successfully gave patients and their relatives a feeling of security and a perception of not being lost in the system.

Relative to the plethora of integrated care initiatives across the EU, the number of comprehensive assessments of their effectiveness is minimal, though certainly growing in recent years[27]. The available evidence points to coordination and integration having a positive impact on quality of care, health and patient satisfaction. Models nowadays often include performance evaluations that assess, for instance, health outcomes, access to care and returns on investment.

The different tools and methodologies for a better assessment of integrated care models across the EU were captured by a comprehensive report prepared by the EU Expert Group on Health Systems Performance Assessment[28]. The report advocated the development of innovative indicators for performance measurement, and singled out eleven inter-related "building blocks" for the effective design and implementation of integrated care frameworks[29].

Amongst the eleven building blocks are themes that run all the way through this Companion Report, such as patient-centeredness, which was introduced in the previous chapter and picked up again in subsequent ones. It is a key concept and means that the patient is a member of the "care team": he or she must be involved in the decision-making processes, and care plans need to be tailored to patients' individual needs.

A second factor identified is workforce education and training, itself the topic of the next chapter. This recognises that the implementation of integrated care solutions often requires the redesign of health and social care professionals' roles and the creation of new roles to ensure continuity of care.

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27 For a recent assessment, see the reports from the European Observatory on Health Systems and Policies "What is the evidence on the economic impacts of integrated care?" (2014) and "Assessing chronic disease management in European health systems" (2014), comprising an overview of concepts and approaches, as well as country reports.

28 Contributing to this report was the B3 Action Group on integrated care, which is part of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) and involves regional or local authorities, scientists, entrepreneurs and advocacy groups.

29 Another overview of elements that can be included in integrated care programmes is provided by: Leijten, F.R.M. et al (2017), The SELFIE framework for integrated care for multi-morbidity: Development and description, Health Policy (DOI: 10.1016/j.healthpol.2017.06.002).

A third example comprises payment mechanisms and incentives, with different funding models able to support the transition to the time when the new integrated services are fully operational and the older ones are decommissioned. Illustrations are the pay-for-coordination and bundled payment mechanisms flagged in Chapter 2. Another interesting case in point of an innovative funding model concerns the *Gesundes Kinzigtal* model in Southern Germany (see sidebar).

Other examples of building blocks to enable genuine integration include ICT infrastructure and new solutions to communication (as integrated care requires the sharing of health information across diverse providers), as well as monitoring or performance evaluation systems (essential to providing evidence on the impact on quality of care, costs of care, access and patient experience). Fundamentally linked to the Digital Single Market Strategy, better, patient-centred data is the topic of Chapter 5, and clearly depends on the precondition of sound health information systems and monitoring frameworks[30].

The initial investment into the German integrated care model Gesundes Kinzigtal was made when during 2004-2008 the government allowed insurance funds to divert 1% of bill payments to the development of integrated care. Through this, the insurance funds involved were able to allocate EUR 3.5m as upfront investment for the development of a new integrated care management company for the region, an IT platform and the prevention programmes that are part of the service package. The Gesundes Kinzigtal model has shown improved health outcomes for the population, as well as cost-savings, which are shared between the insurance funds and the management company. Two thirds of the management company are owned by GPs and physicians, sharing part of the profit. The overall incentives for GPs make up about 5-10% of their personal yearly income.

EU value added in the area of integrated care

At EU level, serious momentum for integrated care started building with the 2011 Council Conclusions on modern, responsive and sustainable health systems, in which Health Ministers agreed to shift from hospital-centred systems towards models of integrated care. That same year, the Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) was approved. This document proposed urgent action to shift the focus from acute, reactive, and hospital-based care to proactive, home-based services and integrated social care and health care.

In the time since, the Commission has enabled numerous means and opportunities for mutual learning and exchange of good practice, exemplified most recently by the EU Expert Group on Health Systems Performance Assessment and its aforementioned report outlining the tools and methodologies to assess integrated care in the EU.

When it comes to financial support, the Commission co-funded numerous integrated care projects through FP7 (such as Project INTEGRATE), the Competitiveness and Innovation Framework Programme (such as SmartCare, BeyondSilos and United4Health), Horizon 2020 (such as ICARE4EU, SELFIE and SUSTAIN) and the Health Programme (such as SCIROCCO). In addition, the European Structural and Investment Funds (ESIF) allow for interventions in health systems to, inter alia, implement reform and adaptation processes in favour of the transition from institutional-based to community-based and more integrated forms of care. Various Member States have planned ESIF supported investments in 2014-2020 to develop or strengthen care integration[31].

[30] The remaining building blocks identified by the report are political support and commitment, governance, stakeholder engagement, organisational change, leadership, collaboration and trust.

[31] For further information, please consult the 2016 mapping of ESIF use in health in the 2007-2013 and 2014-2020 programming periods.

The construction of 14 new health centres across Ireland is a good example of EFSI investment in health, allowing for the introduction of new delivery models and services. The scheme supports the shift from hospital- to community-based care.

A different financing instrument is provided by the Investment Plan for Europe and its European Fund for Strategic Investments (EFSI), which acknowledges the potentially high initial set-up costs and the time lag in the return on investment. With EFSI acting as a guarantor against first losses, an opportunity is offered for the public and private sectors to join together in health investments that are deemed high-risk. Finally, the Structural Reform Support Programme (SRSP), established in 2017, provides tailor-made technical support to Member States in cooperation with the relevant Commission services.

In a nutshell

The rising burden of chronic disease and multi-morbidity requires countries to confront the fragmentation of health services and shift towards integration: linking or coordinating providers along the continuum of care and putting the patient at the centre. Primary care is a key actor, but numerous integrated care models of different shapes and sizes are found across the EU, some highlighted by the *State of Health in the EU* profiles. Comprehensive evaluation of these models is less prevalent, though initial evidence flags their contribution to better effectiveness, accessibility and resilience. It also demonstrates the importance of the right skill mix and training and of being able to share information effectively. The EU Expert Group on Health Systems Performance Assessment has provided tools and methodologies to assist these evaluations. Other EU value added manifests itself as financial support, with various Commission-funded projects operating across the EU and tailor-made technical assistance available.

Chapter 4. Creating a health workforce resilient to future challenges

The EU's health workforce is challenged from different directions

As evident from the three previous chapters, as well as all twenty-eight of the Country Health Profiles, an adequately trained health workforce is fundamental to effective, accessible and resilient health systems. Europe's 18.6 million health and care workers[32] represent 8.5% of the total workforce, and are involved in a wide range of activities to promote healthy lifestyles, to prevent, diagnose and treat ill-health, in turn helping to reinforce the employability of the EU's population and contributing to economic growth and social cohesion.

The number of workers in this sector continues to grow, with an increase of 13% between 2008 and 2016. This growth has led to the net creation of 2.1 million jobs, which represents the largest absolute increase of all economic sectors during this period, with a particular increase in the number of medical doctors. According to analysis from the European Centre for the Development of Vocational Training (Cedefop), this trend is only expected to continue, with the creation of about 1.8 million additional jobs between 2015 and 2025 (+7.8%).

However, forces shaping and challenging the resilience of the health workforce abound (Figure 4.1), all within the broader context of persistent budgetary constraints. Firstly, as became clear in Chapters 2 and 3, many Member States are facing significant health workforce challenges due to the demand for new primary care models and better integrated care. These stem in no small part from rising demand for complex care. Indeed, while Europe's ageing population may be a key driver for employment in the health and care sector, it also requires different skill sets, as well as different ways of working across sectors and disciplines in order to tackle the fragmentation of services outlined in the previous chapter.

Figure 4.1. Forces shaping and challenging the resilience of the health workforce

Secondly, the health workforce itself is also ageing rapidly. The share of people above 50 years working in the sector increased from 27.6% to 34.1% between 2008 and 2016, which is a faster

[32] The analysis on employment in the health and care sector in this chapter draws on data from the EU Labour Force Survey (LFS). The LFS data cover human health activities and residential care activities, according to definitions provided by the Statistical Classification of Economic Activities (NACE).

pace than observed across all sectors on average (24.0% to 29.6%)[33]. Many of the *State of Health in the EU* profiles flag up more rapid ageing in the primary care sector than in other parts of the health system, which is particularly challenging given its role in prevention and integration.

Thirdly, financial cutbacks compound broader migration patterns and are causing severe health workforce shortages in various Member States. Major challenges in retaining health professionals have been outlined in the Country Health Profiles for Latvia, Lithuania, Poland, Romania, the Slovak Republic, Croatia, Bulgaria and Hungary. Within many Member States, moreover, accessibility is further affected by an uneven geographical distribution of health professionals, with shortages in rural, isolated areas and deprived urban areas.

Finally, there are skills mismatches both in the nature and the distribution of skills across health professions[34]. OECD analysis from 2016 finds that many countries have increased their medical and nursing student intake since 2000 in response to possible shortages and that policy concerns are now focusing on the right mix of health workers. It also reports a greater level of skills mismatch amongst health professionals compared to other technical and professional occupations, echoing earlier findings from the Commission that health professionals are in the EU's top five bottleneck professions.

Unsurprisingly then, workforce planning and tools were one of the policy options to enhance the fiscal sustainability and cost-effectiveness of health systems presented in the 2016 Commission-EPC Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability. In the European Semester, moreover, the health workforce was acknowledged as posing a key challenge in the 2017 Country Reports for no fewer than fifteen Member States (Austria, Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Ireland, Italy, Latvia, Malta, Poland, Romania, the Slovak Republic, Slovenia and the United Kingdom).

Forecasting future skills and competences

If Member States are to deliver new, cost-effective and responsive models of care they might have to address the mix of staff and skills. However, health workforce planning is a complex activity aiming as it does to ensure an adequate number of health workers with the right skills to deliver health care and to support the resilience of health systems at a time when needs and expectations are changing. Many Member States lack the institutional capacity to generate and process the data necessary for planning their health labour market needs and mitigating the gaps between supply and demand[35].

To support Member States in better planning and forecasting their health workforce needs in terms of numbers, skills and types of professionals required, an EU co-funded Joint Action on Health Workforce Planning and Forecasting brought together 80 partners from 26 countries over the period 2013-2016 to share expertise and knowledge in a European handbook on health workforce planning methodologies. Its "horizon scanning" methodology identified the driving forces influencing future skills and competences of the health workforce in the EU (Figure 4.2).

There are a number of key drivers changing the nature of skills demand, with the policy levers discussed in this Companion Report amongst them. One of these pressures relates to the shift

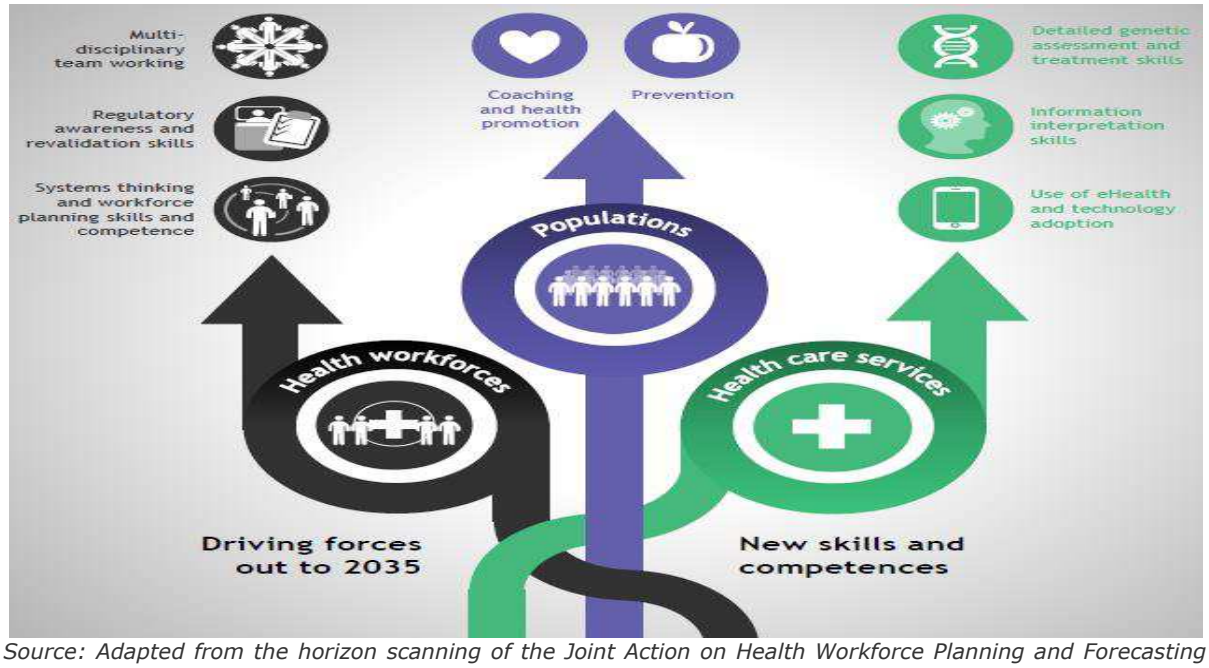
[33] In addition, the sector is facing a significant gender pay gap, ranging in 2015 from 34.3% in Lithuania, to -0.6% in Belgium. The health and care workforce is largely made up of women (a share of 77.3%, compared to 46.1% in the economy as a whole).

