



OECD Health Policy Studies

# Rethinking Health System Performance Assessment

A RENEWED FRAMEWORK





OECD Health Policy Studies

# Rethinking Health System Performance Assessment

A RENEWED FRAMEWORK

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

**Please cite this publication as:**

OECD (2024), *Rethinking Health System Performance Assessment: A Renewed Framework*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/107182c8-en>.

ISBN 978-92-64-83500-9 (print)  
ISBN 978-92-64-65339-9 (pdf)  
ISBN 978-92-64-50740-1 (HTML)  
ISBN 978-92-64-94432-9 (epub)

OECD Health Policy Studies  
ISSN 2074-3181 (print)  
ISSN 2074-319X (online)

**Photo credits:** Cover © REDPIXEL.PL/Shutterstock.com.

Corrigenda to OECD publications may be found on line at: [www.oecd.org/about/publishing/corrigenda.htm](http://www.oecd.org/about/publishing/corrigenda.htm).

© OECD 2024

---

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <https://www.oecd.org/termsandconditions>.

---

# Foreword

Health System Performance Assessment (HSPA) plays a vital role in ensuring that health systems meet people's health needs and preferences, and provide high-quality, accessible healthcare for all. Consistent and systematic evaluation of health systems helps policy makers to identify areas that require improvement, support the best allocation of resources, and assess the achievement of key policy objectives. Over the past three decades, the OECD created comprehensive conceptual frameworks to assess various dimensions of health system performance that have enabled effective benchmarking and policy analysis. But as the policy environment of health systems changes rapidly, the approach to assessing health system performance also need to evolve.

There is growing awareness that people's needs and preferences must be placed at the centre of health systems. Additionally, the resilience of health systems against major shocks has emerged as a critical issue to be addressed. The COVID-19 pandemic revealed that even the most affluent health systems were underprepared and lacked resilience in the face of major shocks. Its legacy continues to reverberate, alongside enduring and emerging crises. Moreover, population ageing and increasing digitalisation of health systems are bound to have a significant impact on health and healthcare in the future.

The need to address these issues can serve as a catalyst for countries to work together to build more people-centred, sustainable and resilient health systems. The conceptual framework underpinning the assessment of health system performance and the OECD's work on health need to reflect the current and future challenges faced by health systems.

This report presents the renewed HSPA Framework as approved by the Health Committee via written procedure on 6 December 2023 and prepared for publication by the OECD Secretariat. It emphasises people-centredness, placing people's needs and preferences at the core of health systems, as requested at the 2017 OECD Meeting of Health Ministers. It also integrates new dimensions of performance – notably resilience and environmental sustainability – but also gives more prominence to inequalities, including gender inequalities. The main elements of the Framework are presented in relation to each other at a high level, not detailing all possible conceptual relationships. This approach makes it suitable for application to countries with different geographical characteristics, economies and health systems. The renewed Framework sets out an overarching vision, and more detailed measures, indicators and programmes of work will facilitate work to realise that vision.

A fit-for-purpose framework is a tool that consolidates a collective understanding of key policy objectives of health systems. It is not intended to replace national-level HSPA frameworks, rather, it facilitates international or regional-level benchmarking and mutual learning. It provides a shared vision of the main elements of health systems that deserve policy attention in the hope that this will help guide health systems towards ever stronger performance.

This renewed Framework is the culmination of a process of discussion and active engagement with OECD member countries to ensure its relevance and usefulness based on the most pressing policy needs. It was welcomed by Ministers at the 23 January 2024 OECD Meeting of Health Ministers.

# Acknowledgements

Preparing this report was a joint effort by a team of authors from the OECD: Francesca Colombo, Guillaume Dedet, Frederico Guanais and Michael van den Berg.

This document benefited from the extensive comments and suggestions of delegates from the Health Committee, as well as Expert Groups and Working Parties under the OECD Health Committee, such as the Working Party on Quality and Outcomes, the Working Party on Health Statistics, the Expert Group on the Economics of Public Health, the Health Committee Bureau and the Health Ministerial Bureau during 2022 and 2023.

The preparation of this renewed Health System Performance Assessment Framework has benefited from thorough discussions and exchange with other international organisations, notably the World Health Organization (WHO) Regional Office for Europe and the European Observatory on Health Systems and Policies, to ensure consistency and alignment.

Within the OECD Directorate of Employment, Labour and Social Affairs (ELS), the authors wish to thank Stefano Scarpetta, Mark Pearson, Lucie Bryndova, Katherine de Bienassis, Michele Cecchini, Niek Klazinga, Gaetan Lafortune, Rushay Naik, and José Ramalho. Many thanks also go to Lucy Hulett and Natalie Corry from the ELS communications team for their editorial support, and assistance in the design and production of the report, and to Isabelle Vallard for her administrative support throughout the project.

# Table of contents

Foreword	3
Acknowledgements	4
Executive summary	7
<b>1 Revising the OECD’s Health System Performance Assessment Framework</b>	<b>9</b>
1.1. Recent OECD frameworks for health	10
1.2. Towards an integrated and updated OECD HSPA Framework	13
<b>2 General structure of the renewed Health System Performance Assessment Framework</b>	<b>14</b>
2.1. General structure of the renewed HSPA Framework	14
2.2. Socio-economic, demographic, and environmental conditions	16
2.3. Individual and population health	16
2.4. Putting people’s needs and preferences at the centre of health system resources and interventions	16
2.5. Four cross-cutting dimensions traverse the Framework	17
2.6. Relationships across dimensions	18
<b>3 Populating each dimension of the Framework with indicators</b>	<b>19</b>
3.1. Health system outcomes	20
3.2. Health system context	21
3.3. Measuring healthcare services and public health interventions	27
3.4. Measuring health systems resources, characteristics and policy	32
3.5. Measuring cross-cutting dimensions of the Framework	37
References	44
Annex A. Three decades of health system performance assessment	50
Notes	59
<b>FIGURES</b>	
Figure 1.1. The OECD 2015 Health System Performance Assessment Framework	11
Figure 2.1. Renewed OECD Health System Performance Assessment Framework	15
Figure 3.1. Indicators of health status across the OECD, 2021 (or nearest year)	21

Figure 3.2. Risk factors for health across the OECD, 2021 (or nearest year)	26
Figure 3.3. Indicators of access to care across the OECD, 2021 (or nearest year)	30
Figure 3.4. Indicators of quality of care across the OECD, 2021 (or nearest year)	32
Figure 3.5. Health system capacity and resources indicators across the OECD, 2021 (or nearest year)	33
Figure A A.1. Proposed conceptual framework for OECD's HCQI project (2001)	54
Figure A A.2. Revised OECD framework for performance measurement	56

## TABLES

Table 3.1. Examples of health status indicators currently collected by the OECD	21
Table 3.2. Examples of environment and health indicators currently collected by the OECD	22
Table 3.3. Possible new indicators to further assess interactions between health and environmental threats	23
Table 3.4. Examples of indicators describing the socio-economic impacts of health and health systems collected by the OECD and other institutions	26
Table 3.5. Examples of risk factors indicators currently collected by the OECD	27
Table 3.6. The People-Centred Health Systems Scorecard	27
Table 3.7. Examples of people-centredness indicators that have been reported by the OECD	28
Table 3.8. Examples of indicators describing access and coverage collected by the OECD	29
Table 3.9. Examples of quality indicators collected by the OECD	31
Table 3.10. Examples of indicators describing the health systems resources, characteristics and policy section	36
Table 3.11. Examples of indicators reported by the OECD measuring health systems efficiency	39
Table 3.12. Examples of indicators measuring the equity dimension of health systems	40
Table 3.13. Examples of indicators measuring gender equity in health and health systems	41
Table 3.14. Examples of indicators measuring health systems resilience	43

### Follow OECD Publications on:



<https://twitter.com/OECD>



<https://www.facebook.com/theOECD>



<https://www.linkedin.com/company/organisation-eco-cooperation-development-organisation-cooperation-developpement-eco/>



<https://www.youtube.com/user/OECDiLibrary>



<https://www.oecd.org/newsletters/>



# Executive summary

## Towards a future-proof OECD Health System Performance Assessment Framework

Health systems are under intense pressure to adapt to evolving needs and megatrends driven by population ageing, digitalisation, and climate change, as well as to be better prepared to withstand sudden, large-scale natural or man-made shocks such as pandemics, natural and environmental disasters, biological, chemical, cyber, financial and nuclear threats, and social unrest. We need a new vision of health system performance assessment that integrates key dimensions of performance, such as resilience, people-centredness, and environmental sustainability.

Health System Performance Assessment (HSPA) is a crucial element in ensuring that health systems meet people's health needs and preferences and provide quality healthcare for all. By consistently and systematically evaluating health systems, it helps policy makers to identify areas that require improvement, support the best allocation of resources, and assess the achievement of key policy objectives.

The renewed Framework builds on existing frameworks that guide OECD's work on health, including the 2015 revision (<https://doi.org/10.1093/intqhc/mzv004>) of the HSPA Framework (<https://doi.org/10.1787/440134737301>), the People-Centred Health System Framework (<https://doi.org/10.1787/c259e79a-en>), and the Resilience Shock-Cycle Framework (<https://doi.org/10.1787/1e53cf80-en>). It places people at the centre of health systems and incorporates new key health system objectives (such as sustainability, from both the economic and environmental perspectives), and more clearly stresses the interconnectedness and potential trade-offs across different health systems dimensions (such as balancing efficiency and equity, efficiency and people-centredness, or sustainability and resilience).

The renewed Framework will facilitate international collaboration by providing a common language, definitions and shared understanding among policy makers, stakeholders and organisations. It provides a foundation for the development of future indicators, data collection, policy analysis and knowledge integration. It is not intended to replace national-level health system performance assessment frameworks, but to enable international benchmarking and mutual learning.

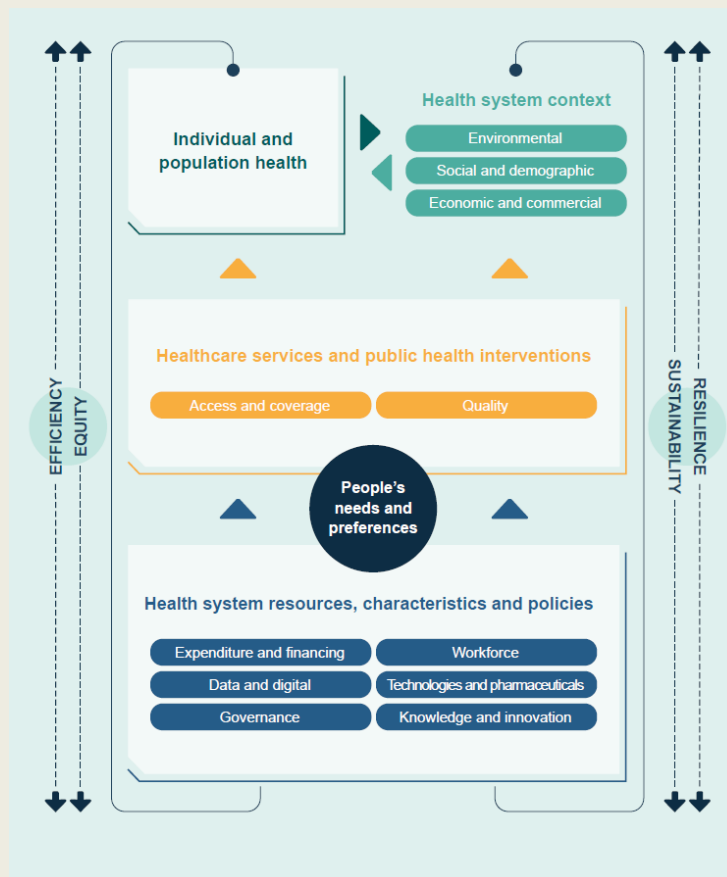
## The renewed OECD Health System Performance Assessment Framework

This renewed Framework acts as a foundational guide to facilitate a collective vision for health system performance.