[34] See also a 2014 report from the European Observatory on Health Systems and Policies titled Health Professional Mobility in a Changing Europe.

[35] The EU Skills Panorama aims to improve Europe's capacity to assess and anticipate skill needs to help make education and training systems more responsive to labour market needs and to match better skill supply and demand across Europe.

from cure to prevention, which links back to Chapter 1. Health systems are increasingly expected to deliver effective health promotion and disease prevention, which requires skills and competences in the field of healthy lifestyles, risk factors, screening and addressing health inequalities.

Figure 4.2. The driving forces influencing future skills and competences



Source: Adapted from the horizon scanning of the Joint Action on Health Workforce Planning and Forecasting (http://healthworkforce.eu/).

Perhaps most significantly, at least in the context of this Companion Report, different skills and competences are required to deliver the primary and integrated care models outlined in Chapters 2 and 3, with a shift from care in hospitals to the delivery of ambulatory care closer to home. This not only concerns coping with patients with multiple chronic conditions, but also working within a wider inter-disciplinary team. At the moment though, there is scope for improving the incentives for multi-disciplinary team working to break down professional silos.

Thirdly, patient-centred care and patient empowerment require general knowledge about self-care and self-management, but also "soft skills" such as communication and teamwork. Indeed, soft skills become increasingly important in conjunction with (and not separate from) the digital transformation of health and care, as patient-centeredness and patient empowerment are facilitated by, for instance, eHealth, mHealth and individual access to electronic patient records.

This touches upon the last, but by no means smallest driver changing the nature of skills demand, which is the spread of digital technology currently revolutionising traditional clinical practice (see also the Digital Single Market Strategy, as well as Chapter 5 of this Companion Report). Indeed, the expansion of eHealth is leading to new ways of care delivery, requiring a new mix of skills, such as information interpretation for detailed genetic assessment so as to improve diagnosis and treatment.

Opting for more diverse teams of health professionals

Skill mix (or occupational mix) reforms are a way for countries to ease shortages, improve quality of care and increase efficiency. There are wide differences in the skill mix or distribution of tasks, as measured by the number of nurses per doctor, reflecting the different ways of organising health care delivery and the distribution of roles amongst different health care professionals.

With 8.4 practising nurses and 3.6 practising doctors per 1 000 population, the EU has an average nurses to physicians ratio of about 2.5. But this ratio varies from 1.1 in Bulgaria to 4.6 nurses per doctor in Denmark and Finland. In some countries, advanced practice nurses now assume certain tasks that were traditionally the remit of doctors.

New health professional roles (such as case managers for integrated services or nurses and pharmacists performing more advanced roles) are emerging across the EU – as has been flagged by some of the Country Health Profiles (see sidebar). Over the past decade the composition of health care teams has become more diverse. Indeed, traditional physician-led hierarchies are slowly but surely changing with shifts to multi-disciplinary team working across different medical disciplines to address multiple chronic conditions and complex care needs.

In the Netherlands, task shifting has led to new occupations, such as practice nurses, nurse practitioners, nurse-specialists (who can also prescribe medicines, in an ongoing pilot) and physician assistants.

In Finland, the roles of nurses in health care have expanded markedly with new functions, such as additional clinical competences, patient case managing, consultations, and prescribing.

There is also a need to recognise the contribution that patients themselves can make as "co-producers" of care, as well as the part played by informal carers. Redistributing roles to patients and informal carers through promoting self-management, developing health literacy and through formalising (and perhaps remunerating) non-health professional providers of care, are of value both in putting persons at the centre and in finding cost-effective ways of responding to individual and complex needs.

Recent evidence from the MUNROS project on the changing roles in the health workforce in nine European countries confirms that professionals' roles are increasingly diverse and finds that the development of new and extended roles is driven mainly by the willingness of doctors to delegate tasks, developments in medical technology and the need for more generic roles such as community health workers.

Maintaining skills and enabling the upskilling of the health workforce

Given that the health workforce will have to meet the growing and changing care needs over the next two decades, it is important for Member States, employers and other stakeholders to invest in continuing professional development (CPD), with the aim of updating the skills and competences of the existing workforce, so as to keep providing high quality health care and ensuring patient safety.

Evidence from a 2015 Commission study mapping CPD concludes that, while there is considerable variation in CPD across countries and health professions when it comes to mandatory and voluntary systems, there is no evidence to suggest that one system is preferable to another. The study emphasises CPD as a shared responsibility, in which employers, professional organisations and Health Ministries each have a role to play alongside the professional, to ensure systemic and organisational support in terms of allocating time for CPD and curbing its cost.

A joint declaration by the social partners in the hospital sector draws attention to the fact that certain groups of health workers are traditionally under-represented in CPD. These groups include workers aged 45 and over, part-time workers, bedside or front-line workers, workers on night shifts and less qualified workers. The declaration also asserts that CPD of these under-represented workers is not only fundamental for their indispensable role in the service delivery, but also provides a more than average return on investment.

Raising the attractiveness of the profession

The European Social Fund (ESF) is financing a variety of projects aiming at improving working conditions in the sector. In particular, an ESF-funded project at Pándy Kálmán Hospital in Hungary promoted the take-over by nurses of certain medical tasks from their doctor colleagues, leading to a significant increase of patient satisfaction and a more balanced distribution of the workload. The Vårdnära Service project in Norbottens (northern Sweden) introduced new working practices in health care provision, allowing nurses to focus solely on delivering the services they are trained for and shifting ancillary activities to other members of staff, so as to enhance cost efficiency, reduce nurses' stress levels and allow them to concentrate on the safety and quality of care provision.

Ensuring a resilient health workforce in the EU depends, crucially, on attracting people to work in the health system as well as retaining qualified, experienced staff despite a highly competitive, global labour market. Creating attractive career pathways, including through CPD, is a key success factor for retaining and motivating health care staff. However, in most Member States, with some notable exceptions, there are no coherent health workforce policies that would help to map out career pathways.

What is more, responses to health workforce recruitment and retention problems show great variation between countries, according to a 2015 Commission study mapping effective strategies. While no "one size fits all" solution can be found to problems in recruitment and retention of health workers across the EU, the study identifies a number of success factors that could help governments and health organisations tailor their policies to attract and retain health care staff.

The study shows that while financial incentives on their own were found to be rarely sufficient to improve recruitment and retention, they can be effective if attractive enough and combined with other elements to incentivise professionals to work in underserved areas and to keep them there longer-term.

Other success factors in attracting personnel and encouraging them to stay, apart from CPD, include promotional campaigns; new and extended roles that are perceived as enriching jobs; task substitution; better working conditions with more attention to work/life balance; opportunities for career progression; and more supportive management and supervision. Member States' efforts in this context can rely on mutual learning exercises and exchanges of good practice supported at EU level.

In a nutshell

To strengthen prevention, primary care and integrated service delivery, health systems need to find innovative solutions through new technologies, products and organisational changes. All of this depends on a health workforce of sufficient capacity and with the right skills and flexibility to meet the changing demands of health care. Yet many countries are confronted with critical health workforce problems such as supply, distribution and a traditionally oriented skill mix. Reforms in initial education and training programmes and investment in continuous professional development are needed to foster new and appropriate skill sets. Health workforce planning and forecasting can help countries to put the right number of health professionals in the right place at the right time. The Commission will continue to encourage EU level activities in health workforce planning and forecasting, so as to support Member States in putting theory into practice and building national capacities.

Chapter 5. Addressing an important knowledge gap with better, patient-centred data

From more data to better data

The final, arguably most cross-cutting policy lever discussed in this Companion Report has to do with better data and measurement. Health systems need to provide the right services to the right people at the right time, so as to improve people's well-being. To meet the challenges set out in Chapters 1 to 4, policy makers need to know more about their current and future patients, and need to have robust health data as input to evidence-based policy[36].

Reliable and policy relevant health statistics could inform health promotion and disease prevention (Chapter 1); improve primary care's responsibility for coordination and continuity (Chapter 2); facilitate active linkages and integration across the system (Chapters 3); and aid better workforce planning and forecasting (Chapter 4). However, as some of the *State of Health in the EU* profiles have shown, policy makers still face major knowledge gaps constraining their ability to improve the effectiveness, accessibility, and resilience of their health systems.

A number of medical conditions (such as asthma, chronic obstructive pulmonary disease, congestive heart failure, influenza, pneumonia, or gastroenteritis) can be effectively managed or treated at the primary care level. Correspondingly, emergency hospital admissions with these conditions indicate scope for improvement in the quality of primary care. Although avoidable hospital admission rates are measured in most EU countries, it is not that common to link this information back to the primary care provider, particularly where gatekeeping is under-developed. Routinely linking avoidable admissions to the received primary care-based interventions (such as prescriptions, or the lack of thereof) could help identify good practices in managing these conditions outside hospitals, which is not only more cost-effective, but better for patients too.

The importance of generating and using health data is stressed in the 2016 Commission-EPC Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability. Also in the context of the European Semester's 2017 Country Reports, data limitations or inadequate monitoring frameworks are observed for several Member States. Throughout, the message is for data to be accurate, reliable, accessible and user-friendly.

Better data quality yields comprehensive, meaningful, and internationally comparable evidence, measuring all aspects that are important to patients and capturing the kinds of issues, such as avoidable admissions, that are key to identifying and addressing inefficiencies in different parts of the system. Indeed, better health data will not only contribute to better patient outcomes, but potentially reveal some wasteful spending along the way, thereby enhancing service delivery and value for money.

Patient-centred health data are still under-developed across the EU

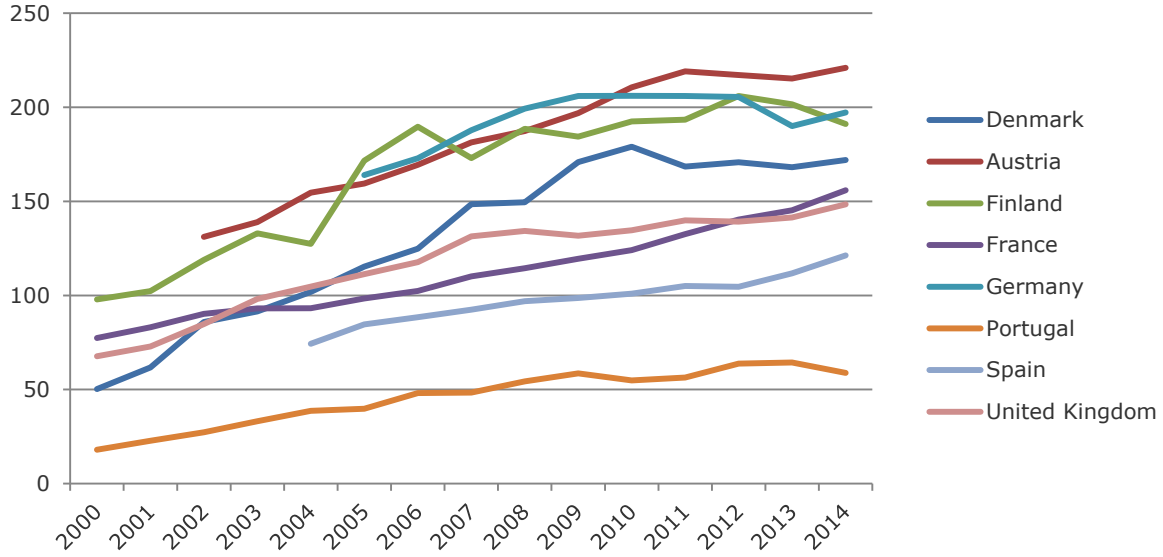
There have been major improvements in the availability of robust health data in a number of areas, as reflected, for instance, in the comprehensive list of European Core Health Indicators (ECHI) or the Joint Assessment Framework (JAF) on Health[37]. Health systems across the EU now

[36] This is one of the recommendations by the EU Expert Group on Health Systems Performance Assessment in their 2016 report "So what? Strategies across Europe to assess quality of care".

[37] Developed by the Social Protection Committee (SPC) and its Indictors' Sub-Group (ISG).

have reliable statistics on causes of death, health care resources (both human and physical), and health expenditure. However, there remain considerable gaps in the data coverage.

Figure 5.1. The huge variation in knee replacement across health systems in the EU remains largely unexplained



Source: Health at a Glance: Europe 2016. Note: Indicator shows trends in knee replacement surgery (2000-2014) per 100 000 population for selected countries.

For instance, there are comparable data on a number of treatments, such as knee replacement surgery (Figure 5.1). But the explanations for the large variation in its prevalence across Member States remain unclear, as does the extent of unwarranted under- or over-usage of services. According to *Health at a Glance: Europe 2016*, these country averages mask even further variation within Member States, with certain regions in Germany, France and Italy reporting more than twice the rate of surgeries of others. It is unlikely that a satisfying explanation can be found without complementing these data with the effects of care as experienced by patients.

Moreover, even though non-communicable diseases are responsible for much of the burden of disease and up to 80% of health costs (as discussed in Chapter 1), comprehensive information is lacking when it comes to their incidence, prevalence and the full burden they represent to society. As Europe's population is ageing and increasingly affected by chronic conditions and multi-morbidity, policy makers need more relevant data on the non-communicable disease burden, to be able to better target prevention, timely diagnosis and disease management activities.

Every patient undergoing hip replacement, knee replacement, varicose vein and groin hernia procedures in the English National Health Service (NHS) are invited to give feedback on the outcomes of their surgery. Patients are asked to fill out the same questionnaire both before and 6 months after the procedure, which includes questions on limitations with mobility and self-care, the existence of pain or discomfort, and the ability to perform usual activities. Each patient's paired answers are turned into a 'health gain' score, to be used by clinicians, NHS managers, as well as future patients, to evaluate the effectiveness of these treatments from the perspective of the patients themselves. The Patient-Reported Outcome Measures (PROMs) are published for each hospital trust on the MyNHS website.

Health data need to assess the disease burden from the whole society's perspective: not only covering existing patients, but the wider population whose conditions are not yet serious enough to require medical attention, and those who do not have good access to health care services.

Currently, there is significant fragmentation in the available health data in the EU, as most health statistics concentrate on particular diseases and/or particular health care settings (e.g. hospitals) without taking a person-centred view. Patient-centred data shift away from disease silos to capture outcomes from patients' points of view, thereby facilitating a whole-person health care approach.

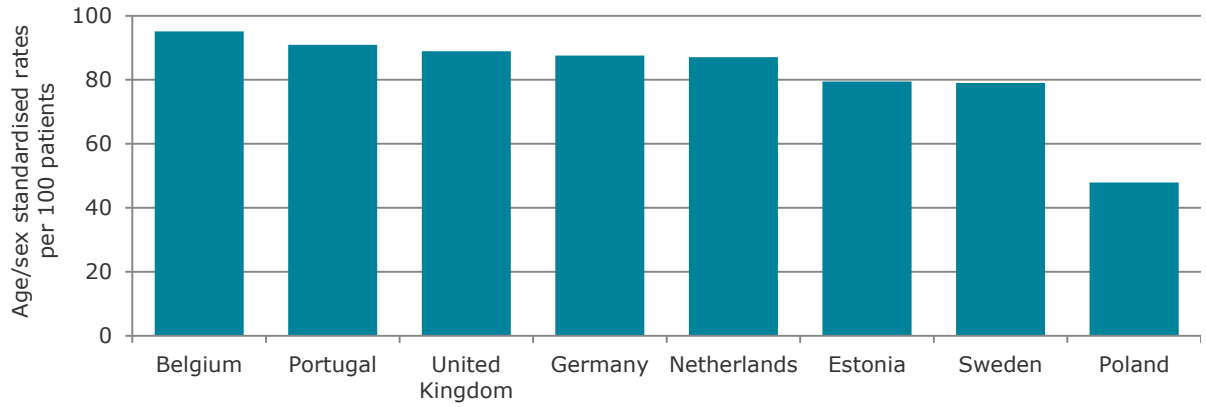
Complementing traditional indicators with holistic, person-centred health indicators allows policy makers to design interventions that not only treat individual conditions, but care for the whole person. These new indicators could guide policy makers and extend the health system's reach towards segments of the population with unmet need, and could help them identify the best ways and the best settings in which to provide interventions (including prevention) to maximise their effectiveness whilst minimising costs.

Measuring outcomes from the patients' points of view

So what does better, patient-centred data look like? Health systems across the EU already have relatively good data on inputs (such as the number of CT scanners) and some outputs (such as the number of knee replacements, see Figure 5.1), but still know particularly little of outcomes (for example, whether the procedure helped the patient's quality of life). Of course, the patient's perspective is not the only perspective that matters to quality and safety of care. But failing to take it into account altogether means settling for a fundamentally incomplete picture, jeopardising the effectiveness of health systems and ignoring potentially wasteful spending.

Concretely, patient-centred data need to include effective assessment of patients' experience of their care based on several key dimensions such as the health system's responsiveness to their needs. As an example, it is not enough to check whether the patient is still alive, or that the original condition was addressed. One should know if the patient is personally satisfied, with a full range of functional capacities, an unhampered social life, and the capability to return to daily activities, just to name few fundamental dimensions. Only health data that are more tailored to the needs and values of patients can guide policy makers in moving away from treating individual diseases towards caring for the whole person.

Figure 5.2. Patients report different levels of involvement in doctors' decisions about care and treatment across countries



Source: Health at a Glance: 2017. Note: 2016 data except for Portugal (2015), Belgium (2013) and Poland (2013).

Secondly, patient-centred data should also encompass the whole journey across the health system. The next generation of indicators that link earlier treatment events (such as medications) to later outputs and outcomes (such as hospital admissions or patient-reported outcome measures) could help better understand the effects of preventive and medical interventions on

patients' disease progression and later well-being. In turn, this could guide policy makers in identifying preventive and clinical good practice to meaningfully offer coordinated care that provides the right interventions to the right individuals at the right time.

Finally, patient-centred data empower patients and allow for a more profound interaction with health care providers so as to "co-produce" health. For this, doctors should spend enough time with patients, provide easy-to understand explanations and, as illustrated in Figure 5.2, involve patients in decisions about care and treatment[38]. As discussed below, patients' secure access to their electronic health records is an important dimension of this empowerment.

From survey data to real-world data: linking sources of information

Patient-centred data can be collected through national or international surveys, taking a sample from a population that shares the same disease, the same hospital, or simply the same health system. But in addition to survey data, advanced information and communication technologies are increasingly allowing for the creation of large and interconnected databases of detailed medical and health data, eclipsing the traditional registry and administrative sources in terms of richness and detail of information. This concerns real-world data, where a whole population can be directly studied without the need for samples or surveys[39].

With the advent of eHealth solutions (such as mHealth or electronic patient records), interconnected real-world data are an increasingly prevalent source of patient-centred indicators. Such solutions offer a range of new ways for patients to interact with health care providers and collaborate with them in managing their own health. This empowers patients to make informed decisions about their treatment and lifestyles, allowing them to become active participants in the decision making, which has been shown to markedly improve patients' compliance with the agreed treatment.

The plethora of new sources for health data also emphasises the fact that apart from *better* data, there will be a need for *linking* data across sources. This has to do with interoperability and standardisation, whether concerning survey data, registry and administrative sources, or real-world data. The ability to collate and aggregate data across sources will greatly improve the relevance and quality of information at the disposal of clinicians, managers and policy makers.

At the same time, the advent of real-world data in particular accentuates their sensitive, confidential nature. Indeed, a precondition to make patient-centred data a concrete reality is to create a coherent data governance framework with explicit rules and safeguards about privacy. The aforementioned 2016 Commission-EPC Joint Report identifies a number of important data governance mechanisms, such as ethical protocols, data de-identification and usage restrictions[40]. Similar requirements were stressed in a 2017 OECD recommendation on health data governance.

The 2017 Commission Communication on the mid-term review of the Digital Single Market Strategy recognises an advanced data infrastructure with citizen's secure access to their electronic health records and patient empowerment through interaction with health care providers as key features of the digital transformation of health and care[41].

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38 The OECD's *Health at a Glance: 2017* report features data on all three patient experience measures listed here, as a proxy for quality of care.

39 See also a 2017 OECD report on digital technology and making better use of health data.

40 It is worth noting, furthermore, that the General Data Protection Regulation (GDPR), which entered into force in May 2016, protects EU citizens when it comes to the processing of personal data and the free movement of such data.

41 A comprehensive set of actions within the digital transformation of health and care, part of the Digital Single Market Strategy, will be provided in a forthcoming Commission Communication.

The value added of Member State cooperation

It is important that countries develop better patient-centred health indicators, but if these are done in isolation, then there is only limited scope to compare outcomes, identify good practices and learn from one another, hindering opportunities for policy makers to improve quality of care and health outcomes. Correspondingly, coordinated cross-EU action is needed to develop and implement comparable indicators and ensure improved availability of health data collected under the same definition, making them a source for mutual learning.

As there is clear EU value added in being able to systematically measure and compare health outcomes, the Commission has long been supporting initiatives towards developing comparable health indicators in the EU that reflect Member States' health policy priorities. Going forward, improved Member State cooperation will be essential to exploit the full potential of mutual learning from the vast amounts of nationally collected survey, registry, administrative, and real-world health data, and help health systems respond to emerging pressures more efficiently by drawing on international good practices.

Firstly, in the next few years the Commission will be co-funding the development of the OECD's new Patient-Reported Indicators Survey (PaRIS). PaRIS will focus on patient-reported outcomes such as whether a treatment reduced pain or enabled a person to live more independently. In addition, the international survey will cover experiences reported by patients more broadly, asking them whether they felt involved in decisions about their care (Figure 5.2) or whether a treatment was appropriately explained to them. While these data exist in some regions or countries, this will be the first large-scale attempt at a reliable comparison across countries, expected to fundamentally improve the tools available for health policy and practice.

Secondly, for the routinely generated population health and health system data to be effectively used to identify EU-wide good practices and learn from other Member States, the standardisation and interoperability of national health information systems need to be improved. As there is clear EU value added in establishing the necessary conditions for cross-EU comparisons and mutual learning, the Commission has been working with Member States through the Expert Group on Health Information to scope out options to improve the coordination of health information generation in the EU, and to build the necessary sustainability mechanisms.

Once the next generation of better, patient-centred health data is bearing fruit, policy makers, practitioners and patients will be able to profit from the wealth of new information directly. For the Commission, these data have the potential to add to existing health information[42], in turn profoundly affecting the country-specific and cross-country knowledge that informs, for instance, Health Systems Performance Assessment (HSPA), the analytical basis of the European Semester, or indeed the knowledge brokering cycle that is the *State of Health in the EU*.

In a nutshell

More holistic, person-centred health data will have an enormous potential for improving the quality of care and the performance of health systems across the EU. Data capturing patient experiences and outcomes could markedly enrich knowledge on all topics captured by this Companion Report, whether the effectiveness of prevention, the performance of primary care in reducing the need for acute care, the integration of service provision, or the planning of human resources. By developing

[42] As captured by data tools such as the European Core Health Indicators (ECHI) and assessment frameworks such as the Joint Assessment Framework (JAF) on Health, under development by the Social Protection Committee (SPC) and its Indictors' Sub-Group (ISG).

this next generation of complementary health indicators, policy makers and health professionals will be given a set of tools to more effectively treat patients with increasingly complex conditions and multiple morbidities, and deliver the outcomes that patients value the most. Whatever the nature of the data, whether survey data or real-world data, a precondition is a coherent data governance framework, with clear rules about ethics and confidentiality. In the next few years, the Commission will support the OECD in the roll-out of their first Patient-Reported Indicators Survey (PaRIS).

PART 2

Key Findings from the Country Health Profiles

Disclaimer: The key findings presented in Part 2 of this Companion Report are lifted directly from the 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, as are links to underlying data. 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.

Part 2: Key findings from the Country Health Profiles

Austria

- Austrians live longer but spend fewer of these extra years in good health compared to many of their EU peers. Relatively low amenable mortality rates indicate that health care is more effective than in most EU countries, although Austria still lags behind the best-performing countries.

- High numbers of avoidable hospitalisations for chronic conditions suggest room for improvement in primary care. Strengthening primary care is a major objective of the 2017 health reform package, which aims to enhance primary care capacity through the establishment of new multidisciplinary primary care units.

- Behavioural risk factors are a major public health issue in Austria. Alcohol consumption and smoking rates have not declined and are among the highest across the EU. Obesity rates, although still lower than in many other EU countries, are on the rise for both adults and adolescents. Encouragingly, smoking rates among adolescents declined in recent years and Austria is finally catching up with other EU countries in terms of policies for the protection of nonsmokers, for example by introducing a comprehensive smoking ban in restaurants and bars. National Action Plans on Nutrition and Physical Activity were put in place to counter the rise in obesity.