**Health system outcomes** are considered both at individual and population levels and refer to the impact on population health of health system activities, policies, and interventions. The **social, demographic, economic and environmental contexts** influence and are influenced by individual and population health as well as the health systems that support them. These therefore constitute the background of the Framework.

**People’s health needs and preferences** are at the core of the Framework and are seen both as an objective of health systems, as well as being instrumental to achieving other policy objectives. Health systems aim to deliver access to high-quality **healthcare services and public health interventions**. These include all activities that fall under health systems, including curative care, long-term care, and mental health, but also prevention and health promotion. The renewed Framework also draws attention to four “cross-cutting” dimensions of health system performance, namely **efficiency and equity** on one side, and **sustainability and resilience** on the other.

**Health systems resources and characteristics** represent the “structural” elements of health systems, i.e. the inputs necessary to enable them to function.



# 1 Revising the OECD's Health System Performance Assessment Framework

For decades, health policy makers have strived to achieve high-performing health systems that deliver good health outcomes to populations, prevent ill-health and provide high-quality care available to all at affordable cost for payers and patients.

These issues have become even more pressing today. Health systems are under enhanced pressure to perform well under new circumstances. The COVID-19 crisis has rocked societies and economies. It highlighted the necessity for health systems to be adequately equipped to handle and promptly recover from high-impact shocks. In this context, it has become essential for health systems to develop ways of assessing their resilience to disruption. This notion of resilient health systems is critical no matter whether the shock is caused by an external cause, such as a pathogen with pandemic potential, other biological threats, war, or by more enduring challenges such as population ageing and environmental threats.

Too often, health systems have been focused on what the system can deliver, rather than on people's needs and preferences. People demand care that is better centred around what matters most to them, and health systems must be able to measure and assess their ability to meet patients' needs and expectations. Health systems also need to improve the outcomes and experience of care, including as measured and reported by patients themselves. Furthermore, with the ageing of populations, evolving health needs also call for more continuity of care, integration of services and data, and health literate populations. These are all key components of high-performing and people-centred health systems.

Climate change is an enduring challenge putting further pressure on health systems. It calls for immediate action to respond adequately to the new and incremental health needs caused by heat waves and other climate-related threats. It also requires reducing the environmental impact and carbon footprint of health systems themselves. Yet today we still do not adequately assess the ability of health systems to respond to the stress posed by global warming on the health and well-being of people, nor their ability to contribute to environmental sustainability and reduce their carbon footprint.

Digitalisation and artificial intelligence provide new opportunities to rethink how health systems can deliver high-quality care that is accessible to all. Telemedicine offers opportunities to bring services closer to people. Artificial Intelligence has great potential to improve clinical care, research, and system governance. These could improve health system performance, but ethical and governance challenges need to be tackled – and health systems must be able to assess their impact more effectively.

Finally, the need for health systems to provide high-quality and safe care in a context of growing pressure on budgets means that they are increasingly being asked to deliver, reward and measure value rather than sheer volume of care. Efforts to improve value for money needs to be accompanied by improved ability to assess the implications for different population groups, irrespective of age, income, or gender, with special attention given to the most vulnerable.

This evolving policy context call for **a new vision of health system performance assessment** that integrates new dimensions of performance such as resilience, people-centredness, and environmental sustainability.

Health system performance assessment (HSPA) has become a crucial element in ensuring that health systems provide quality healthcare and meet people's needs. By consistently and systematically evaluating health systems, HSPA serves as a valuable instrument for policy makers to identify areas that require improvement, support a more efficient allocation of resources, and assess the achievement of key policy objectives.

Over the past three decades, assessing the performance of health systems has formed a key part of the OECD's efforts to support a high quality of care amid rising expenditures and changing demographic trends. Measures of health system performance have evolved as new evidence from health sector policy and experiences emerged since the OECD first published comparative reviews of health system reforms in 1992 (see Annex A for a more detailed description of the history of health system performance assessment). **The renewed Framework developed by the Secretariat reflects the changing landscape of health systems today and combines several components of other frameworks currently in use.**

## 1.1. Recent OECD frameworks for health

**Conceptual frameworks provide a structured way to organise and understand complex public policies ideas and relationships.** Their intended purpose is to help policy makers, policy analysts, practitioners and other stakeholders make sense of a particular policy area, having practical applications across various domains, including guiding indicator development and policy analysis through the selection of pertinent measures, and laying a foundation for research. They further facilitate knowledge integration by categorizing information from different sources, supporting the creation of a comprehensive understanding of a subject.

These frameworks enable international benchmarking and policy evaluation using sets of agreed indicators and visual tools. They also promote effective communication, collaboration, and knowledge exchange by providing a common language and shared understanding. Moreover, they contribute to decision-making by offering a systematic evaluation approach that helps assess potential impacts and guide well-informed decisions.

While countries have their own national frameworks, internationally comparable statistics of health systems and analysis across OECD countries are essential for comparative analysis and to facilitate international learning.

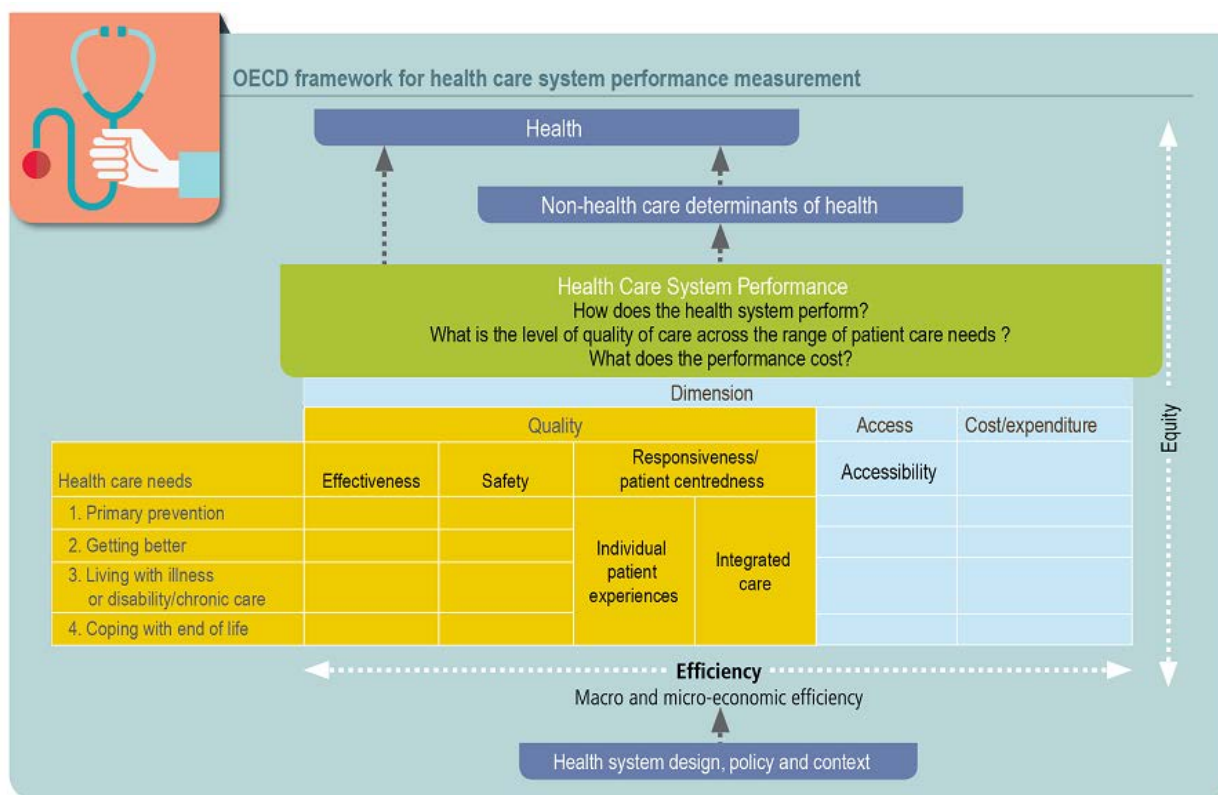
For decades, the OECD has helped countries to identify the key principles of high-performing health systems and to assess health system performance based on internationally comparable health indicators (see Annex A). This work has contributed to, and been guided by, the development of conceptual frameworks for health system performance developed by the OECD overtime (Hurst and Jee-Hughes, 2001<sup>[1]</sup>; Kelley and Hurst, 2006<sup>[2]</sup>; Carinci et al., 2015<sup>[3]</sup>) as well as more recent and focused developments that zoom in on two specific angles: people-centredness (OECD, 2021<sup>[4]</sup>) and resilience (OECD, 2023<sup>[5]</sup>).

### 1.1.1. The 2015 Health System Performance Assessment Framework

While the 2015 HSPA Framework (Figure 1.1) “zooms in” on the **quality dimension** (highlighted in yellow), it recognises other elements such as access, financing and health system inputs, and in fact has been used as the conceptual framework underpinning wider analytical and indicator work by the OECD.

This Framework can trace its roots to the year 2000 (Hurst and Jee-Hughes, 2001<sup>[1]</sup>), and it was further developed later as part of the activities of OECD’s Health Care Quality Indicators expert group (the predecessor of the current Health Care Quality and Outcomes Working Party) between 2004-06 (Arah et al., 2006<sup>[6]</sup>; Kelley and Hurst, 2006<sup>[2]</sup>) (see Annex A for more details). **Since its adoption, this Framework has been used as the foundation for the development of indicators to assess health system performance across OECD countries and to evaluate gaps in indicator portfolios.**

Figure 1.1. The OECD 2015 Health System Performance Assessment Framework



Source: Adapted from Carinci et al. (2015<sup>[3]</sup>), Towards actionable international comparisons of health system performance: Expert revision of the OECD framework and quality indicators, <http://dx.doi.org/10.1093/intqhc/mzv004>.

### 1.1.2. The People-Centred Health Systems Framework

The **People-Centred Health Systems (PCHS) Framework** was a response to the 2017 OECD meeting of Health Ministers. At the time, OECD Ministers agreed that health systems needed to maximise their effectiveness and efficiency, to deliver seamless care across services and providers; and to deliver improvements that matter to people and their changing care needs. They agreed about the need to equip health professionals with the right skills and adapt training and work models to deliver care that maximise patients’ outcomes. Ministers further asked the OECD to develop the Patient Reported Indicators Survey (PaRIS) to provide cross-country comparative measures of patients’ own experience of medical care and

healthcare outcomes. They also gave the OECD a strong mandate to set up a framework and assessment tool to help them identify suitable actions to adapt their system towards people-centred care.

The development of the PCHS Framework built on the 2015 Framework itself, zooming into the characteristics that are directly related to people-centredness. It also built on the multiple efforts conducted by other organisations to identify and categorise the key components of people-centredness (Nolte, Merkur and Anell, 2020<sup>[7]</sup>; World Health Organization Regional Office for Europe, 2016<sup>[8]</sup>).

The OECD PCHS Framework was completed in 2021 and covers five dimensions for assessing people-centredness of health systems: **Voice, Choice, Co-production, Integration, and Respectfulness** (OECD, 2021<sup>[4]</sup>). This Framework helps to methodically analyse people-centredness of health systems along these dimensions. To help countries to assess the progress they are making towards people-centred care and identify whether there are certain dimensions or policy areas that could benefit from particular attention, a scorecard was developed that identifies policy benchmarks across the five dimensions of the OECD People-Centred Health Systems Framework.