- The Austrian health system is complex, with shared responsibilities between different levels of government and self-governing bodies. Decentralised planning and delegation of responsibilities contribute to fragmentation, inadequate coordination, and a divide between managing and financing responsibilities. Recent reform efforts, in particular the 2013 health reform, strengthened governance by promoting joint planning, decision making and financing. Nonetheless, a high level of fragmentation in the organisational and financial structure remains.

- Austria performs well in ensuring access to health care. It reports the lowest levels of unmet needs for medical care across the EU and, despite relatively high out-of-pocket payments, provides comprehensive financial protection for vulnerable groups through numerous exemptions from cost-sharing requirements. A large share of the out-of-pocket expenditure stems from payments for non-contracted care. Non-contracted physicians play an increasingly important role in the provision of ambulatory care. Rising imbalances between contracted and non-contracted physicians may contribute to social and regional inequalities, which are likely to be exacerbated by the ageing of contracted doctors. Nearly six out of ten contracted physicians are at least 55 years old and will retire in the next 10 to 15 years.

- The Austrian health system is relatively costly and has a strong focus on hospital inpatient care as indicated by high hospitalisation rates. Room for efficiency gains appears possible, for example by shifting activities and resources out of the large and costly hospital sector and improving the skill mix within the health workforce. Current reforms to strengthen primary care are an important step in this direction. Increasing the efficiency of the Austrian health system is particularly important given concerns about public spending on health care, which is expected to face growing pressures over the coming decades.

Belgium

- The Belgian health system makes major contributions to improving population health. Amenable mortality rates in Belgium are among the lowest in EU countries, owing in part to low and decreasing mortality from cardiovascular diseases. Relatively high and increasing survival rates for people admitted to hospital for a heart attack or stroke and for people diagnosed with different types of care indicate that the health care system is effective in treating people with life-threatening conditions.

- Large inequalities in health status persist in Belgium by socioeconomic status. These inequalities are due to a large extent to a greater prevalence of risk factors among people with low education or income, including higher smoking rates, excessive alcohol consumption and obesity. An important challenge for public health policies is to find innovative ways to effectively reach these disadvantaged groups. Comprehensive strategies to address these risk factors require strong inter-sectoral collaboration, as well as inter-governmental cooperation between the three communities.

- The management of the growing number of people with chronic diseases in primary care has improved, as measured by potentially avoidable hospital admissions. Still, avoidable hospital admissions for conditions like asthma and diabetes remain higher than the EU average. New care models have been taken introduced in recent years to improve care coordination for people with diabetes and other chronic conditions. It will be important to evaluate the effectiveness of these new care models and expand them if they prove to be cost-effective.

- Belgium spends a relatively high proportion of its GDP on health (10.5 % in 2015), and more than three-quarters of this spending is publicly funded. The recent reform in the funding mechanisms of social security programmes (including health care) aims to promote greater accountability and efficiency in public spending. While there is broad agreement on the need to reduce waste and inefficient spending, there are also concerns that the newly lowered public spending ceiling might lead to some shift from public to private funding, thereby increasing direct out-of-pocket payments for people not entitled to preferential reimbursement status.

- Another concern about access to care in Belgium relates to the shortage of health professionals, in particular doctors. To address this concern, the federal government substantially increased the *numerus clausus* of medical graduates who are allowed to pursue their post-graduate training to become GPs or specialists. Some innovative measures have also been taken to extend the role of other health professionals, such as nurses, to improve access to health services.

- Antimicrobial resistance has been recognised as an important public health issue in Belgium for many years now, but antibiotic consumption remains too high (the third highest among EU countries after Greece and France and nearly three times higher than in the Netherlands). The National Institute for Health and Disability Insurance recently took measures to reduce antibiotic consumption by providing feedback to doctors, launching public awareness campaigns, and increasing patient co-payments for some antibiotics.

Bulgaria

- Bulgaria's health system faces several major challenges simultaneously. It has the second lowest life expectancy in the EU (after Lithuania) and some alarmingly high behavioural risk factors (smoking, drinking, increasing obesity), as well as a rapidly ageing population, workforce shortages and low spending on health. Bulgaria will have to choose wisely to strategically spend its limited resources and maintain the resilience of the health system.

- The health system has not been effective in reducing amenable or preventable mortality, as reflected in persistently high mortality from diseases such as cardiovascular diseases and a rising mortality from cancer, diabetes and non-communicable diseases. In fact, Bulgaria has the highest mortality rate from cerebrovascular diseases (e.g. stroke) in the EU and very low survival rates for several cancers. This signals substantial room to improve health services, for example by improving access and care quality, as well as better prevention and better care coordination.

- More positively, some progress has been made with health prevention and early detection of chronic diseases since 2008, and more recently, with attempts to introduce integrated care. The 2017 budget allocates additional funds for early detection of cardiovascular diseases for example. Yet more time is needed for results to materialise.

- Health financing is characterised by low total spending, as well as very high out-of-pocket payments. Although growth in health spending outpaced the overall economy in recent years, the revenue base needs broadening to protect it from economic shocks, low employment, a large informal sector and a deteriorating dependency ratio due to ageing.

- A better allocation and use of resources has the potential to increase efficiency. Currently, Bulgaria spends most of its resources on pharmaceuticals and inpatient care. Primary care could be strengthened and more cases could be treated in day care and outpatient care. Recent reforms in the hospital sector have sought to address this problem. Furthermore, pharmaceutical spending should be a focus going forward. With the introduction of Health Technology Assessment already under way, the root causes (e.g. prices and volumes) of high pharmaceutical spending can be properly assessed and new policies developed.

- Access to health services remains a problem. Some 12 % of citizens are without insurance and high out-of-pocket payments threaten access to health care for vulnerable groups, including the Roma, lower income households, and older people. Although some out-of-pocket exemptions exist, this does not protect people from informal payments, which are still present in Bulgaria. Travel distance and availability of doctors also pose important access barriers, especially for people in lower income groups.

- The (future) workforce is challenged by severe shortages and a persistent migration problem. Most notably, there are great regional disparities in the distribution of GPs and large shortages of nurses. Health professionals migrate to other countries in search of better career prospects and better pay. Policies to address these issues are needed so that an effective health workforce and skill mix can be guaranteed in the long term.

- Much-needed progress has been made in strengthening the governance and accountability of the Bulgarian health system. Given the wide range of challenges ahead, the direction and implementation of recent reforms are encouraging.

Croatia

- Croatia has made important progress in recent years in improving the health status of its population, but life expectancy at birth is still more than three years below the EU average. Mortality rates from cardiovascular diseases are almost double the EU average and mortality rates from lung, breast and colorectal cancer are among the highest in the EU. These health challenges point to shortcomings in health care delivery and public health interventions. Moreover, smoking and obesity rates are higher than in many other EU Member States. Investing in public health interventions to address these high rates could yield substantial benefits

- Despite a challenging economic context and major fiscal pressures on health expenditure, Croatia has kept publicly funded health services accessible to its population. Although health expenditure per capita is among the lowest in Europe, the share of public expenditure is comparable to the EU average and the benefits package is broad, encompassing most health services. Nevertheless, affordability for some population groups remains a challenge; while the overall prevalence if catastrophic out-of-pocket spending is relatively low (4%), 17 % of low-income households face catastrophic out-of-pocket spending.

- The sustainability of health financing is a concern, with major fluctuations in per capita expenditure in recent years, due to a challenging fiscal environment and high unemployment rates. In addition, the ageing population is expecting to exacerbate the financial pressure on the health system in the future.

- Croatia has pursued a number of important health reforms in recent years, many aimed at improving the effectiveness and efficiency of its health system. Building on and implementing these reforms could help to further improve the performance of its health system. A comparatively large share of health expenditure goes to pharmaceuticals, indicating that efficiency gains may arise if appropriate measures are taken.

- One of the focal points for health reforms has been the hospital sector, with efforts to improve the strategic planning of hospital infrastructure and the efficiency of the hospital sector. However, so far results have been mixed, with progress made on a new provider (DRG) payment system but stalled implementation of hospital reorganisation plans and continued accumulation of debts.

- The strategic planning of human resources for health is a further challenge. Numbers of physicians and particularly nurses are low compared to the EU average. Following the country's accession to the EU, the outward migration of health workforce to other Member States has increased and further contributed to the workforce shortage in the Croatian health system.

- Developing the stewardship function of the Ministry of Health will be crucial for safeguarding achievements so far and addressing the remaining challenges in health care delivery and public health. By building national capacity in health reform, Croatia can ensure that it meets the objectives it has set itself for the health system, including improvements in life expectancy, quality of life and reductions in health inequalities.

Cyprus

- The Cypriot population is in good health overall, with among the highest life expectancy in the EU. Mortality rates for common causes of death, such as cardiovascular diseases and cancers, are below the EU average.

- There has been an upward trend in incidence of some cancers, in particular colorectal, breast and lung cancers. Although cancer is the second leading cause of death, there are only national cancer screening programmes for breast and colorectal cancer. Diabetes mortality rates are also well above the EU average.

- Healthy behaviours have had important, long-standing positive effects on the Cypriot population's health. Alcohol consumption is low relative to other EU Member States and dietary habits are generally favourable. However, smoking remains a significant public health issue, as smoking rates have not fallen in the way they have in many other countries. There are recent and on-going initiatives aiming to prohibit smoking in public indoor places. Growing childhood obesity rates are also a cause for concern.

- The health care system is split between public and private sectors and the public system does not offer universal access. In addition, coordination between the public and private sectors is minimal. Approximately 75 % of the population is covered by the public sector but there are long waiting lists for some services, in part because of limited resources.

- Many people opt to pay out-of-pocket to visit private providers. Out-of-pocket spending represents approximately half of total health care spending, which is the highest share in the EU after Bulgaria. Although most of this expenditure is for private sector services, since 2013, as part of the Economic Adjustment Programme for Cyprus, public sector user charge levels have increased and new charges have been introduced. The impact of such high out-of-pocket spending in the years after the economic crisis will be known fully only when household-level data become available.

- There is no formal process on health workforce planning, contributing to the very low ratio of only 1.5 nurses per physician. Most physicians, dentists and pharmacists work in the private sector, whereas the majority of nurses are employed in the public sector; coordination between providers in the public and private sectors is minimal.

- Cyprus has allocated less of its government budget to health than any other EU country since 2004. During the financial crisis, as government revenues shrank, Cyprus was forced to take on significant public debt to maintain its low level of health care expenditure. With increasing demand for services associated with population ageing and other factors, the sustainability of the system will be tested further unless health is given greater priority.

- After three decades of delays, there have been recent steps towards implementation of a new national health system providing universal access to care. A contract for an IT system to support the new health system has been issued, and in June 2017 Parliament approved bills on financial and administrative autonomy for public hospitals, and on setting contribution and co-payment rates. The new health system is expected to be fully implemented in 2020.

Czech Republic

- The Czech health system has made major advances in population health. Despite historically high mortality from certain diseases, a majority of health-related indicators are closing the gap with EU averages. Moreover, recent developments in survival rates from cancer and 30-day mortality from cardiovascular diseases are likely to continue this trend. Preventable mortality indicators reveal a more mixed picture. The rising prevalence of diabetes is worrisome, as are the high mortality rates from traffic accidents and liver diseases.

- The public health system has expanded its role over the last five years and now holds responsibility for non-communicable diseases. However, work to tackle the high prevalence of risk factors is still in its infancy. Tobacco control legislation has been strengthened, but programmes targeting alcohol consumption and rising obesity have yet to prove effective.

- The Czech Republic maintains a high level of financial protection with universal coverage, a very generous benefit package and low out-of-pocket spending. There is legislation to protect vulnerable groups, including an annual ceiling on co-payments for low income households. As a result, levels of unmet needs for financial reasons are among the lowest in the EU.

- There are, however, questions about adequacy of the current health financing system, particularly given the narrow revenue base, its vulnerability to shocks and the likely impact of population ageing on the dependency ratio and on levels of contributions to the system.

- There are also concerns about the ageing of the health workforce, the uneven distribution of doctors, migration abroad, GP vacancies in rural areas and travel distances. Numbers of primary care physicians are a particular worry, because it is not perceived as an attractive specialisation. All these factors raise questions about the availability of services in the long term and potential barriers to access. A comprehensive response would focus on training, retention policies and incentive schemes to avoid shortages in the medium and long term.

- The long-term care infrastructure can be characterised by regional disparities and a need for modernisation. There is a need to diversify long-term care delivery to treat people in their communities and at home, as well as to strengthen coordination and integration in health care and social care and across different providers. Currently, there is only a low degree of coordination between providers, which is further hindered by lacking eHealth solutions. Recent legislation to tackle this may be a step in the right direction.

- The Czech Republic performs well in terms of allocating resources efficiently to various care sectors. But there is real scope for technical efficiency improvements. Primary care could be strengthened so that it provides care in the most cost-effective setting and becomes an effective gatekeeper. Hospitals could reduce bed numbers and improve on indicators like average length of stay or occupancy rates. A Health Technology Assessment system could be developed to improve coverage decisions.

Denmark

- Residents of Denmark are in good health compared to residents of most other EU countries. The Danish health care system is effective in preventing mortality from amenable causes such as ischaemic heart disease and stroke. The case-fatality rate for heart attack patients is among the lowest in the EU. Although cancer screening and five-year survival rates compare relatively positively, mortality rates for cervical, breast, colorectal and lung cancer are high, due in part to higher incidence of these cancers.

- Behavioural risk factors among Danish residents are mostly favourable. Smoking declined sharply over the past decade, but excessive alcohol consumption by Danish adults and adolescents is the highest in the EU. The rate of alcohol-related deaths is higher than in most other EU countries. Recent initiatives to reduce levels of binge drinking in Denmark are a welcome development. The proportion of residents who report being in good health is high, although a gap exists between income groups.

- The Danish health care system is highly accessible. Residents enjoy access to a comprehensive package of medical technologies and interventions. Means-tested ceilings and other protection exist against excessive cost-sharing for medical care. Unmet need for medical care due to financial, geographic or other reasons is low, but foregone needed care is higher for dental treatments, particularly in lower-income groups.

- Denmark spends 10.3 % of GDP on health care, the sixth highest in the EU. Overall, the system appears to allocate and use its resources efficiently. Reductions in the number of acute care beds and average lengths of stay over the past few years appear to have been accommodated by the non-acute care sectors, which are performing well. Denmark has the highest number of nurses per capita in the EU, but more specialised work by nurses could further enhance efficiency across the system. Care coordination and chronic disease management can be improved, as considerable regional differences are observed in this regard.

- The Danish health care system has a first-rate information infrastructure. This includes an electronic health record system that, though not fully integrated, has a large degree of interoperability across settings and sectors and is used by all primary care practitioners. Furthermore, eHealth adoption and use across Danish primary and acute care is among the highest in the EU. Denmark also has a well-established series of disease registries. However, the suspension of the Danish General Practice Database in 2014 deprived the information infrastructure of a key dataset to drive quality of care, system learning and improvement.

- Key reforms initiated in 2007 consolidate functions and responsibilities among the three levels of government. A key aim is to improve care coordination, preventive services and rehabilitation. Reforms include incentives for cost containment, appropriate provision of care, and public health policies to ensure continued high performance of the health system and population health. More recently, National Quality Goals set a framework to improve care in all settings. The foundation appears to be in place for the residents of Denmark to continue benefiting from a well-functioning health care system.

Estonia

- Estonians have witnessed the strongest gains in life expectancy of all EU countries, particularly after age 65 but these years gained are spent in worse health than elsewhere in the EU. Deaths from cardiovascular diseases have fallen sharply, but cancer and external causes remain the leading causes of mortality. The proportion of people reporting that they are in good health is among the lowest in the EU, with the largest gap between rich and poor of any country.

- Unhealthy lifestyles persist in Estonia despite recent improvements and with large disparities between socioeconomic groups. Men are particularly exposed to risk factors. There are policies on smoking, drinking and more recently obesity (nutrition and physical activity green paper, sugar tax) but these may need more time to take effect and could be better targeted at vulnerable groups.

- Amenable mortality rates in Estonia for both men and women have fallen sharply since 2000 but remain above the European average, while 30-day fatality for acute myocardial infarction and stroke, are among the worst in Europe. Furthermore, a large proportion of acute inpatient care could be 'avoided' by moving it to more appropriate settings and by managing people with non-communicable diseases better (i.e. through more integrated care). There is clearly substantial room for improving health service effectiveness and quality although this is well recognised and recent Estonian reforms focus on establishing multi-disciplinary health centres in primary care and creating networks of hospitals.

- Access to health care could be improved substantially. Some 6 % of the population have no insurance. It is unclear who these people are but an investigation is underway. Estonia also has the highest level of unmet need for medical care, albeit it with little variation across income groups compared to other countries high unmet need. This is mostly caused by waiting times, which may also reflect on poor coordination and integration. More positively, the erosion of dental coverage and cash benefits as part of fiscal consolidation were rolled back early in 2017.

- Health system resilience remains a considerable challenge. Estonia is a low spender on health and draws from a narrow revenue base (payroll contributions), making it vulnerable to economic shocks and population ageing. This should change with the gradual phasing in of government contributions on behalf of pensioners. Providers are also dependent on external (European) funding for capital investments, rather than seeking self-sufficiency. Furthermore, deteriorating health workforce ratios and regional shortages jeopardise resilience and require a long-term strategy that will train more family physicians but also shift the focus from a narrow disease orientation to more multidisciplinary skills, and revise incentive schemes.

- Even though the Estonian health system is comparatively efficient on a number of indicators, with high generic penetration and great use of day care surgery, several indicators (average length of stay, occupancy rates, bed numbers) suggest that there is significant room to improve. To this end, the National Health Plan could be revised to become less of a budgetary tool and more a means for planning activities, defining measurable targets and holding stakeholders accountable.

Finland

- Life expectancy in Finland increased strongly over the past few decades, reflecting the positive impacts of public health policies and health care system interventions in reducing both preventable and amenable mortality. However, important disparities in life expectancy by gender and socioeconomic status remain: in 2015, the life expectancy at birth of Finnish men with a tertiary education was more than six years higher than for those who had not completed their secondary education.

- Substantial progress has been achieved in reducing smoking rates in Finland, while obesity rates have increased. Most inequalities in health status are due to a greater prevalence of risk factors among people with the lowest level of education and income. 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 heavy alcohol consumption on a regular basis. The proposed liberalisation of alcohol sales raises serious concerns that this might exacerbate alcohol-related problems and deaths.

- Health spending in Finland is slightly higher than the EU average on a per capita basis, but slightly lower as a share of GDP. Public spending accounts for 74 % of overall health spending, below the EU average (79 %), with the remaining paid mainly out of pocket by households. Looking ahead, 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 slow economic growth. This increases the need to achieve efficiency gains in health and long-term care delivery, so that these services remain affordable.

- An important challenge in Finland is to strengthen access to primary care and promote greater coordination between primary care providers and hospitals. More timely and effective access to primary care for the whole population would help reduce unnecessary visits to specialists or hospital emergency departments for the growing number of people living with chronic conditions. The role of nurses has been expanded to improve access to primary care, but so far the actual implementation of these new roles remains fairly limited.

- A particular concern is that occupational health care, directly funded by employers and providing primary care through private providers, reinforces inequalities in access to care. It mainly facilitates faster access through wider provider choice for people from higher socioeconomic groups, while people from lower socioeconomic groups and older people (beyond working age) have to wait longer to access services. The overcapacity in occupational health care not only raises equity issues, but also issues about allocative efficiency in the system.

- The current government has proposed major reforms in the organisation of health and social care services, funding mechanisms and the regional governance structure. The regional governance reform and the freedom of choice reform are particularly ambitious, and tactful steering will be needed to assure health care delivery will not be negatively affected following this reform. The proposed timelines for implementing these reforms have been postponed, given the complexities of the changes involved.

France

- The French health system generally provides good quality care and significantly contributes to improving the population health. Life expectancy in France is among the highest in EU countries and amenable mortality rates are among the lowest, due in part to low and declining mortality from cardiovascular diseases. The French population generally has good access to care, even though a non-negligible proportion of the population reports some unmet needs for financial reasons, particularly for dental care and eye care.

- Health spending as a share of GDP is the second highest amongst EU countries (after Germany), with 11 % of the French GDP allocated to health in 2015, but ranks ninth in per capita terms. Looking ahead, health spending as a share of GDP is projected to continue to increase in the coming years due to population ageing and the diffusion of new technologies.

- In France, 79 % of health expenditure is publicly funded, which is similar to the EU average. Because complementary private health insurance plays a more important role than in other countries, the share of direct out-of-pocket payments by households is the lowest among EU countries. There have, nevertheless, been growing concerns with rising levels of out-of-pocket payments, particularly among people who do not have a (good) complementary health insurance.

- Beyond financial barriers, another important challenge is to address persisting disparities in the geographic distribution of doctors and other health professionals. To address this problem, the French Ministry of Health has taken a series of measures to promote the recruitment and retention of doctors and other health workers in underserved regions.

- In response to the broader concern about a possible shortage of doctors, the Ministry of Health announced in 2017 an increase of 6% in the *numerus clausus* for entry in medical schools, to be implemented as of September 2017. One challenge will be to maintain an appropriate balance between generalists and specialists. Some innovative measures have been undertaken to extend further the roles of other health professionals, such as nurses and pharmacists, to improve access to services particularly in underserved areas.

- One of the main challenges of the French health system is to continue its transformation from a system that was predominantly focussed on providing acute care in hospital to a system that is more geared towards responding to the needs of ageing populations and growing numbers of people living with chronic conditions. Some progress has been achieved in strengthening primary care and developing new care coordination models for people with chronic diseases such as diabetes and asthma, but further progress is possible.

- Strengthening public health and prevention policies may also reduce pressures on the health system and reduce social inequalities in health. Tobacco smoking and alcohol consumption continue to be important public health issues in France, and rising obesity rates and lack of physical activity particularly among young people also pose growing health risks. Even though tobacco smoking and alcohol consumption have been reduced over the past decade, they still remain higher than the EU average, with a significant social gradient.

Germany

- Life expectancy in Germany is similar to the EU average, but Germans die about 2 years earlier than people in Spain or Italy. Cardiovascular diseases and cancer are still the leading causes of death, though deaths from dementia have increased sharply during the last years. Behavioural risk factors remain a major public health concern, particularly with regard to disadvantaged populations, and there is a growing burden of obesity.

- Germany has the oldest social health insurance system in the world. The country spends the highest proportion of its wealth on health in the EU and health expenditure per capita is the second highest. There are more hospital beds per population than in any other EU country and the rates of physicians and nurses per population are well above the EU average. Interestingly, the physician-to-bed and nurse-to-bed ratios are comparatively low because of the unusually high number of hospital beds.

- The health system is effective at preventing amenable mortality, which is lower in Germany than the EU average – but considerably higher than in France or Spain. A comparatively strong separation between ambulatory and hospital care, as well as between primary and specialist care, has led to problems with continuity and coordination. These problems persist despite a high uptake of disease management programmes and other forms of integrated care. Several quality indicators, such as avoidable hospital admissions or inpatient mortality rates, show that there remains room for quality improvement. In fact, several recent reforms have aimed at improving quality of care.

- Access to health services is, in general, very good – not surprising in view of the substantial resources available in the system and the low level of out-of-pocket payments. Self-reported unmet need due to financial reasons is comparatively low. However, lower income groups report it more frequently than higher income groups, which may be related to the co-existence of social health insurance and substitutive private insurance. Several recent reforms have aimed to address potential access problems in rural areas.

- The German health system provides a high number of services at comparatively low costs per case, both in inpatient and ambulatory (or outpatient) care. However, a strong increase in service provision, in particular in inpatient care, raises concerns about the system's allocative efficiency. Germany has been less successful than other countries in shifting service provision away from inpatient care towards outpatient care; and regional variations indicate co-existing problems of over-supply and under-supply.

- Governance is complex, with limited state control and a strong reliance on self-governing structures of sickness funds and providers. The highest self-governing body – the Federal Joint Committee – defines rules for access, benefit coverage, coordination of care, quality and efficiency. This arrangement assures that decisions are well-informed by the institutionalised day-to-day knowledge of actors in the field. However, when conflicts arise, this constellation may block reforms or lead to suboptimal results.

Greece

- The health status of the Greek population has generally improved over time, but key health challenges, such as cancer mortality and the impact of heart disease, remain. Trends in risk factors, particularly high smoking rates amongst adults and obesity in children, highlight the importance of establishing national cancer screening programmes, enforcing the ban on smoking in public places and promoting lifestyle changes geared towards diet and exercise.

- The adequacy of health system financing is a cause for concern because of the pressures on public expenditure, the falling revenue base of the social health insurance system and the already high proportion of private spending. The health system operates under considerable fiscal constraints, although thanks to the clawback systems, expenditure can de facto exceed the budget to meet patients' needs. This tool is crucial to ensuring that the public system can continue to deliver services, particularly as utilisation rates are growing and the capacity of households to purchase care privately has fallen since the onset of the economic crisis.