The indicators included in the scorecard draw on a range of data sources, including OECD Health Statistics, the European Quality of Life Surveys, and the Commonwealth Fund International Health Policy Surveys. The full data collection of the of the PaRIS survey of People Living with Chronic Conditions, which includes 20 countries and is underway in 2023, will drastically improve the availability of indicators of people-centredness for participating countries, allowing for a new, more completed edition of the PCHS scorecard to be published.

### 1.1.3. The Resilience Shock Cycle Framework

**Resilience** is understood as the ability of systems to prepare for, absorb, recover from, and adapt to major shocks (OECD, 2020<sup>[9]</sup>). The COVID-19 pandemic revealed weaknesses in health systems and in how they respond to shocks, highlighting the need to improve their resilience.

Rather than relying solely on planning for, avoiding and absorbing shocks, a resilience approach acknowledges that some shocks will be of a size and scale that will disrupt an entire health system. In this scenario, it is important that the health system is capable of recovering and adapting for the future. In this context, building on the lessons of the pandemic and considering further shocks, **the OECD Resilience Shock Cycle Framework served as the basis for the OECD analysis of health system resilience** (OECD, 2023<sup>[5]</sup>).

The disruption cycle in the Framework comprises four stages:

- **Prepare** includes the steps taken by the health system and related institutions to plan and prepare critical functions and features to avoid and mitigate a universe of potential shocks.
- **Absorb** comprises the capability of the health system to maintain core functions and absorb the consequences of an acute shock or extended stress without collapse. It involves limiting the extent of the disruption and minimising the morbidity and mortality impact.
- **Recover** involves the health system attempting to regain lost functions as quickly and efficiently as possible. It also refers to the time and resources needed for the system to recover its functionality after the shock.
- **Adapt** relates to the capacity of the health system to “learn” and improve its capacity to absorb and recover from shocks based on past experience, reducing the impact of similar threats in the future. It informs planning and preparation for the next cycle.

These stages are presented in sequence but are dynamic and integrated in practice. This is illustrated by the COVID-19 context. For example, a new variant of SARS-CoV-2 that escapes immune protection from vaccination could result in a shift backwards from the recover to the absorb stage. Furthermore, decisions made in one stage of the disruption cycle may have an impact on the subsequent stages – for example, stopping elective surgery during the absorb stage of the pandemic may affect the recover stage.

## 1.2. Towards an integrated and updated OECD HSPA Framework

### 1.2.1. The need to adjust the Framework to the world we live in

The OECD Health System Performance Assessment Framework was last updated in 2015, with a focus on quality and outcomes (Carinci et al., 2015<sup>[3]</sup>). Since then, health systems have been called to become more centred around people needs and expectations, while many disruptive events, including the greatest health emergency in a century, have occurred, and enduring challenges are pressuring health systems on a daily basis. **All of this has fostered a major shift in the broader health policy context, and expectations of what a health system performance assessment framework should measure have evolved substantially.**

As the world changes, so must the approach to how health system performance is assessed. The COVID-19 pandemic revealed that health systems were underprepared and therefore not as resilient as they should have been or were thought to be. As the legacy of these crises continues to reverberate, an interrelated set of enduring and emerging crises – cost of living, climate change, war – calls for urgent action to ensure that health systems are more resilient to future shocks. At the same time, megatrends such as ageing populations and increasing digitalisation are likely to have a significant impact on health and healthcare in the coming years.

These seismic shifts present not only an immense challenge, but also an opportunity to collectively chart a path towards building greener, more sustainable and more resilient health systems that yield dividends for populations, societies and economies. The conceptual framework underpinning health system performance assessment and the OECD's work on health should reflect the policy challenges health systems face today or those that are certainly expected for the future.

### 1.2.2. Using a renewed HSPA Framework

A fit-for-purpose framework is a tool that consolidates a collective understanding of high-level policy objective of health systems, define the scope of OECD work on health, and help agree on a common language and terminology. It is not intended to replace national-level health system performance assessment frameworks, but to enable international or regional-level benchmarking and mutual learning.

The renewed OECD HSPA Framework also helps steering indicator development, knowledge integration, international collaboration and decision making. It provides a shared vision of the main elements of health systems that deserve policy attention and will serve the needs of different strands of OECD work on health. Box 1.1 details the main practical applications of such Framework.

#### Box 1.1. The practical use of the OECD Health System Performance Framework

- Providing a **foundation for indicator development, data collection and policy analysis**;
- **Knowledge integration** by organising and integrating knowledge from different sources and different streams of work;
- Facilitating **international benchmarking and learning** by sets of agreed indicators, dashboards and data visualisations;
- Facilitating international collaboration by **providing a common language, definitions and shared understanding** among country officials, policy makers, stakeholders and organisations;
- Help guiding decision makers towards informed and well-grounded decisions by **providing the basis for health system performance assessments**;
- **Stimulating innovative analyses** such as stress testing of health systems and assessing health system's impact on the environment.

# **2** General structure of the renewed Health System Performance Assessment Framework

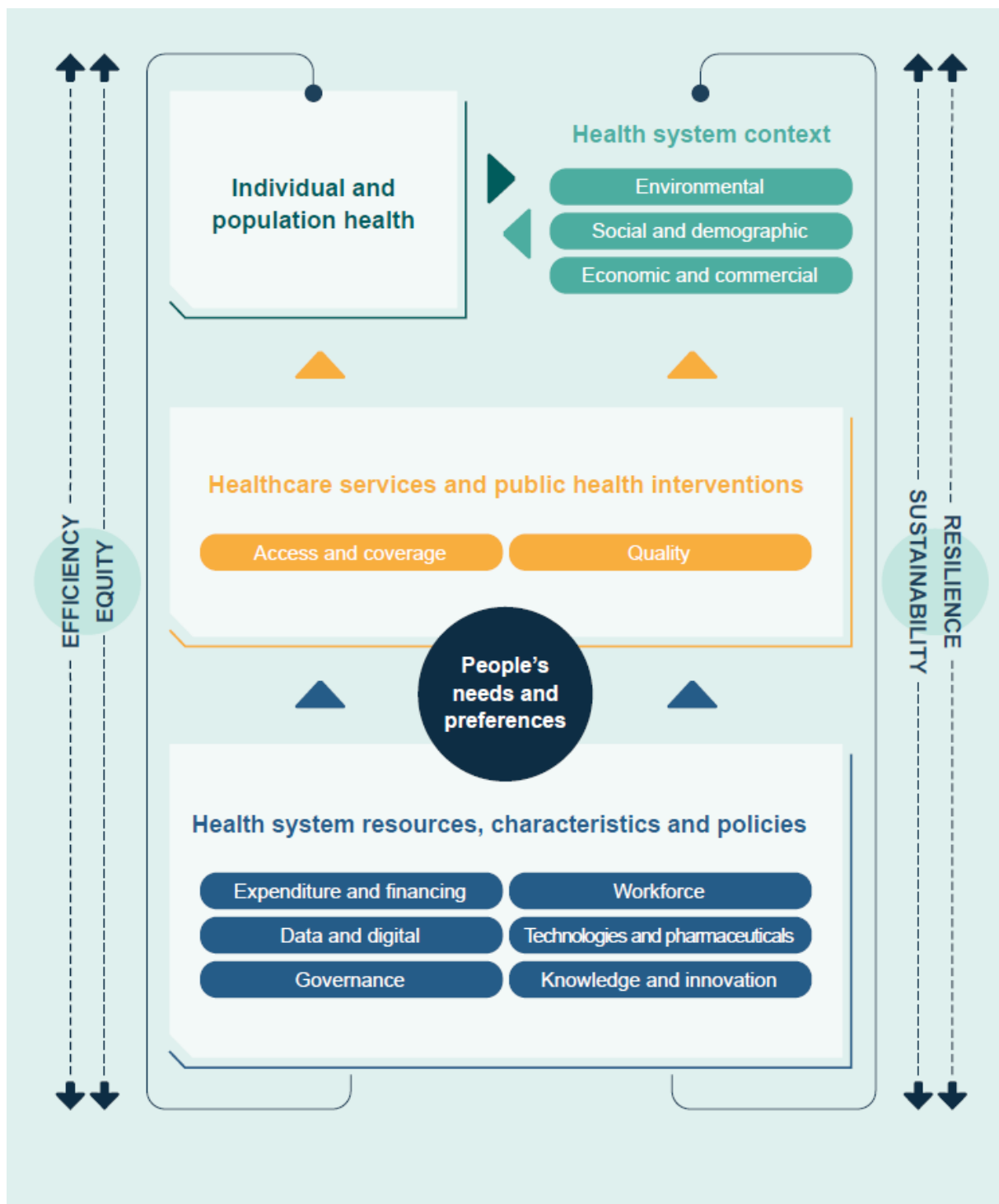
The purpose of a HSPA Framework is to provide a shared vision of the main elements of health systems that require focused policy attention. By formally endorsing additional dimensions of performance – such as people-centredness and resilience – that have in recent years moved to the fore of policy attention and are critical for health policy developments, a renewed HSPA Framework allows more comprehensive assessment of performance and thereby guides future analytical and indicator work for the OECD. This chapter describes the renewed Framework, its components, and how these relate to each other.

## **2.1. General structure of the renewed HSPA Framework**

Figure 2.1 shows the overarching Framework. The “classic trio” that is at the basis of most HSPA frameworks – input, process, and outcomes – is visible in the Framework (Donabedian, 2005<sup>[10]</sup>). The figure shows that resources and policy are fed into health services and interventions, that, in turn, produce outcomes.



Figure 2.1. Renewed OECD Health System Performance Assessment Framework



## 2.2. Socio-economic, demographic, and environmental conditions

The socio-economic, demographic, and environmental context refers to the broader conditions that influence and interact with the health system. The OECD HSPA Framework focuses on the health system and does not serve as a conceptual model for determinants of health. However, as the Dahlgren and Whitehead model effectively illustrates (see Annex A), this category includes a wide range of determinants whose combined impact exceeds that of the health system as a whole (Dahlgren and Whitehead, 2021<sup>[11]</sup>).

The overall context plays a significant role in shaping the functions of all health systems, either by facilitating or restricting their performance. For instance, discussions on access or financing are bound by the macroeconomic situation and fiscal space within which they operate. Similarly, health workforce policies may differ depending on the age structure of a given country, with more ageing societies requiring greater proportion of social care workers. In summary, this dimension intends to comprehend how these external influences and factors impact both people's health and the performance of health systems, while also recognising that health system actions (and in turn peoples' health) significantly affect the environmental, economic, commercial, and social contexts. The Framework illustrates that this entire relationship is circular rather than linear.

## 2.3. Individual and population health

The outcomes of health systems represent a crucial component of health system performance assessment frameworks. It refers to the consequences of a health system's activities, policies, and interventions on the health and well-being of the population. Practically all existing HSPA frameworks identify health, either population health, individual health, or health improvement as an essential goal of health systems (Papanicolas et al., 2022<sup>[12]</sup>; Perić, Hofmarcher and Simon, 2018<sup>[13]</sup>).

## 2.4. Putting people's needs and preferences at the centre of health system resources and interventions

**The proposed Framework places people's health needs and preferences at the core of health system**, reflecting the directions from the 2017 OECD meeting of Health Ministers to make health system more people-centred (OECD, 2017<sup>[14]</sup>). As such, people-centredness is regarded both as an objective of health systems, as well as being instrumental to achieving other policy objectives. Incorporating the elements of the People-Centred Health Systems Framework, people-centredness can be expressed through its five sub-domains: voice, choice, co-production, respectfulness and integration.

The section on **health systems resources and characteristics** covers the "structural" elements of health systems, i.e. the inputs necessary to enable the health system to function and the context in which it operates. It includes the following six pillars:

- expenditure and financing
- workforce
- data and digital
- technologies and pharmaceuticals
- governance
- knowledge and innovation.