- Out-of-pocket payments have been traditionally very high in Greece and have even increased recently, which place an increasing financial burden on patients, often due to patterns of consumption driven by supply-induced demand, which may drive inequalities in accessing care. Tackling widespread informal payments, tax evasion through the provision of private health services without a receipt, as well as other forms of waste and health sector corruption (e.g. in procurement) is an ongoing challenge.

- Greece faces substantial problems in planning and rational allocation of healthcare resources, which has efficiency and access implications. There is a large imbalance in the distribution of physical resources, including medical personnel, between urban centres and rural areas, as well as between the public and private sectors. All these factors contribute to very high reported levels of unmet need for medical care, the second highest amongst Member States. Current reforms, such as that of primary care, are expected to address these issues directly.

- Despite the difficult economic context, significant reforms have addressed health system structures, costs and efficiency, tackling many long standing weaknesses. Successes include the establishment of a single purchaser, the standardisation of the benefits basket for reimbursable services, and significant reductions in pharmaceutical expenditure. Further efforts are ongoing, with particular scope for increasing the use of generics, improving hospital management and the broader application of clinical guidelines.

- Another major achievement has been to solve the problem of the health insurance coverage gap that affected an estimated 2.5 million people or a quarter of the population due to the lack of universal coverage. This took several attempts since 2011, during which access to services was severely constrained for the unemployed and other vulnerable groups without coverage. However, the new legislation in 2016 has now rectified these gaps and achieved universal coverage by finalising the process initiated in 2014, under the economic adjustment programme.

- A crucial element in meeting the goals of effectiveness, accessibility and resilience is the establishment of an effective network of first-contact primary care services to tackle population health needs appropriately. Currently, only a small minority of physicians are GPs and there is no gatekeeping to regulate patient pathways to higher levels of care nor sufficient health promotion or disease prevention. Nonetheless, a start has been made with

the formulation of the new Primary Care Plan, launched in 2017, for implementation over the next three years.

Hungary

- Life expectancy in Hungary has increased by almost four years since 2000 to 75.7 years in 2015, but still lags almost five years below the EU average. Large gaps exist in life expectancy between men and women, with men living on average nearly seven years less than women. The gap in life expectancy by socioeconomic status is even larger: Hungarian men with the lowest level of education live on average about nine years less than men with the highest level of education.

- These large gaps in life expectancy by gender and socioeconomic status are not new. They continue to be driven mainly by greater exposure of men to risk factors to health, such as smoking, harmful alcohol consumption and obesity.

- The Hungarian health system is underfunded. Health spending per capita is among the lowest across the EU, and only about half the EU average (EUR 1 428 per capita in Hungary compared to the EU average of EUR 2 797). Only two-thirds of health spending in Hungary is publicly funded (compared to nearly 80 % across the EU), leaving the system highly reliant on direct out-of-pocket spending. Consequently, a relatively high share of low-income households reports unmet medical care needs due to financial reasons. More than 25 % of such households face catastrophic out-of-pocket expenditure for health care, a higher share than in most other EU countries.

- Pharmaceuticals account for substantial shares of both public spending and out-of-pocket spending by households. Pharmaceutical spending may be reduced by making more effective use of public procurement practices and encouraging the prescription of generics.

- Cancer care and outcomes in Hungary may be improved through greater prevention, early detection and timely access to quality care for different types of cancer. Hungary reports among the highest mortality rates for both preventable cancers (e.g. lung cancer) and treatable cancers (e.g. breast, cervical and colon cancers). National programmes are in place to promote regular breast and cervical cancer screening, but the screening rates among women in the target age group remain low. A new national screening programme for colorectal cancer will be implemented in autumn of 2017. Greater public spending on cancer care would help achieve further progress in early detection and treatment, thereby increasing survival rates.

- The Hungarian health system remains highly hospital-centred, as shown by above-EU average rates of hospital discharges, length of stay and avoidable hospitalisations for chronic conditions. Not only does this point towards a weak gatekeeping system of primary care providers, but incentives and capacities to provide the appropriate care outside of hospitals are also lacking. Shifting care towards the community while simultaneously strengthening primary care delivery can promote more equal access to care, drive further efficiency gains and improve quality.

Ireland

- Ireland has seen significant improvements in the health status of its population over the past decades. Life expectancy has increased more rapidly than in many other EU countries and is now above the EU average. Yet, almost one-third of adults report excessive alcohol drinking habits, a much greater proportion than in other EU countries, and obesity remains an important public health issue among adults and adolescents.

- On a per capita basis, Ireland spends around 40 % more than the EU average. Approximately 70 % of health spending in Ireland is publicly financed, a proportion well below the EU average. Instead, voluntary health insurance plays a much bigger role in financing health care than in most other EU countries.

- Comparably low rates of amenable mortality point to a relatively effective health care system in treating life-threatening conditions. However, high hospital admission rates for chronic conditions are largely avoidable and suggest problems with the coordination and continuity of care. More importantly, Ireland is the only Western European country without universal coverage at the primary care level, raising questions about the accessibility of these important first-line services. Less than half of the population are currently entitled to coverage for GP visits. Plans to roll out coverage to wider parts of the population are ongoing but face some resistance.

- Long waiting times for outpatient treatment and inpatient surgery continue to present a major challenge. A very low hospital capacity and a two-tier health financing system that gives patients with private health insurance preferential treatment contribute to this problem. Since hospitals operate at nearly full capacity year-round, this suggests that Ireland may not have sufficiently invested in infrastructure. In addition, low workforce levels also present a challenge for timely access to care. Ireland raised the number of students entering into medical education since 2010, yet retention of medical graduates remains a concern.

- Although some efficiency gains have been generated following the financial crisis, more could be done in pharmaceutical spending by increasing the share of generics prescribed. In terms of hospital activities, progress was achieved in implementing day surgery for many interventions, although experiences in some leading EU countries show that there is still room to avoid hospitalisation for an even larger number of surgeries. Large budget overruns were commonplace in recent years, pointing to the need to strengthen financial governance and accountability.

- A broad consensus across political party lines affirms that the Irish health system needs a transformation to respond better to the needs of the population and to put a stronger focus on prevention and primary care. The inevitable increase in the demand for services in years to come due to population growth and ageing (when capacity constraints already exist today) makes it even more important to find a long-term solution. The recently published report of the Parliamentary Committee describes far-reaching reform options to move towards universal health coverage within a single-tier health system. It is expected that its recommendations will form the basis for the next generation of health reforms in Ireland.

Italy

- The Italian health system has made important contributions to population health and life expectancy gains. Amenable mortality rates in Italy are among the lowest in EU countries, mainly due to low and steady reductions in mortality from cardiovascular diseases. The number of alcohol-related deaths is among the lowest in the EU, reflecting generally low alcohol consumption and low levels of binge drinking. Yet further efforts are needed to reduce smoking rates among adolescents and adults, so as to reduce deaths from lung cancer and other smoking-related deaths.

- Despite steps taken by the Italian government to reduce the prevalence of overweight and obesity, southern regions such as Calabria, Campania and Molise show rates above 40 % of overweight and obesity among children.

- A series of cost-containment measures in the aftermath of the 2008 economic crisis led to a reduction in public funding for health. Increased co-payments for medicines and for inappropriate use of hospital emergency services were implemented in most regions following the introduction of the Deficit Reduction Plans.

- The proportion of people in the lowest income group reporting unmet needs for medical care due to costs is particularly high, suggesting a significant degree of inequality in access to care. Various vulnerable groups are nevertheless exempted from cost-sharing arrangements.

- Following the economic recovery in recent years, the health benefits package was revised and expanded in 2016, but there are concerns regarding regions' financial ability to implement this more generous benefits package, which must be provided to all residents in the country. The allocation of funds raises concerns regarding the capacity of poorer regions to fund access to these services without increasing regional taxes (or running deficits), possibly leading to growing rates of unmet needs and rising out-of-pocket payments.

- Despite policy efforts to improve efficiency in pharmaceutical spending, generics still constitute a small share of the overall volume of prescribed drugs. Recent policies promote the prescription of generics by requiring GPs to explicitly state the active ingredients of prescribed drugs to facilitate substitution.

- More nurses are being trained and paid carers are being regulated in an attempt to tackle the growing health and long-term care needs of an ageing population, and to achieve a more efficient use of human resources. While the country is characterised by a low ratio of nurses to doctors compared to most other EU countries, the annual number of new graduates from nursing schools quadrupled over the past 15 years. The challenge now will be to find suitable positions in the health system for all of these new graduates. The role of personal care workers, who constitute the largest share of carers providing home care for the elderly, is being regulated in an attempt to tackle the increasing demand for long-term care.

Latvia

- The life expectancy of the Latvian population increased quite rapidly over the past fifteen years, but still lags about six years behind the EU average, and is the third lowest in the EU after Lithuania and Bulgaria. There are huge gaps in life expectancy by sex and socioeconomic status. Latvian men can expect to live on average nearly ten years less than women. The gap in life expectancy at age 25 between Latvians with the lowest and highest level of education is also ten years. These health inequalities are mainly due to higher prevalence of risk factors, particularly smoking and harmful alcohol consumption, among men and people with low education or income.

- Strengthening efforts to prevent non-communicable diseases has been recognised as a priority in Latvia, with policies designed to control tobacco smoking, alcohol abuse and obesity. The [redacted] promotion and prevention activities, using EU funds and state budget, to address key risk factors related to cardiovascular diseases and cancer, as well as perinatal, neonatal and mental health.

- The performance of the Latvian health care system must be considered in the light of the limited resources available. Health spending in Latvia is among the lowest in the EU, resulting in considerable resource constraints within the health system. The low level of health spending is a challenge to sustainable improvements in population health and health system performance. Recent government plans to increase public spending on health should produce real inroads into problems with access and quality of care and contribute to improving health outcomes for the population.

- Given the limited resources that have been allocated so far to health, it is not surprising to see that the Latvian health system does not perform well in terms of quality or access. Regarding the quality of acute care, Latvia has the highest case fatality rates for heart attack and stroke among all the EU countries reporting these data. Early detection and timely access to treatment are also challenges in cancer care with both screening rates and net survival for breast and cervical cancer among the lowest in the EU.

- Access to quality primary care can be assessed by looking at hospitalisations for chronic conditions that could had been avoided if patients were well-managed in primary care. The Latvian data indicate that there is scope for improving chronic disease management outside of hospitals. While hospitalisation rates for diabetes in Latvia is close to the EU average, it is much higher for asthma and chronic obstructive pulmonary disease.

- Given the low levels of public spending on health, the health system is highly reliant on private spending in the form of direct out-of-pocket payments by households. Cost-sharing requirements are applied to nearly all health services, resulting in severe financial barriers to accessing care, particularly for low-income households. The lack of financial protection mechanisms for people with low incomes limits access to care. More than one in four low-income households face catastrophic out-of-pocket spending.

Lithuania

- Life expectancy in Lithuania is the lowest in the EU, six years below the EU average. Life expectancy for men is nearly 11 years lower than for women, the largest gender gap in the EU. Mortality rates for the two leading causes of death – ischaemic heart diseases and stroke – exceed the EU averages by four and two times respectively. The proportion of people reporting to be in good health is the lowest in the EU, and is particularly low among people in the lowest income quintile.

- Lithuanians consume more alcohol than any other people in the EU. Excessive alcohol consumption ("binge drinking") is especially common among men and adolescents. Alcohol-related deaths are more than two times greater than the EU average. Strengthening alcohol control policies is high on the policy agenda in Lithuania, and a new law coming into effect in January 2018 will ban advertising of alcohol products, increase the legal age for consumption to 20 years and restrict sales hours.

- Health expenditure per capita in Lithuania is half the EU average. One-third of health spending comes from private sources – largely out-of-pocket payments. Spending on pharmaceuticals forms the largest share of these out-of-pocket payments, as many people pay the full cost of both prescribed and over-the-counter medications. This can create financial barriers to the purchase of pharmaceuticals for some vulnerable groups, especially older and low-income people. In addition, informal payments are not uncommon in Lithuania.

- The NHIF, the single purchaser of personal health services, is funded by compulsory income-related contributions and the central government for the non-working population. The Lithuanian health insurance system has an effective counter-cyclical mechanism in place and was successful in protecting public spending on health at the time of the financial crises.

- Lithuania has among the highest amenable mortality rates in the EU, indicating that the health care system can improve its effectiveness considerably. Quality indicators provide a mixed picture, but both hospital and primary care services are improving their performance. Notable is Lithuania's exceptionally high suicide rate, despite mental health reform efforts. Reforms are ongoing to cluster acute care in centres with larger catchment areas, create networks of hospitals to provide each service in a more limited number of locations and implement volume thresholds to increase both efficiency and quality. The progress in primary care is following several years of reform, with modernised general practitioner and nursing services and a comprehensive reimbursement system incentivising prevention.