Rather than introducing new topics, the renewed Framework presents those that are already widely covered by ongoing OECD work, such as data reported in Health at a Glance (OECD, n.d.<sup>[15]</sup>) and the data collected in the Health Systems Characteristics Survey (OECD, n.d.<sup>[16]</sup>) (see next chapter).

**Healthcare services and public health interventions:** this part includes all activities that fall under healthcare, such as curative care, long-term care mental health care, or palliative care, etc. but also prevention and health promotion, such as screening, vaccination or public health campaigns. Maintaining the essence of the 2015 HSPA Framework, “**access and coverage**” and “**quality**” are important system objectives as well as indicator domains. They both collectively determine the effectiveness and fairness of healthcare delivery. “Access and coverage” ensure that individuals can readily obtain the healthcare services they need, regardless of their geographical location, financial status, or social/cultural background, promoting equal opportunities for health. “Quality”, on the other hand, focuses on the standards and effectiveness of healthcare services, safeguarding patient safety and ensuring that care is evidence-based and meets established and validated practices. Monitoring and optimising these dimensions are crucial for addressing healthcare disparities and achieving health systems goals.

## 2.5. Four cross-cutting dimensions traverse the Framework

The renewed Framework now includes **four “cross-cutting” dimensions** of health system performance, namely **efficiency and equity** on one side, and **sustainability and resilience** on the other. The reason that these are cross cutting is that they do not belong to one particular block in the Framework but relate to them all.

For example, equity refers to how well resources are allocated to serve different socio-economic groups in the population, how quality of care or access to care varies across these groups, and finally, how health varies across these groups. An indicator for quality of care, such as the rate of hospital admissions for diabetes could also be an equity indicator when broken down by socio-economic groups.

Measuring efficiency in health systems is concerned with a comparison of inputs with outcomes of the healthcare system to assess the degree to which goals are achieved while minimising resource usage. Improving the efficiency of health systems is a key policy objective to reconcile growing demands for healthcare with constrained budgets.

Resilience involves ensuring that health system performance continues under extreme stresses and across the domains that determine its performance. This relates to factors within health systems (including capacity, physical resources, workforce and information systems) and beyond them (including a view of the socio-economic determinants of health).

Finally, the Framework also includes the sustainability dimension. The most common usage of sustainability in health system performance refers to the fiscal sustainability aspect, i.e. the ability of a government to maintain public finances at a credible and serviceable position over the long term (OECD, 2015<sup>[17]</sup>). However, sustainability also refers to a broader idea of development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission, 1987<sup>[18]</sup>), a concept that has underpinned the discussions of environmental sustainability and that has large relevance for health policy particularly in the context of climate change. Both interpretations are relevant cross-cutting dimensions in assessing health system performance.

## 2.6. Relationships across dimensions

The concepts used in the Framework are not necessarily mutually exclusive, therefore they may overlap. Some relations between concepts are acknowledged in the Framework. For example, although different terminology is used, **Donabedian’s model of structure, process, and outcomes** (Donabedian, 2005<sup>[10]</sup>) **remains visible in the Framework** through the relationships between health system resources, characteristics, and policy (structure); healthcare services and public health interventions (process); and individual and population health (outcomes).

Yet, the Framework remains high-level. It shows the main elements in relation to each other at a higher level and is not intended to detail all possible conceptual relationships. The high-level approach makes it suitable for application to a range of countries with very different geographical sizes, economies and health systems. The various impacts of the health system are also interrelated: individual and public health can affect people’s wealth and vice versa; health inequalities can foster other socio-economic inequalities; health systems have an impact on the environment, for example through emissions and waste, while the environment also affects people’s health.

Endorsing a high-level Framework allows for the possibility to “zoom in”, unpack and elaborate dimensions of the Framework in more detail, for example via sub-dimensions, complemented by a series of accompanying measures and linked indicator portfolios at working level, that can be used to facilitate cross-country analysis and comparisons. In short, this high-level Framework will set a vision; more detailed measures, indicators, and programmes of work – current and future – will facilitate work to realise that vision. Chapter 3 will elaborate on the different concepts and components of the Framework and populate them with indicators, existing or to be envisaged.

# 3

## Populating each dimension of the Framework with indicators

To put the Framework into practice, the various concepts in the Framework need to be broken down into more specific and measurable elements and then populated with indicators. **Since various components of the Framework draw from existing frameworks, the OECD has already developed many of such indicators.** Consequently, several dimensions of the renewed Framework can already boast a robust collection of indicators. Nevertheless, the HSPA Framework revision also presents opportunities for introducing fresh indicators and enhancing the quality of existing ones.

The reporting of indicators for international comparison and time trends is at the core of OECD's activities. Over the years, OECD has built a rich collection of indicators for health and the performance of health systems, available at the OECD Health Statistics (OECD, 2023<sup>[19]</sup>). OECD Health Statistics (released yearly in June/July) covers a broad range of health statistics and indicators for OECD countries and key partners. It has been in existence for over 20 years and consists of 12 detailed datasets each exploring an aspect of health and healthcare systems. The online database is updated annually, drawing information from four distinct data collections, administered across the OECD Health Division. Two of these data collections are managed in conjunction with other international organisations.

Health at a Glance (OECD, n.d.<sup>[15]</sup>) published biennially since 2001, is an OECD flagship publication and another key output of OECD's work on health. It started as an innovative way to explore and present OECD Health Statistics, by showing variations and trends in key health indicators across OECD and partner countries, and evolved into a globally anticipated publication. It provides a comprehensive set of indicators on population health and health system performance across OECD members and key emerging economies. The analysis draws from the latest comparable official national statistics and other sources, and is presented both as an overview of relative performance of countries and major trends, and in an indicator-by-indicator format.

Scientific evidence, data availability and policy relevance resulted in the inclusion of an increasing number of indicators across different themes and areas of health system performance. In its latest edition, *Health at a Glance 2023* (OECD, 2023<sup>[20]</sup>), in addition to dashboards providing an overview of comparative health system performance, chapters were dedicated to health status, risk factors for health, access, quality and outcomes of care, health expenditure and financing, health workforce, the pharmaceutical sector, and ageing and long-term care.

In light of its relevance and adoption among policy makers, several regional publications have been launched since this series began in 2001 (see Box 3.1).

### Box 3.1. Regional editions of Health at a Glance

#### Health at a Glance: Europe

Health at a Glance: Europe (OECD, n.d.<sup>[21]</sup>), is a biennial publication which was started in 2010 reporting on the 27 European Union member states, 5 candidate countries and 3 European Free Trade Association (EFTA) countries. It presents a selection of indicators based, largely, on the European Community Health Indicators (ECHI) shortlist developed to guide the reporting of health statistics in the European Union.

#### Health at a Glance: Asia/Pacific

Health at a Glance: Asia/Pacific (OECD, n.d.<sup>[22]</sup>), released every two-years since 2010, publishes a set of key indicators across 27 Asia-Pacific countries and territories, 4 of which OECD member countries (Australia, Japan, New Zealand and the Republic of Korea) and counts OECD/Korea Policy Center, WHO Regional Office for the Western Pacific (WHO/WPRO), and the WHO Regional Office for South-East Asia (WHO/SEARO) as co-authors.

#### Health at a Glance: Latin America and the Caribbean

Health at a Glance: Latin America and the Caribbean (OECD/The World Bank, 2023<sup>[23]</sup>; 2020<sup>[24]</sup>), a joint effort of OECD Health Division and the World Bank, provides since 2020 analysis based on comparable data across almost 100 indicators among 33 Latin America and the Caribbean countries.

The Health at a Glance approach has long been underpinned by the OECD Health System Performance Assessment Frameworks. OECD's implementation of these frameworks can be traced back to the Health Care Quality Indicator expert group work between 2004-06 on a HSPA framework (Arah et al., 2006<sup>[6]</sup>). In 2017 the foundational conceptual model – which goes well beyond a focus on quality of care – was updated to the 2015 revision of the HSPA Framework (Carinci et al., 2015<sup>[3]</sup>) advancing the scope and detail of its analysis.

Without being exhaustive, this section explains the further operationalisations of the different domains of the renewed Framework and describes examples of indicators that could be used or that are already being used to measure each of these domains.

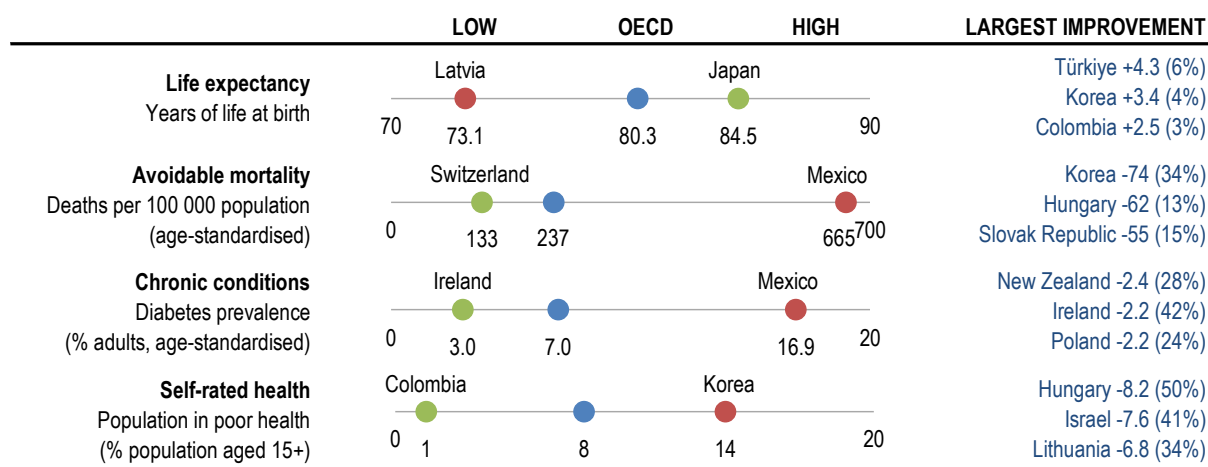
## 3.1. Health system outcomes

The main objective of any health system is to improve the health of the population that it serves. Consequently, **population health is often the first area considered when measuring the performance of a health system**. Indicators in this area include measures such as life expectancy, age-standardised mortality, years of life lost, etc. However, these constitute rather generic information on population health measuring at the same time the effect on the health of the population of many risk factors or environmental conditions as well as the delivery of healthcare. Such perspective creates substantial methodological challenges in seeking to attribute changes in health to any particular policy intervention. This is the reason why more specific indicators have been considered to measure with more accuracy the contribution of healthcare to improved health. This has led to the development of concepts such as avoidable mortality and the use of tracer conditions.

The OECD has been reporting on a range of indicators for its most central element, health status. Table 3.1 reports on these indicators and Figure 3.1 shows an international comparison of a selection of health indicators as reported in *Health at a Glance 2023* (OECD, 2023<sup>[20]</sup>).

**Table 3.1. Examples of health status indicators currently collected by the OECD**

Indicators	Description / methodological challenges
Life expectancy at birth	Measures how long, on average, people would live based on a given set of age-specific death rates. This indicator is also reported by gender and by education level.
Mortality rates	Mortality rates are based on the number of deaths registered in a country in a year divided by the population. Rates are directly age-standardised to the OECD population to remove variations arising from differences in age structures across countries and over time.
Excess mortality	Total number of deaths from all causes in a given year, compared to the average annual number of deaths over the previous five years. Figures are adjusted for population growth in age groups over time. Excess mortality is reported as a percentage increase (or decrease).
Preventable and treatable deaths	Preventable mortality is defined as causes of death amongst people aged under 75 years that can be mainly avoided through effective public health and primary prevention interventions. Treatable (or amenable) mortality is defined as causes of death that can be mainly avoided through timely and effective healthcare interventions, including secondary prevention and treatment. The age threshold of premature mortality is set at 74 years for all causes.
Disease or condition specific mortality	Mortality rates based on numbers of deaths registered in a country for a given group of pathologies or conditions in a year, e.g. mortality from circulatory diseases, cancer, etc.
Healthy life expectancy at birth and at age 65	Healthy life years are defined as the number of years spent free of long-term activity limitation (i.e. disability-free life expectancy).
Chronic conditions	Include indicators such as diabetes prevalence, asthma prevalence, adult mental health, chronic diseases and disabilities among older people (people aged 65 and over with at least two chronic diseases).
Self-rated health	Self-rated health reflects an individual's overall perception of his or her health.

**Figure 3.1. Indicators of health status across the OECD, 2021 (or nearest year)**

Note: Largest improvement shows countries with the largest changes in absolute value over time (% change in brackets).

Source: OECD (2023<sup>[19]</sup>), OECD Health Statistics, <https://doi.org/10.1787/health-data-en>; IDF (2021<sup>[25]</sup>), IDF Diabetes Atlas, [www.diabetesatlas.org](http://www.diabetesatlas.org).

## 3.2. Health system context

### 3.2.1. Health and environmental threats

**The potential impacts of climate change on human health have been well documented:** rising sea levels, increasing CO<sub>2</sub> levels, rising temperatures are threats to clean air, safe drinking water, nutritious food supply, and safe shelter, and are becoming key determinants of health. As extreme weather events are becoming more frequent, heat waves will lead to a rise in heat-related conditions such as heat strokes or other cardiovascular or respiratory conditions. They can also have impact on well-being more broadly

including mental health. Extreme weather events are also related to a rise in the number of wildfires and flooding – which pose an immediate threat to population health with increased risk of injury and death – and can also result in the large-scale displacement of people affecting their mental health and well-being. Change in climate also leads to changes in the biodiversity in countries, which can alter the epidemiological patterns of infectious diseases. For example, warmer winters and longer summers could lead mosquitos and other arthropods to change their habitat introducing diseases such as Dengue Fever to previously unaffected areas.

OECD's work on the impact of environmental conditions on health is fairly recent. The Health Committee has already conducted work on the effects of environmental pollution on health, such as the chapter of air pollution and its impact on health in Europe in *Health at a Glance: Europe 2020* (OECD/European Union, 2020<sup>[26]</sup>), and the Healthy People, Healthy Planet brief in 2017 (OECD, 2017<sup>[27]</sup>), which examined the role of health systems in promoting healthier lifestyles and a greener future. Other parts of the OECD have also been working on the intersection of environment, climate change and health. The OECD Environmental Policy Committee regularly collects and reports data on pollutant emissions and intensities, and air quality and health (OECD, 2023<sup>[28]</sup>), while the OECD Centre for Well-Being, Inclusion, Sustainability and Equal Opportunity (WISE) has also been working on this issue, for example in the 2021 publication which examined the impacts of air pollution and climate change on health (OECD, 2021<sup>[29]</sup>).

The Secretariat already collects some climate and other environment-related indicators. Table 3.2 shows some of these indicators. These can be further developed and adapted to improve measuring the health effects of environmental threats. As a first step, a new OECD indicator set (see Table 3.3 could focus on heat-related mortality, hospitalisations and visits to emergency departments, as well as excess mortality during heat waves, but also on the incidence of vector-borne diseases. In addition, exposure to risk factors such as air pollution could be added. For excess mortality, mortality and hospitalisation rates the OECD may be able to leverage on its existing health data collections. In addition to air pollution, exposure to other risk factors such as extreme weather events could be additional indicator options. In the choice of indicator domains, a discussion is necessary on which ones could be obtained from already existing data sources and which should be part of a new data collection targeted at OECD health data experts.

**Table 3.2. Examples of environment and health indicators currently collected by the OECD**

Indicators	Description / methodological challenges
Environment and air quality	The OECD Environmental database contains a long time series on mean population exposure to fine particulate matter for all OECD countries and beyond.
Mortality rates	Mortality data for several causes that have been associated with potentially environmentally induced risk factors are currently being collected, including deaths from cardiovascular, acute kidney diseases and respiratory conditions, maternal and infant health, violent behaviour and suicide.
Excess mortality	First introduced in the context of the COVID-19 pandemic, weekly data on excess mortality can also be used to track impact of acute climatic events e.g. heatwaves.



**Table 3.3. Possible new indicators to further assess interactions between health and environmental threats**

Indicators	Description / methodological challenges
Hospitalisation rates or emergency departments visits for “heat related” illnesses	Hospitalisation rates or emergency departments visits for conditions such as heat exhaustion, heat cramps, mild heat oedema, heat syncope, and heat stroke could be used as measures of the impacts of heat waves on health.
Hospitalisation rates or emergency departments visits for “air-quality” illnesses	Diseases could include asthma or chronic obstructive pulmonary disease.
Heat-related mortality	Annual rates of deaths per million population that have been classified with International Classification of Disease codes related to exposure to natural sources of heat or listed as a contributory factor (to e.g. cardio-vascular, kidney failure deaths).
Other climate-induced illness	Climate change brings the potential of rise in incidence rates of tropical/infectious diseases including vector-borne diseases (e.g. dengue, Lyme diseases) and enteric infections and diarrhoea in regions where those conditions were previously not endemic.

Other indicators that go beyond the impact of climate change on population health and exposure to environment-associated risk factors could also be of interest. This could refer in particular to **the impact of climate change on health systems more broadly**. While countries do not appear to have a specific focus on this at the moment, most have committed to climate resilient and sustainable low carbon health systems at COP 26. Several indicators may prove valuable in evaluating the monitoring, preparedness and management of present and future climate-related risks and hazards to health systems (World Health Organization, 2023<sup>[30]</sup>). These could, for example, include the share of health facility built on areas prone to flooding, energy consumption and energy mix in health facilities, excess utilisation in health facilities during heat/cold waves, share of health workers that fall sick during heat/cold waves, and other. It is understood that substantial development work will have to be done before any of these indicators can be included in any data collection.

In addition to monitoring the health effects of environmental factors, **monitoring the environmental impacts of health systems activities is also relevant**, and related to the sustainability cross-cutting dimension (see below). The case for efforts to reduce the carbon footprint of healthcare delivery is strong. Not only does the sector itself account for around 5% of total emissions, according to preliminary measures, but also global warming will jeopardise progress towards its very purpose, to promote, restore or maintain health. One of the ongoing areas of work on health and climate change is related to the improvement of existing measurements of carbon emissions in the health sector of OECD countries. While some preliminary measures exist, the methodology is being further refined and improved. Most of the data used for the current methods for estimating emissions in the health sector either comes from the OECD or are regularly reported by the OECD, such as data from system of health accounts, input-output matrices or emissions by country.

International studies to compare Green House Gas (GHG) emissions across OECD countries already exist. However, they are not necessarily carried out on a regular basis (and are partially quite dated) and do not appear to use the detailed information on health spending by provider or service categories available for OECD countries. This data is collected annually as part of the Joint Health Accounts Questionnaire (JHAQ) collection (which is based on the System of Health Accounts 2011) and validated jointly by OECD, WHO and Eurostat. Thus, it can be considered in large parts as internationally comparable. Using this data collection for each country – and by multiplying spending for each category with the corresponding emission intensity – this could theoretically allow for a very granular analysis of GHG emissions of the health sector for each country (e.g. hospitals, offices of physicians, pharmacies, nursing homes). Moreover, the timely availability of this data could be an asset. For most OECD countries a detailed spending break-down by provider, type of service and financing scheme is available with a time-lag of only two years. For some countries, preliminary data on a very detailed level can be available even quicker.

On top of health spending data, the OECD also hosts and maintains its own multi-regional input-output database that could be used to estimate demand-based carbon dioxide emissions: the Inter-Country Input

Output (ICIO) database (Carbon dioxide emissions embodied in international trade). Currently, the ICIO covers 45 sectors in 66 countries for years 1995 to 2018. The forthcoming version up until 2020 will extend country coverage to 76. This Framework could potentially be used to measure the carbon footprint of health systems, but further exploration is needed to understand whether the level of detail is sufficient to provide information at a more granular level than the health sector as a whole.

### **3.2.2. Commercial determinants of health**

The commercial determinants of health describe the health effects associated with some of the actions of the for-profit private sector. **The impact that commercial activities have on people's health and well-being can either be positive and negative.** Negative effects include the production and marketing of products like unhealthy foods, tobacco, and alcohol, leading to diseases such as cardiovascular disease, diabetes, and obesity. Advertisements and celebrity endorsements, especially targeting young people, can influence unhealthy behaviours. Environmental changes due to commercial activities, such as deforestation, create conditions for disease outbreaks. Factories in disadvantaged communities contribute to air pollution and respiratory diseases. Unsafe work environments, like those in certain sectors of the garment industry, can harm employee mental health. Intellectual property laws can limit access to affordable medicines. On the positive side, some companies contribute to public health by increasing access to essential medicines, reformulating products to reduce harm, ensuring fair wages and benefits, and divesting from harmful products. Workplaces also serve as settings for health promotion and protection, including efforts to promote safety, and encourage healthy behaviours and awareness. (Lee et al., 2022<sup>[31]</sup>)

Commercial determinants also contribute to other factors that shape health and health equities through broader economic systems and economic determinants (see next section). This includes through economic development or trade policies, broader social, economic, and political systems, and finance or investment flows. In recent decades, there has been a significant shift of resources towards private enterprises, which now wield increasing influence over public health policies, regulations, and outcomes. Commercial actors employ various pathways to influence health policy. This includes lobbying and political donations. Additionally, the private sector can subtly shape research directions and outcomes by funding medical education and research, potentially biasing findings. Furthermore, companies may exert influence over civil society by establishing or funding front groups, consumer organisations, and think tanks.

Commercial determinants of health are therefore an important dimension when analysing health system performance, but defining and collecting meaningful indicators for that domain is particularly challenging. In the scientific literature (Lee et al., 2022<sup>[31]</sup>), some preliminary options have been identified, such as per capita spending on advertising of health-harming products, the number of registered lobbyists, and the gaps in advertising restrictions on alcohol. But availability and comparability of such information remains particularly challenging.

### **3.2.3. Economic and social impact**

A well-functioning health system is essential to a well-functioning economy. The core mission of health systems is to ensure the provision of high-quality and universally accessible healthcare services. Simultaneously, their financial commitments and investments hold significant sway over the functioning and stability of both national and regional economies. Health systems are also assuming an ever more critical role in fostering inclusive and sustainable development through responsible practices related to employment and procurement of goods and services (Cylus, Permanand and Smith, 2018<sup>[32]</sup>).

While the positive impacts of the health system on public health are widely recognised, the health system's influence on the broader economy, both directly (as a significant employer) and indirectly (through its effects on public health), has received less attention. Various international initiatives have shed light the

connections between the health system and the overall economy. For instance, the 2016 Commission on Health Employment and Economic Growth (OECD, ILO and WHO, 2016<sup>[33]</sup>) underscored that health employment plays a pivotal role in driving economic growth. Similarly, the 2001 WHO Commission on Macroeconomics and Health (WHO, 2001<sup>[34]</sup>) contended that improved health outcomes can serve as catalysts for and safeguards of economic growth.

**The health system constitutes a significant portion of most economies**, particularly in high-income nations, where it serves as a crucial source of employment across various skill levels. As per data from the International Labour Organization, the proportion of jobs in health and social work in Europe and central Asia has risen from 7.4% of total employment in 2000 to 9% in 2017. In Northern, Southern, and Western Europe, health and social work employment accounted for over 12% of total jobs in 2017. Consequently, the size and character of the health system are likely to have profound direct repercussions on the overall economic performance, independent of their impact on public health.