- Lithuania has a very large number of hospitals, spread out across most of the country's 60 municipalities. Many reforms have sought to reduce this capacity and shift care to outpatient and primary care services, but Lithuania still has one of the highest number of curative care beds per population in the EU. This is partly due to the shrinking population, which together with urbanisation has left many rural communities with a large hospital capacity.

Luxembourg

- The Luxembourg health system provides good quality care and has made a major contribution to improving population health. Life expectancy in Luxembourg is among the highest in the EU and amenable mortality rates are among the lowest. Yet there is room for making prevention and treatment of diseases such as diabetes and HIV more effective.

- Behavioural risk factors – smoking, drinking and obesity – are important challenges for the health system and reveal substantial inequalities according to education and income status. Preventable mortality indicators reveal a mixed picture of the effectiveness of prevention policies and suggest that these can be improved further. A comprehensive set of health strategies, targeted health promotion and prevention activities aims to address these risks through raising awareness and public health campaigns. However, careful monitoring will be needed to demonstrate the effectiveness of these programmes and to detect health inequalities within the population.

- Per capita health care spending in Luxembourg is the highest among EU countries. This allows for a very generous benefits package with low cost-sharing and high quality of health care services. The population benefits from good financial and geographic access to services, which is reflected in the low level of unmet needs and out-of-pocket expenditure. However, the level of unmet needs for financial reasons is slowly creeping up in the lowest income groups.

- Questions have been raised about the long-term stability of resources. Financial resources for the health care system are currently stable and have enabled expansions of the benefits basket. However, health expenditure growth, especially in long-term care, might pose a challenge to the future fiscal sustainability of the system. In terms of human resources, although Luxembourg does not face worrying shortages today, it does depend on graduates from other countries, leading to some uncertainty. This is also true for the provision of specialised care services, where Luxembourg relies on neighbouring countries for treatment.

- The efficient allocation and use of health care resources could receive higher policy priority. Several efficiency indicators and structural challenges signal room for improvement, as the system is very costly and payment methods do not promote efficiency in service provision. Pharmaceutical spending could also provide more value for money by increasing generic penetration and substitution. Similarly, the definition and setting of tariffs for medical services and Health Technology Assessment could be prioritised.

- To improve efficiency in hospital care, further development of day care surgery is needed and, in the absence of case-based payments, increased transparency and accountability have to be implemented. Efficiency could also be improved by using compatible information technology solutions for hospital administration and management, as well as centralised public procurement systems. Stronger collaboration between the four general hospitals would be a possible way forward, with competence networks involving voluntary hospitals as well as other providers.

- Finally, there is considerable room to do more with regular health system performance assessments, particularly when it comes to the monitoring of inputs, processes, outputs and outcomes. Setting up appropriate information systems will be key in this effort.

Malta

- The Maltese health system has registered good progress, as evidenced by high life expectancy, good health status and generally low levels of unmet needs. However, some risk factors are of concern compared to other EU countries and may well have a negative impact on healthy life expectancy in the future. In particular, obesity prevalence is the highest in the EU and represents a major public health challenge.

- Malta faces important fiscal challenges due to an increasingly diverse, growing and ageing population with commensurate rising chronic care needs. However, recent economic reforms and prudent fiscal management are currently creating the necessary fiscal space to accommodate projected increases in health expenditure. Nevertheless, improving health system capacity to cope with changing needs requires a strong commitment to securing adequate health budgets.

- Strengthening primary care would reap a number of benefits for the Maltese health system and its users, including efficiency gains from reducing pressure on hospital care and ensuring better management of care for patients with chronic conditions. Ongoing initiatives to strengthen primary care include an expansion of the range of services, infrastructure investments to improve facilities and the development of a new primary health centre.

- Malta has successfully tackled long waiting times for surgical interventions and diagnostics through a number of measures, including increasing capacity and commissioning some services from the private sector. Reducing waiting times for outpatient specialist appointments in public hospitals remains a priority, especially as direct access to private specialists in order to by-pass waiting lists for those who can afford it could create an equity issue.

- The implementation of the next stage of development in Malta's eHealth infrastructure, such as electronic medical records in primary care, e-prescriptions and patient registries, will not only contribute to longer term efficiency of health care spending but will also enhance quality and continuity of care for patients. A digital strategy is being prepared.

- Access to expensive innovative medicines remains an important budgetary challenge. In response, the government has adopted various savings measures in the medicines budget in order to spend more on expensive new medicines. These include the use of clinical pathways and protocols for the evaluation of new medicines and the introduction of managed entry agreements.

- Malta has embarked on new health system stewardship arrangements through public-private partnership agreements, so as to enhance hospital infrastructure investment and management of services. The Ministry of Health's commissioning of private sector services entails a relatively new role as the purchaser of care, as opposed to being a direct provider of health care services through government-operated facilities. A robust legislative and governance framework to underpin this change is needed as a matter of urgency. Careful monitoring and evaluation of these new arrangements will ensure that they meet their policy objectives and derive the expected value for money and quality of care for the health system.

Netherlands

- The Dutch health care system has contributed to improved population health with better amenable mortality rates than the EU average and other favourable indicators. Low numbers of avoidable hospitalisations and generally good survival rates suggest there is effective primary and secondary care. Preventable mortality indicators reveal a more mixed picture, not least because of the long-term consequences of past tobacco use, with mortality from lung cancer among women still rising, although smoking, drinking and obesity are all now being addressed. Large inequalities in health persist according to education and income. On the positive side, public health policies are starting to tackle this, but may need time to become effective.

- Access is good with few geographic, waiting time or financial barriers. There are, however, concerns about increasing waiting times and workforce shortages, particularly nurses. GP care remains free of charge at the point of delivery, but there is a great deal of public debate on rising out-of-pocket spending, mostly due to the compulsory deductible, even though spending remains comparatively low.

- The high levels of health spending have been a long-standing concern in the Netherlands. More market mechanisms were introduced as a way of achieving (among others) better cost control, but have yet to lead to the desired results. Instead, broad sectoral agreements were needed and helped to flatten the cost curve. Still, the system remains expensive, prompting worries over future growth and sustainability.

- Long-term care needs are perceived as a threat to future sustainability. The 2015 reform tried to address the comparatively large and generous long-term care sector by shifting more responsibility to citizens. This makes demands on the population and other health actors, and will test the resilience of the system. It may also undermine efficiency as new governance arrangements create the risk that municipalities and health insurers try to push the responsibility for long-term care onto each other. Accessibility and quality will need careful monitoring and it is likely that ad hoc fixes will be needed.

- Data governance is an area where large gains can be made. Patient data is now shared on a voluntary basis but only at the regional level. Better data exchange would help facilitate care integration and the adoption of new eHealth technologies. A broad sectoral agreement has put this on the agenda, but it will have to be carefully monitored to ensure progress.

- The government sees competition and active purchasing by insurers as the main instrument for improving efficiency. Although insurers increasingly negotiate on price and volume, negotiation on quality is limited. This is now being addressed, at least in part, through a new quality institute, and a new policy goal that, within five years, the treatment of 50 % of the disease burden will be made transparent with outcome indicators.

- These efforts to increase transparency about cost and quality will be crucial if competition is to work as envisaged, and to enable insurers and consumers to take full advantage of their respective roles. Nevertheless, disagreements on the proper place of market mechanisms, as well as tensions around how to reconcile competition with the need to facilitate greater care integration and the concentration of specialist skills, are likely to persist.

Poland

- Life expectancy at birth in Poland is higher than in most neighbouring countries, but lower than the EU average. Disparities in life expectancy are observed between different population groups. Eight years separate Polish men and women, while the gap between those with the lowest and highest education levels is 10 years. Polish men and women aged 65 can expect to live another 16 and 20 years, respectively, but less than half these years will be free from disability.

- The proportion of Polish residents who report being in good health is low compared to other EU countries. Many more high earners report good health than those on lower incomes. About a third of the total burden of disease can be attributed to behavioural risk factors, especially alcohol consumption (which is increasing among adults), obesity and physical inactivity. Polish people are 65 % more likely to die from a circulatory disease than the average EU resident and the reduction in cardiovascular mortality has been slower than in most other EU countries.

- Acute care in Polish hospitals is relatively effective and of high quality, especially for cardiac patients. Poland has one of the lowest case-fatality rates for heart attack patients in EU countries that report these data. On the other hand, outcomes for cancer care in Poland are less favourable. Survival rates for breast, cervical and colorectal cancers are low compared to other EU countries and the cancer mortality rate is higher than the EU average. Programmes to improve screening and prevention are currently being implemented. Poland also has high hospitalisation rates for chronic conditions such as asthma, COPD and congestive heart failure, suggesting room for improvement in non-acute sectors.

- Affordability and unmet medical needs are key concerns in Poland. Due in part to workforce and allocative imbalances, Poland has high levels of unmet need for medical care and the longest waiting lists for elective procedures in the EU. Compulsory health insurance covers only 91 % of the population. While entitlement covers a broad range of services, public underfunding means that the supply of services is limited. An undeveloped private health insurance market and limited public coverage of pharmaceuticals have resulted in high levels of out-of-pocket payments. As a result, a large number of lower-income Polish households face catastrophic health care costs.

- Long-term care in Poland is in need of reform. The sector is fragmented and governed by numerous laws. Some long-term care is often provided in hospitals, but the principal source of provision is informal care by family members. This is unsustainable given changing demographics and women's growing participation in the workforce. Increased funding, infrastructure investment, and better planning and management could improve this situation.

- The government is in the process of implementing far-reaching structural reforms of the health system, aimed at improving access and coordination and improving allocative and technical efficiency. The reforms include a fundamental restructuring of health care financing, priority setting and strategic planning. Sound governance, accountability and oversight are needed to ensure these reforms do indeed result in better outcomes for the Polish people.

Portugal

- Less than half of Portuguese people report that they enjoy good health. However, life expectancy at birth has increased by over four years since 2000 and is higher than the EU average. Mortality rates for the most common causes of death (cardiovascular diseases and certain cancers) have been decreasing, but some unfavourable trends have emerged, such as the increase in number of deaths caused by diabetes.

- Smoking and binge drinking rates are far below the EU averages, but rising rates of obesity and physical inactivity represent one of the main challenges for population health. Efforts to address these risk factors include a new programme for physical activity to promote healthy behaviours and tackle sedentary lifestyles.

- The National Health Service covers the entire population for everything except for dental care, but there are inequities in the access to health care services due to geographical disparities. Out-of-pocket spending comprises 28 % of total health care spending, although a range of exemptions is in place to protect vulnerable groups. Co-payment values are typically small, except co-insurance levels for pharmaceuticals, and recent measures have reduced them and extended exemptions.

- Several attempts to improve the integration of primary care have taken place over the last 10 years. However, there is a shortage of GPs – a situation that is likely to worsen in the future, as current GPs start to retire. Motivating and retaining the health workforce, particularly nurses, is a major challenge.

- The economic crisis had a major impact in Portugal, which resulted in the implementation of several policies to rationalise health sector costs, as part of its agreed Economic Adjustment Programme from 2011 to 2014. Measures in the health sector included a reduction in health workers' salaries, cuts to public pharmaceutical expenditure and a price review of private providers. Medical practices were also targeted with the introduction of clinical guidelines.

- While measures were initially successful in reducing costs and increasing efficiency, several challenges remain, including the implementation of effective measures to ensure financial sustainability, while improving underserved fields such as dental care, mental health and palliative care. Recent efforts have targeted changes to provider payment mechanisms, the development of Health Technology Assessment and defining a national list of pharmaceutical products and prescription guidelines.

- New measures also have been implemented to enhance transparency and to focus on public participation and patient empowerment through the establishment of a new NHS Portal, which contains detailed information about the functioning of NHS facilities, and the activation of the National Health Council, to ensure NHS users' participation in the policy-making process.

Romania

- While a high proportion of the Romanian population assesses itself as enjoying good health, life expectancy at birth remains nearly six years below the EU average and is one of the lowest in the EU. There have also been some unfavourable trends, including rising mortality rates for the most common causes of death (cardiovascular diseases and lung, breast and colorectal cancers), increasing numbers of new HIV/AIDS cases and falling immunisation rates.

- Binge drinking among men is a serious public health problem, with the highest level in the EU but no national programme in place to tackle it. More positively, the number of daily smokers is in line with the EU average and the obesity rate among adults is the lowest in Europe. Still, behavioural risk factors contribute to more than 40 % of the overall burden of disease in Romania.

- Romania's health system is characterised by low funding and inefficient use of public resources, with the lowest spending per capita and as a share of GDP in the EU. There is a lack of universal coverage, although the non-covered population does have access to a minimum package of benefits. There are also inequities with regard to access to services between the rural and urban populations and for vulnerable populations. Recent efforts include the creation of community care centres to improve access, including for the Roma population.