In addition, numerous research findings demonstrate that individuals in better health experience enhanced opportunities for economic participation and higher earnings in comparison to their less healthy counterparts (see the equity cross-dimension for complementary information). Good health is associated with increased rates of engagement in the labour market and extended working lives resulting in higher overall economic productivity. Conversely, poor health can have both direct consequences, such as incurring healthcare costs and the need for caregivers, and indirect consequences, like limiting one's ability to participate in the labour market. Moreover, some research has explored the impact of chronic diseases and related lifestyle factors on employment, productivity, and income (OECD, 2019<sup>[35]</sup>). The evidence strongly suggests that conditions like obesity and smoking have detrimental effects on employment prospects, wages, and labour productivity. Additionally, the influence of health systems on the development of human capital spans a person's entire life. For instance, children experiencing health issues may face challenges attending school regularly and developing the cognitive skills required for many professions. Ill health may also diminish an individual's capacity or motivation to invest in education and training. Furthermore, older adults in poor health may be reluctant or unable to invest in their human capital if they believe that their productive life expectancy is likely to be cut short due to illness or death, making such investments seem less worthwhile. In contrast, as health and life expectancy improve, it becomes increasingly valuable for individuals and their families to invest in skills that promise greater returns over a longer and more productive lifetime. Therefore, through reduced costs, and higher productivity and increased human capital, investments to reduce the main determinants of burden of disease have the potential to sustainably stimulate the loop of health and economic growth.

Overall, quantifying the relationship between health, health systems and socio-economic indicators provides insights into the broader implications of healthcare policies, such as its macroeconomic importance, and helps direct investments to areas with the highest returns in both health and socio-economic outcomes. Table 3.4 presents some indicators describing aspects of the socio-economic impacts of health and health systems currently collected by the OECD and other partners.

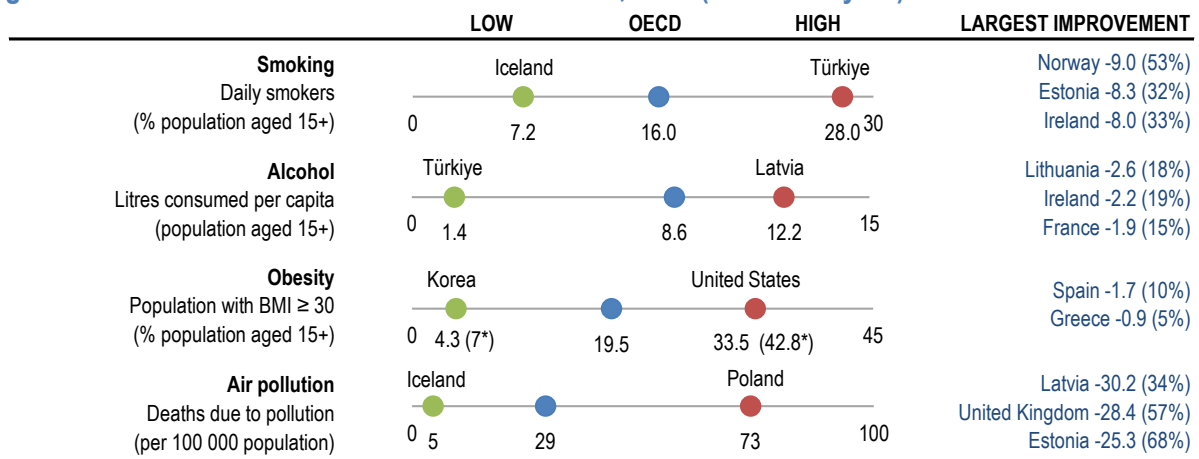
**Table 3.4. Examples of indicators describing the socio-economic impacts of health and health systems collected by the OECD and other institutions**

Indicators	Description / methodological challenges
Business enterprise expenditure for pharmaceutical R&D (BERD) and government outlays for health-related R&D (GBARD)	Business enterprise expenditure on R&D (BERD) covers R&D carried out by corporations, regardless of the origin of the funding, which can include government subsidies. Government budgets for R&D (GBARD) capture R&D performed directly by government and amounts paid to other institutions for R&D.
Employment in health and social work as a share of total employment	Health and social work is one of the economic activities defined according to the major divisions of the International Standard Industrial Classification of All Economic Activities.
Employment rate among people aged 50-59, with and without chronic diseases or by risk factor	Data collected through the Survey of Health, Ageing and Retirement in Europe (SHARE).
Number (median) of sick days in the last 12 months among employed people aged 50-59, by chronic diseases	
Additional days in annual sickness absence among workers aged 50-59 due to depression symptoms	
Early retirement and unemployment rates among people aged 50-59, by chronic diseases	

### 3.2.4. Risk factors

Indicators such as tobacco use, unhealthy diets, physical inactivity, and exposure to environmental hazards are major determinants of people's health. Measuring risk factors is therefore an important dimension of health system performance assessment as it provides critical insights into the effectiveness of public health interventions. Understanding how risk factors are spread across the population helps develop targeted prevention strategies and interventions to mitigate their consequences, reduces the burden of preventable diseases and contributes to a more efficient allocation of resources. Evaluating risk factors may also highlight disparities in risk exposure among different population groups, and is a crucial information for tackling health inequalities. Table 3.5 details some indicators reporting on risk factors currently collected by the OECD, and Figure 3.2 shows an international comparison of a selection of risk factors indicators as reported in *Health at a Glance 2023* (OECD, 2023<sub>[20]</sub>). New risk factors indicators have also recently been added to OECD's database, such as the proportion of regular users of vaping products (defined as the percentage of the population aged 15 years and over who report using vaping devices at least monthly, with or without nicotine).

**Figure 3.2. Risk factors for health across the OECD, 2021 (or nearest year)**



Note: Preliminary data, not for circulation; largest improvement shows countries with the largest changes in absolute value over time (% change in brackets).

Source: OECD (2023<sub>[19]</sub>), OECD Health Statistics, <https://doi.org/10.1787/health-data-en>; OECD (2021<sub>[36]</sub>), OECD Environment Statistics, <https://doi.org/10.1787/env-data-en>.

**Table 3.5. Examples of risk factors indicators currently collected by the OECD**

Indicators	Description / methodological challenges
Daily smokers	The percentage of the population aged 15 years and over who report smoking tobacco every day.
Smoking among 15-year-olds	Percentage of adolescents who smoked at least once in the last 30 days based on self-reporting.
Alcohol consumption	Litres consumed per capita, based on sales of pure alcohol data.
Drunkenness among 15-year-olds	Percentage of adolescents who have reported drunkenness at least twice in life.
Daily consumption of sugar-sweetened beverages among population aged 15 and over	Reports the frequency of drinking regular soft drinks, whether carbonated or not carbonated, bottled iced tea, energy drinks, syrup-based drinks and similar or any other non-alcoholic soft drinks that contain a lot of sugar.
Insufficient physical activity among adults	Defined as attaining less than 150 minutes of moderate-intensity physical activity per week, or less than 75 minutes of vigorous-intensity physical activity per week.
Daily vegetable consumption among population aged 15 and over	Defined as the proportion of adults who consume at least one vegetable per day, excluding juice and potatoes.
Overweight/obesity	Overweight includes both pre-obesity and obesity
Deaths due to ambient particulate matter, especially PM 2.5 <sup>1</sup>	Ambient (outdoor) particulate matter pollution results from emissions from industrial activity, households, cars and trucks, which are complex mixtures of air pollutants, many of which are harmful to health.

### 3.3. Measuring healthcare services and public health interventions

#### 3.3.1. People's needs and preferences

In recent years, as countries have started moving towards developing more people-centred health systems and services, a range of frameworks and definitions have attempted to capture what components are most necessary in transforming existing systems. While there have been growing efforts to capture patient voice through the development and implementation of patient-reported measures, there have not been similar efforts to benchmark the extent to which health systems as a whole are delivering people-centred care.

A thorough data compilation of indicators on people-centredness was presented for the first time in the report *Health for the People, by the People: Building People-centred Health Systems (PCHS)* (OECD, 2021<sup>[4]</sup>), in the form of a scorecard that accompanied the PCHS Framework (see Chapter 1 and Annex A for more details). A full description of the indicators categorised by dimension of people-centredness included in the scorecard is listed in Table 3.6.

**Table 3.6. The People-Centred Health Systems Scorecard**

Dimensions	Scorecard indicators
Voice	<ul style="list-style-type: none"> <li>Participation in decision-making bodies: Patients having a formal participation role in health policy</li> </ul>
Choice	<ul style="list-style-type: none"> <li>Choice of healthcare providers: Patient choice for primary, specialist and hospital care</li> <li>Access to healthcare: Unmet need due to affordability</li> </ul>
Co-production	<ul style="list-style-type: none"> <li>Patients given accessible information: Share of patients receiving easy-to-understand explanations by their doctor</li> <li>Patients are consulted about their care: Share of patients being informed or consulted about their care</li> <li>Share of individuals using digital tools for health: Proportion of patients using patient portals and apps</li> <li>Patients are engaged in their care: Share of individuals using the internet for seeking health information in the previous 3 months</li> </ul>
Integration	<ul style="list-style-type: none"> <li>Use of digital technology for integration of care: Computers used by primary care physician for common tasks</li> <li>Use of electronic clinical records: Share of primary care physician offices using Electronic Clinical Records</li> <li>Co-ordination of care: Share of patients not experiencing a problem with care co-ordination</li> </ul>

Dimensions	Scorecard indicators
Respectfulness	<ul style="list-style-type: none"> <li>• High personal attention: Share of patients who spent enough time with their regular doctor or any doctor during the consultation</li> <li>• Fair treatment: Share of people agreeing that people are treated equally in their area</li> <li>• Respectful treatment: Share of hospital patients treated by doctors and nurses with respect</li> </ul>

Source: OECD (2021<sup>[4]</sup>), *Health for the People, by the People: Building People-centred Health Systems*, <https://doi.org/10.1787/c259e79a-en>.

**In the renewed OECD HSPA Framework, indicators to reflect people-centredness of health systems sit at the centre of the figure**, overlapping the resources and services sections. This has important implications for the revision of the Framework, as more data collection and analysis efforts are needed. While some indicators for people-centredness are included in the regular HCQO data collection and also reported in *Health at a Glance* (see Table 3.7), such as doctors spending enough time with patient, providing easy-to-understand explanations, and involving patients' decisions about care and treatment, good data to assess people-centred health systems remains the exception rather than the rule and more effort is needed in the collection and reporting of indicators related to people-centredness (OECD, 2021<sup>[4]</sup>).

**Table 3.7. Examples of people-centredness indicators that have been reported by the OECD**

Indicators	Description / methodological challenges
Doctor involving patient in decisions about care and treatment	Data refer to patient experiences with any doctor in ambulatory settings in some countries, but patient experiences with a regular doctor or regular practice in others.
Percentage of people who made an appointment with a health practitioner on line	Data previously collected by the Commonwealth Fund and the OECD
Percentage of people who sought health-related information on line	
Doctor spending enough time with patient during consultation	
Doctor providing easy-to-understand explanations	
Doctor involving patient in decisions about care and treatment	

In addition, the OECD's **Patient-Reported Indicator Surveys initiative** ([www.oecd.org/health/paris/](http://www.oecd.org/health/paris/)) (PaRIS)<sup>2</sup> will further refine and improve the indicators for people-centredness, as well as improve their availability across countries participating in the survey. Examples are PaRIS survey items on coproduction of care that are currently being measured in 20 countries:

- I have difficulty understanding a lot of the health information that I read;
- My health professionals and I work together to manage my health;
- I leave it to health professionals to make the right decisions about my health;
- Are you involved as much as you want to be in decisions about your care?
- Do you discuss with the health professionals involved in your care what is most important for you in managing your own health and well-being?
- Do you have enough support from the healthcare professionals to help you to manage your own health and well-being?