- Out-of-pocket spending comprises one fifth of total health care expenditure, and includes direct and informal payments. The latter are thought to be widespread and substantial, but nevertheless difficult to estimate, obstructing reliable calculations of the true share of private expenditure on health. Affordability is the main reason for reported unmet health care needs.

- The efficiency of the health system is constrained by delays in shifting from inpatient and hospital care to outpatient and primary care. Strengthening primary care has been on the policy agenda since 1990, but primary and community health care services are still under-provided and under-used, and there continues to be inappropriate use of inpatient and specialised outpatient care, including care in hospital emergency departments.

- Efforts to improve the system are hampered by lack of information. There are insufficient data to assess quality of care and health technology assessment is still at an early stage of development. There are no clear criteria for resource allocation and insufficient evidence is available to improve cost-effectiveness. Nor is there a system in place to ensure an equitable distribution of health facilities and human resources across the country, to overcome inequities between rural and urban areas.

- There are, however, a number of initiatives to improve the health system. Romania's National Health Strategy sets out strategic objectives in the areas of public health and health care services, and is supported by the development of eight regional plans to reorganise health services and direct investment towards disadvantaged areas. A National Authority for Quality Management in Health Care has been established and the new government is addressing the conditions of the health workforce and access to medicines.

Slovak Republic

- The health status of the Slovak population has improved since 2000, but life expectancy at birth is still almost four years below the EU average. Life expectancy for men is more than seven years lower than for women, and a large gap also exists by socioeconomic status: Slovak people who have not completed their secondary education can expect to live 10 years less than those with a university education.

- The lower life expectancy in the Slovak Republic is to a large extent due to higher mortality rates from cardiovascular diseases. Mortality rates from ischaemic heart diseases are the fourth highest among EU countries, and death rates from stroke are also well above the EU average. The implementation of a more comprehensive tobacco control policy may help achieve further reductions in tobacco smoking among adolescents and adults, the largest avoidable risk factor for cardiovascular diseases.

- Progress was achieved over the past decade in reducing mortality rates for people admitted to hospital for a heart attack or stroke. On the other hand, cancer survival did not improve significantly over the past decade, and the gap widened with many other EU countries in survival following a diagnosis of breast, cervical or colon cancer. This lack of progress is partly due to low screening rates. The Slovak Republic has not yet developed any national cancer plan, a tool used in other countries to achieve progress in prevention, early detection and treatment for people with cancer.

- The statutory health insurance system is designed to provide the whole population with the same benefit package, regardless of health status, ability to pay and place of residence. Insurance companies are mandated to maintain contracts with a minimum set of providers by type of service and speciality in each region. In practice, however, coverage still varies across the country, mainly because the supply of health professionals is uneven across regions and districts. The capital region has the highest number of doctors per population and providers tend to cluster in regional capitals, limiting access for the rural population.

- The Slovak Republic has successfully downsized hospitals and allocated resources to outpatient services. The hospital sector reduced substantially over the last two decades, as illustrated by the reduction in hospital beds and average length of stay. Nonetheless, the overall consumption of hospital services remains high, with hospital discharge rates above the EU average and rising in recent years. Further efficiency gains may be achieved by reducing avoidable hospitalisations through better self-care and primary care.

- The Slovak Republic has a general lack of GPs, with few medical graduates choosing to specialise in general medicine. The lack of effective primary care is particularly felt in deprived areas, especially those with a large Roma population, a group that suffers from poorer health status and service access. A large proportion of GP consultations also result in referral to a hospital specialist. Expanding the role of GPs and other health professionals (such as nurses and community pharmacists) can make primary care more accessible and effective, and increase the overall efficiency of the system.

Slovenia

- Slovenia has made great progress in closing the gap with the EU in terms of health status. Its life expectancy gains (of nearly five years between 2000 and 2015) are the third largest increase in the EU, and self-reported health is now close to the EU average. Yet life expectancy at birth for Slovenian men is six years less than for women and nearly seven years higher for men with a university education than those with lower secondary education.

- Smoking levels have declined, but the level of alcohol consumption among Slovenians is high, especially among men and young adults. Obesity levels among adults and 15-year-olds are above the EU average and have worsened. Moreover, many behavioural risk factors are much more prevalent among population groups disadvantaged by income and education. There are also comparatively higher than average suicide rates, especially for men.

- The Slovenian health system provides near universal coverage but there are extensive co-payments. To cover these, 95 % of the population have voluntary health insurance and there is help for those who cannot afford it. Out-of-pocket payments are low overall, but the share of private expenditure is high compared to the EU average.

- The health system has made good progress in effectiveness and quality as reflected in low amenable mortality rates. However, despite the strong primary care system, there is a lack of coordination and integration across levels and sectors, causing discontinuity of care. Furthermore, although hospitals are generally performing well, the high 30-day fatality for stroke is alarming, as is the slight reduction in 5-year survival rate from cervical cancer.

- Slovenia has a good record in terms of unmet medical needs, although the data are not entirely reliable. There are very few financial barriers to access and although distribution of physicians is uneven, geographic barriers are also low. Slovenia has started to address geographical disparities in part by building on its successful initiative on primary care. It is rolling out the upgraded family medicine 'model practices' nationwide and has also increased medical training capacity, both to improve access to care in underserved areas and as a more efficient way of meeting need.

- The Slovenian health system is comparatively efficient, although there are some fiscal sustainability concerns. Increasing the use of day care, further rationalising the hospital sector (and the oversupply of small regional hospitals), as well as improving the payment and procurements systems could all boost efficiency further.

- There is a longstanding need to redesign the composition of health financing to ensure fiscal sustainability. After years of delays and abandoned reform efforts, the government has made tangible progress with a new National Health Plan that sets out future directions. The new Health Care and Health Insurance bill seeks to broaden the revenue base and ensure more stable financing. It is unclear whether proposals on long-term care will be supported, which aim to develop an affordable, effective and sustainable response to the needs of a rapidly ageing population.

Spain

- Life expectancy at birth in Spain is the highest among all EU Member States. Spain also has one of the lowest amenable mortality rates in the EU, due notably to relatively low and declining mortality rates from ischaemic heart diseases and stroke. Preventable mortality has come down substantially, reflecting, at least partly, public health interventions to promote healthier lifestyles. Nonetheless, smoking rates among adults remain high compared to the EU average, and obesity rates are growing among both adolescents and adults.

- Following the economic crisis, a series of urgent measures were put in place to reduce public spending on health, notably by reducing the scope, breadth and depth of public coverage. These reforms shifted some of the costs for health care and pharmaceuticals to households. The share of direct out-of-pocket spending has increased since 2009, accounting for 24 % of overall health spending in 2015, a much higher level than the EU average of 15 %.

- Spain has a decentralised health system under national coordination. Since 2002, the organisation and delivery of health services have been devolved to 17 regional health administrations. Important variations arise across regions, not only in health spending, but also in the supply of doctors and other health workers, health care activities and waiting times.

- Waiting times for different health services are a longstanding issue in Spain. Following some reduction before the economic crisis, the average waiting times for elective surgery, such as cataract surgery or hip replacement, have increased and are now well above the level in other countries such as Italy and Portugal. This is due to the demand for these procedures increasing more rapidly than the supply.

- At the same time, substantial evidence exists of an overuse of many surgical procedures in Spain. Knee replacement rates vary more than five-fold across different regions, and wide variations are observed in cardiac procedures and caesarean sections. These variations are too large to be explained solely by differences in need. The recent success in reducing unnecessary caesarean sections in many public hospitals provides a good example of the possibility of reducing the overuse of certain interventions through the development and implementation of clinical guidelines involving all key stakeholders. The challenge is to extend this approach to all regions and hospitals to reduce low-value care.

- The shift from more expensive inpatient hospital services towards ambulatory care preceded the economic crisis and was pursued in recent years. The number of hospital beds decreased steadily and was accompanied by reductions in average length of stay in hospital. The use of ambulatory surgery rose for many interventions, although room remains for further development of day surgery to achieve efficiency gains and free up resources.

- Health and long-term care expenditure in Spain are expected to rise in future years as a share of GDP due to population ageing and technological progress. Further efficiency gains in health and long-term care delivery will be needed to address the growing needs of an ageing population in an affordable way.

Sweden

- Swedish people live longer and in better health than the average EU citizen. Sweden has the fifth highest life expectancy in the EU and the number of years spent in good health is high. In fact, healthy life expectancy at 65 is the highest among all EU countries for both men and women. The gender gap is relatively low, but there are persistent socioeconomic disparities. For example, the life expectancy of men with a university education is almost five years higher than among those who have not completed their secondary education.

- While smoking and alcohol drinking is generally low in Sweden, overweight and obesity problems are growing public health issues among adolescents and adults. One in seven adults and almost one in five 15-year-olds are overweight or obese, a higher rate than in most EU countries. Physical activity among adolescents in Sweden is also considerably lower than the EU average.

- Many behavioural risk factors are much more prevalent among populations with lower income or education. The prevalence of smoking is three times higher and obesity 50 % more likely among the population with the lowest level of education compared to those with the highest level of education. The government has set a goal to eliminate avoidable health status gaps between population groups within one generation, but the action plan to achieve this ambitious goal has not been clearly spelled out yet.

- The Swedish health system's decentralisation into 21 regions contributes to regional differences in service access and outcomes, against the general principle expressed in the health care law. To mitigate this concern, the state redistribution system is designed to ensure a more equitable distribution of resources, and additional funding is available for targeted programmes. While this organisational fragmentation causes differences in coverage, in practice, larger regions are slowly evolving by increasing regional collaboration to share investments and cluster services.

- Sweden has the lowest spending on inpatient services in the EU. In recent decades, the number of hospital beds has steadily declined, as well as the average length of stay, and there has been a growing use of day care surgery. Bed occupancy rates are very high, suggesting that resources are used fully, and hospital staff express growing concerns about patient safety and working conditions.

- Sweden allocates large financial and human resources to health, with the fourth highest spending on health per capita in the EU and high numbers of doctors and nurses. However, there are persistent problems with recruiting staff in rural areas and finding the best mix of doctors and nurses. Some effective task sharing between nurses and doctors has been implemented in primary care, but the lack of specialised nurses hampers greater task sharing in hospitals.

- A relatively small share of the Swedish population report unmet health care needs due to costs, distance or waiting times. The difference between high- and low-income groups is also among the lowest in the EU. The Swedish health system has copayments for most health services, but still protects the population from financial risk through copayments exemptions and ceilings. Waiting times and an inability to coordinate services across different care providers are nonetheless enduring issues.

United Kingdom

- The four countries of the United Kingdom show favourable life expectancy and health status. Cancer is the leading cause of death, and the health system struggles to achieve the 5-year cancer survival rates of other European countries. Alzheimer's and other dementias are increasingly important and recognised as such, and there is growing concern around mental health.

- Behavioural risk factors account for some 28 % of the burden of disease, but work to promote healthy lifestyles appears to be producing some positive results, with low smoking levels (particularly among the young) and reductions in alcohol use. However, obesity and binge drinking are growing and up to half of additional life years at age 65 are spent in ill health.

- Care is equitable in terms of access, with low levels of unmet need, very low out-of-pocket spending, good financial protection and waiting times that affect all income groups equally. However, the United Kingdom has striking inequalities in self-reported health by socioeconomic status and most behavioural risk factors are far more prevalent among people with lower income and education. Efforts to tackle the social determinants of health, including those targeting children under 5, are not yet achieving their aims.

- Hospitals are working at near-full capacity with low bed numbers, high occupancy rates and short lengths of stay. There are also relatively few doctors and falling numbers of nurses. These factors place strains on the system that, together with the discontinuity with social care, contribute to the long-standing challenges of waiting times for elective and emergency care. Targets are often used to address areas of weakness and have shifted recently from waiting times to cancer care and mental health.

- A 30 billion pounds sterling funding gap has been projected by 2020–21 in England's National Health Service, which presents a real challenge to resilience. The government has committed extra funding, but expects much of this to be derived from efficiency gains. This has prompted some refocusing of policy.

- Integration of care is seen as increasingly central to improving efficiency and keeping patients in the most appropriate (and lowest cost) setting. England's National Health Service is seeking to catch up with Northern Ireland, Scotland and Wales. It is shifting the emphasis to collaboration between entities and reigning back on the promotion of market forces and competition. It is hoped that new models of (place-based) care will deliver better coordinated, more efficient and cheaper care outside hospital, but also that they will address prevention upstream so as to reduce the long-term call on health services.

- There are also resilience challenges around the health workforce. Shortages persist and may be exacerbated by wage caps and by the United Kingdom's intention to leave the EU, which creates uncertainty for the many foreign health and social care professionals in the country.