**Health literacy is another major dimension of people centredness that requires more attention.**

Health literacy encompasses the knowledge, motivation and skills required to access, comprehend, assess, and apply information to make informed decisions regarding healthcare, disease prevention and the enhancement of overall well-being over the life course. It has far-reaching consequences for individuals' ability to manage their health, use preventative services and take part in decision making regarding their health and well-being. At the societal level, health literacy impacts healthcare use, prevention and health promotion programmes, equity and social justice, as well as productivity. At the 2017

OECD Meeting of Health Ministers, Ministers agreed that in order to make health systems more people-centred, “efforts are needed to address barriers to health literacy of the population”.

Several indicators could also be considered in order to monitor health literacy at the individual and system levels, such as:

- Proportion of health institutions proposing health coaching;
- Existence of prevention and counselling training courses for health professionals;
- Percentage of persons whose healthcare provider gives easy-to-understand instructions;
- Percentage of persons whose healthcare provider asks how instructions will be followed;
- Percentage of persons whose healthcare provider offers help in filling out forms.

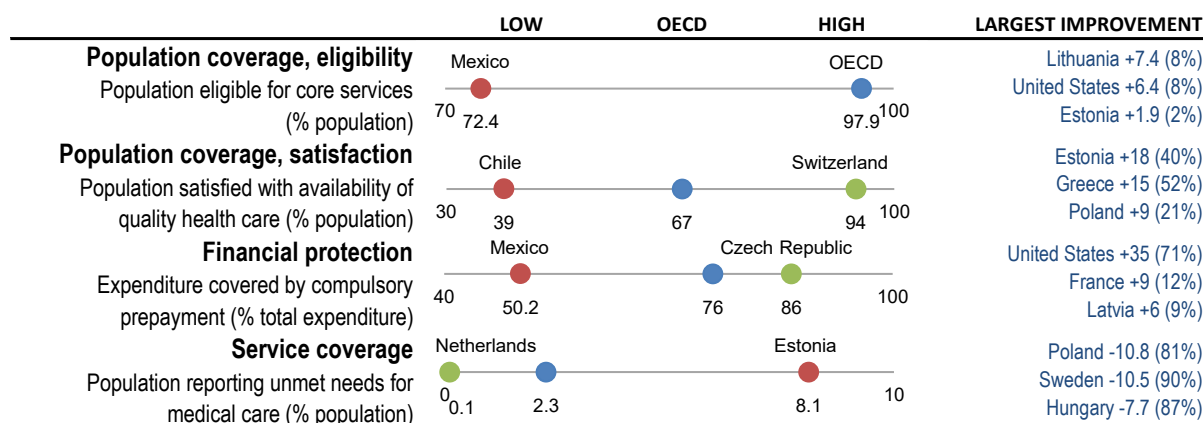
### 3.3.2. Access and coverage

Access relates to accessibility of health services. For example, how easy it is to get to a primary care facility or hospital. Coverage refers to the extent to which public health interventions reach the target population. These two concepts are related but not interchangeable. Coverage also refers to the proportion of the population that is eligible to receive certain health services, which in turn affects the (financial) accessibility of these services. Table 3.8 presents a range of indicators for access and coverage that have been reported by the OECD in recent years and Figure 3.3 shows an international comparison on a selection of indicators related to coverage and access.

**Table 3.8. Examples of indicators describing access and coverage collected by the OECD**

Indicators	Description / methodological challenges
Population coverage	Population coverage for healthcare is defined as the share of the population eligible for a core set of healthcare services – whether through public programmes or primary private health insurance.
Population reporting unmet needs for medical care	People being asked whether there was a time in the previous 12 months when they felt they needed medical care but did not receive it.
Extent of coverage	Government and compulsory insurance spending as proportion of total health spending by type of care.
Share of households with catastrophic health spending	Catastrophic health spending is an indicator of financial protection used to monitor progress towards universal health coverage. It is defined as out-of-pocket payments that exceed a predefined percentage of the resources available to a household to pay for healthcare.
Unmet healthcare needs	Unmet needs for medical/dental examination due to financial, geographic or waiting time reasons.
Waiting times for elective surgery	Waiting times from specialist assessment to treatment (mean number of days).
Number of doctor consultations per person	Consultations with doctors refer to the number of face-to-face (in-person) contacts with physicians, including both generalists and specialists.
Physician density across regions, by territorial level	Regions are classified in two territorial levels. The higher level (territorial Level 2) consists of large regions corresponding generally to national administrative regions. The lower level is composed of smaller regions classified as predominantly urban, intermediate or rural regions, although there are variations across countries in the classification of these regions.

Figure 3.3. Indicators of access to care across the OECD, 2021 (or nearest year)



Notes: Largest improvement shows countries with the largest changes in absolute value over time (% change in brackets). Values for population coverage, satisfaction, are based on 2022 data.

Source: OECD (2023<sup>[19]</sup>), OECD Health Statistics, <https://doi.org/10.1787/health-data-en>; Gallup World Poll 2023, Eurostat based on EU-SILC.

**Digital access** is another dimension of access. It means that patients and healthcare providers have timely and accurate health data and information (OECD, 2019<sup>[37]</sup>). When health data and information are understandable and valid for a range of uses and users, new digital health services and applications become possible. From telehealth to artificial intelligence, new digital health services may lead to better access to healthcare and better patient experience, especially among those patients that face the most barriers to traditional face-to-face care services. More and more countries now allow patients to view and interact with their own electronic health records. It may include information on their health status or outcomes, or report on experiences or incidents related to their care (Oderkirk, 2017<sup>[38]</sup>). Finally, while supporting individual literacy skills is important (see people-centredness dimension), health literacy is also facilitated through clear and easy communication with professionals, but also accessible information on websites, media campaigns, and patient portals. Such information needs to be structured, understandable and tailored to specific populations, and provide evidence-based information which contributes to improved access (Moreira, 2018<sup>[39]</sup>). The OECD has recently been reporting on new indicators to describe digital access. In the 2023 edition of *Health at a Glance* (OECD, 2023<sup>[20]</sup>), rates of teleconsultations are presented, covering remote consultations with both generalist and specialist medical practitioners, with all technologies used (notably phone or virtual calls).

### 3.3.3. Quality

The OECD has been reporting a range of indicators for quality of care in *Health at a Glance* since a long time. The current Health Care Quality Outcome indicator set includes 64 indicators.

A key subdimension of quality is **effectiveness**, which is the degree of achieving desirable outcomes, given the correct provision of evidence-based healthcare services to all who could benefit, but not to those who would not benefit (Kelley and Hurst, 2006<sup>[2]</sup>). Examples of indicators for effectiveness cover the following dimensions (see Table 3.9 for more indicators and Figure 3.4 to see a selection of quality indicators and related international comparisons):

- Avoidable mortality, a general indicators for quality of care which can be broken down into:
  - Preventable mortality: covering the causes of death that can be mainly avoided through effective public health and primary prevention interventions (i.e. before the onset of diseases/injuries, to reduce incidence).



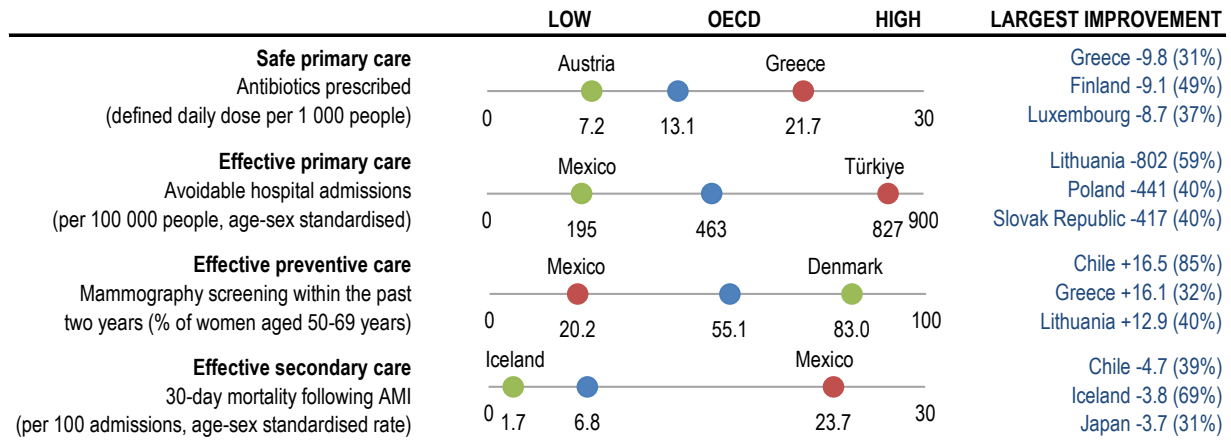
- Treatable mortality: covering the causes of death that can be mainly avoided through timely and effective healthcare interventions, including secondary prevention and treatment (i.e. after the onset of diseases, to reduce case-fatality).
- Effectiveness of primary care: avoidable hospital admissions for e.g. diabetes and COPD;
- Effectiveness of acute care: 30-day mortality rates following a stroke or acute myocardial infarction;
- Effectiveness of cancer care: 5-year survival rates for various types of cancer.

The second subdimension of quality is **safety**. Patient safety is the reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum, while an acceptable minimum refers to the collective notions of current knowledge, resources available and the context in which care was delivered and weighed against the risk of non-treatment or alternative treatment (Slawomirski and Klazinga, 2022<sup>[40]</sup>). Examples of indicators for patient safety reported by the OECD are presented in Table 3.9 and Figure 3.4 shows a selection of quality indicators and related international comparisons):

**Table 3.9. Examples of quality indicators collected by the OECD**

Dimensions	Possible indicators
General indicators for quality of care	<ul style="list-style-type: none"> <li>• Avoidable mortality (preventable and treatable)</li> <li>• Routine vaccinations (e.g. vaccination against influenza)</li> </ul>
Effective primary care	<ul style="list-style-type: none"> <li>• Avoidable COPD hospital admission in adults</li> <li>• Avoidable Diabetes hospital admission in adults</li> <li>• People with diabetes prescribed recommended antihypertensive medication in the past year in primary care</li> </ul>
Effective secondary care	<ul style="list-style-type: none"> <li>• Thirty-day mortality after admission to hospital for acute myocardial infarction</li> <li>• Thirty-day mortality after admission to hospital for ischaemic stroke</li> </ul>
Effective cancer care	<ul style="list-style-type: none"> <li>• Five-year net survival by cancer sites</li> </ul>
Effective mental health care	<ul style="list-style-type: none"> <li>• Inpatient suicide among patients with a psychiatric disorder</li> <li>• Suicide following a hospitalisation for a psychiatric disorder, within one year of discharge</li> </ul>
Integrated care	<ul style="list-style-type: none"> <li>• Patient outcomes one year after discharge from stroke and heart failure</li> </ul>
Safe primary care	<ul style="list-style-type: none"> <li>• Overall volume of antibiotics prescribed</li> <li>• Proportion of chronic opioid users in the adult population</li> <li>• Elderly patients with prescriptions for benzodiazepines or related drugs</li> </ul>
Safe acute care	<ul style="list-style-type: none"> <li>• Health worker perceptions of patient safety culture domains, handoffs and transitions and overall perceptions of safety</li> <li>• Obstetric trauma, vaginal delivery with and without instrument</li> <li>• Post-operative sepsis per 100 000 hospital discharges</li> <li>• Foreign body left in during procedure</li> </ul>
Effective preventive care	<ul style="list-style-type: none"> <li>• Breast cancer screening within the past two years</li> <li>• Cervical cancer screening</li> <li>• Colorectal cancer screening</li> </ul>

Figure 3.4. Indicators of quality of care across the OECD, 2021 (or nearest year)



Note: Largest improvement shows countries with the largest changes in absolute value over time (% change in brackets).

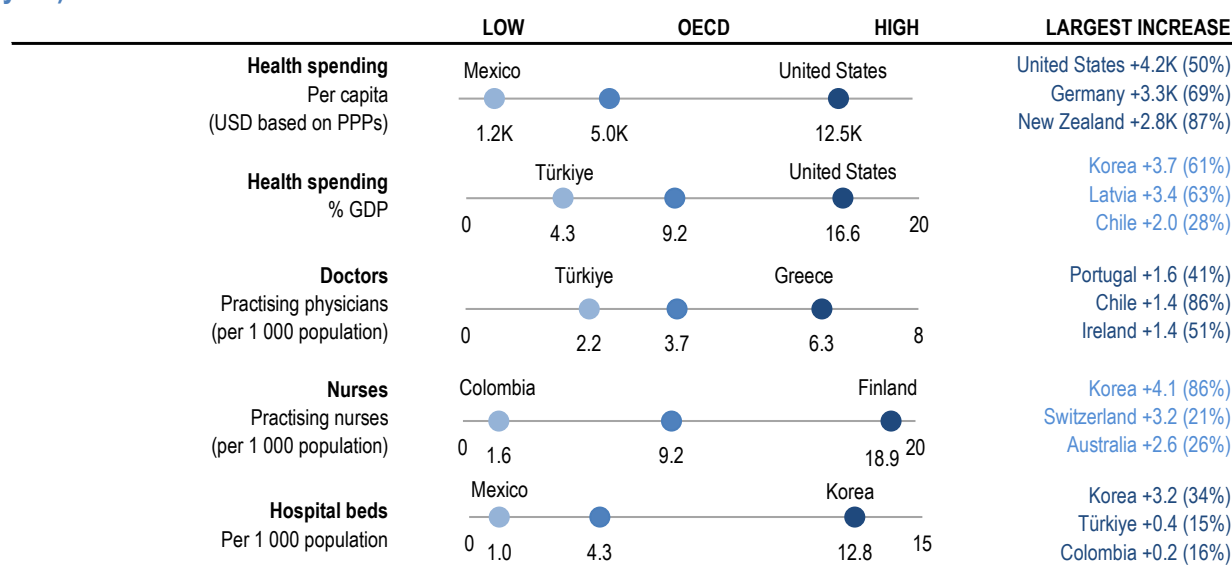
Source: OECD (2023<sup>[19]</sup>), OECD Health Statistics, <https://doi.org/10.1787/health-data-en>; ECDC (2023<sup>[41]</sup>), European Centre for Disease Prevention and Control, [www.ecdc.europa.eu/en/data](http://www.ecdc.europa.eu/en/data) (for EU/EEA countries on antibiotics prescribed).

In a more recent development, under the PaRIS initiative, the OECD has undertaken the collection of Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs) tailored to specific diseases. These encompass PROMs administered both before and after surgeries for conditions like breast cancer and hip and knee replacements, as well as PREMs related to mental health. Furthermore, the OECD is actively gathering data on safety aspects, considering the viewpoints of both healthcare professionals (including safety culture) and patients (involving the occurrence and nature of safety incidents). Additionally, the organisation is reporting indicators concerning the quality of end-of-life care, including metrics like unplanned hospital admissions.

### 3.4. Measuring health systems resources, characteristics and policy

Health systems resources, characteristics and policy covers a broad range of topics. Figure 3.5 shows examples of some indicators that were reported in *Health at a Glance 2021* (OECD, 2021<sup>[42]</sup>) that related to healthcare facilities, workforce and financing. Most of the indicators that are currently reported can be found in OECD.Stat (<https://stats.oecd.org/>) under the categories “Health Care resources” (which includes workforce availability and healthcare facilities) and Health Expenditure and Financing. Table 3.10 lists those most frequently used.

**Figure 3.5. Health system capacity and resources indicators across the OECD, 2021 (or nearest year)**



Note: Largest increase shows countries with largest changes in absolute value over time (% change in brackets).

Source: OECD (2023<sup>[19]</sup>), OECD Health Statistics, <https://doi.org/10.1787/health-data-en>.

### 3.4.1. Expenditure and financing

For **health expenditure and financing**, the System of Health Accounts (SHA) provides a standard framework for producing a set of comprehensive, consistent and internationally comparable accounts to meet the needs of public and private sector health analysts and policy makers. The SHA has become an international standard for comparing expenditures. Expenditures are reported per capita, as percentage of GDP, percentage of public spending and can be broken down by financing, types of care, disease and medical goods per disease (see Table 3.10). (OECD/Eurostat/WHO, 2017<sup>[43]</sup>)

### 3.4.2. Workforce

Over the past two decades, the **health workforce** has been under considerable strain, both in terms of numbers and the skills needed to work with new technologies and adapt to new roles. Changes in the demographic, epidemiological and socio-economic profile of populations will continue to change the demand for health services going forward and are likely to put further pressure on the demand for health workers. For example, population ageing goes hand in hand with an increasing demand for healthcare, while also shifting the type of care that is demanded. At the same time, population ageing could strain the supply of health workers, as the size of the working age population declines (International Labour Organization, 2019<sup>[44]</sup>). The shortage of health workers is a global problem. The COVID-19 pandemic has exacerbated these shortages and underscored the importance of a resilient and well-educated health workforce. Equipping healthcare workers with the right skills is essential to respond to future health crises and to prepare for the increasing use of digital technologies and demographic change, among other trends. Dissatisfaction and burnout are widespread among health workers and this is associated with worse outcomes for patients (Bodenheimer and Sinsky, 2014<sup>[45]</sup>).

In this renewed Framework, the workforce domain includes three dimensions:

- availability and quantities of health workers
- the skills of health workers
- health works safety and well-being.

The availability and quantities of health workers is a “classic” category on which the OECD has built long time trends data. Typical indicators are numbers of doctors and nurses, but more granular data (i.e. at specialty level) should be considered for future rounds of data collection.

The focus on skills is from a more recent date. However, skill shortages are a global issue. The COVID-19 pandemic has further aggravated these shortages and emphasised the importance of resilient and well-skilled healthcare workforces. Equipping health workforces with the right skills is essential to responding to future health crises, and to preparing for increasing use of digital technologies and demographic change, among other trends. (OECD/ILO, 2022<sup>[46]</sup>). The safety and well-being of health workers is a relevant element of the workforce domain, and OECD work on this topic has recently begun. The COVID-19 pandemic has highlighted this issue. Particularly in times of crisis, it is clear that shortages, skills and staff well-being are interlinked. Addressing health workforce shortages requires increased investment in education and training, increased recruitment to reduce workload and pressure on existing staff, and improved retention by improving working conditions and pay rates for traditionally undervalued categories of workers. (OECD, 2023<sup>[5]</sup>).

Possible new indicators on health workforce retention will be given great attention in the renewed Framework. A survey of 23 000 nurses working in medical and surgical hospital wards in 10 countries (Belgium, Finland, Germany, Ireland, the Netherlands, Norway, Poland, Spain, Switzerland and the United Kingdom) reported that overall, 33% intended changing jobs in the next year, whilst 9% of the nurses intended to leave their profession. This “leaving the profession” turnover rate varied from 5 to 17% across the 10 countries (Heinen et al., 2013<sup>[47]</sup>). The Swedish Nurses Association announced the results of a survey showing that 7% of the nursing workforce (5 700 nurses) considered resigning due to the increased pressure and workloads in the pandemic. In Denmark, a survey conducted by the Danish Nurses’ Organization in 2020 found that nine out of ten nurses in municipalities and regions considered leaving their jobs. Of those, more than a third were considering leaving the profession altogether (International Council of Nurses, 2022<sup>[48]</sup>). High turnover rates can lead to a loss of valuable institutional knowledge and a decrease in the continuity of care. By prioritising staff retention, health systems can ensure a more stable workforce, improve patient outcomes, and foster a positive work environment where employees feel valued and supported. New indicators on retention could include dimensions on turnover rates (number of leavers divided by the average number of staffs in post in the year), absenteeism rates, number of applicants for designated jobs/posts, vacancies (number of funded posts that are unfilled) (International Center on Nurse Migration, 2018<sup>[49]</sup>).

### 3.4.3. Data and digital

The **data and digital** dimension covers health data infrastructure, security and management. As already reported in other dimensions of the Framework, the OECD collects several indicators related to digitalisation in health. A few examples are the adoption of electronic medical records and use of telemedicine and teleconsultations, but perhaps the most structured data collection related to health data digitalisation is based on monitoring of the OECD Health Data Governance Recommendation, adopted in 2016 in recognition of a growing need for an international standard to harmonise approaches to health data governance. Some of the indicators on health data governance include:

- timeliness of key national health datasets
- key datasets linked on a regular basis and
- record linkage projects used to regularly monitor healthcare quality or health system performance.

More recently, the OECD has been reflecting on the concept of **digital health readiness** (OECD, 2023<sup>[20]</sup>), which is a comprehensive measure of a health system’s capacity to effectively utilise analytics, data, and technology to improve individual, community, and public health outcomes. It encompasses various aspects

(see below), each essential for a well-functioning digital health ecosystem, and that could each be populated with new indicators:

- Analytic readiness evaluates a system's ability to create and employ analytics that lead to responsible and trusted insights, promoting equitable health outcomes.
- Data readiness assesses a healthcare system's capability to collect, access, and utilise health data efficiently. It seeks to ensure integrated, high-quality health data that can support healthcare delivery, public health efforts, system enhancements, research, and innovation.
- Technology readiness examines the system's preparedness to securely handle data input, storage, and transfer. The aim is to maintain robust technology that can withstand digital security risks and outages while preserving data integrity.
- Human factor readiness gauges the overall readiness of the digital health ecosystem, including culture and technology. It ensures that adequate resources are available, stakeholders trust the system, co-operation is encouraged, and adaptation to emerging challenges occurs.

#### **3.4.4. Technologies and pharmaceuticals**

Despite remarkable progress in some areas of **technologies and pharmaceuticals**, recent trends raise several concerns. Launch prices of new medicines have risen in some therapeutic categories, sometimes without commensurate health benefits. At the same time, new, effective medicines are not always affordable for all patients who need them, putting pressure on health budgets. There is also an imbalance in innovation and new product development. For example, progress in important areas such as infectious and chronic diseases is not occurring at the same pace as in cancer. These trends raise questions about the incentives at work in the pharmaceutical sector and the sustainability of current pricing models. Ensuring access to medicines involves a complex web of factors, including availability, affordability, accessibility, acceptability, and quality. Each of these dimensions comprises various elements tied to different stages in a medicine's lifecycle. This includes aspects like obtaining marketing authorisation, conducting health technology assessments, making coverage and pricing decisions, determining the timing of product launches, establishing clinical guidelines, prescribing and dispensing practices, and ultimately, how patients utilise these medicines. The OECD has recently released a working paper that delves into potential strategies for monitoring access to innovative medicines across these multifaceted dimensions on a global scale and that could serve as a basis for new indicators development in that domain (Chapman, Szklanowska and Lopert, 2023<sup>[50]</sup>).

Reporting on infrastructure, facilities and other technologies is also a crucial aspect of health system performance assessment. Evaluating these components helps to gauge the system's capacity, accessibility, and quality of care. For instance, the distribution and geographic accessibility of healthcare facilities, including hospitals, clinics, primary care centres, and specialised treatment centres help determine whether these are sufficient to meet the healthcare needs of the population, particularly in underserved or remote areas. Also, assessing whether facilities are operating at or near capacity and if there are disparities in utilisation rates between regions or population groups contributes to identifying inequalities in access and coverage.

#### **3.4.5. Knowledge and innovation**

**Knowledge and innovation** play pivotal roles in the development and improvement of health systems. They drive advancements in healthcare delivery, medical treatments, public health strategies, and the overall effectiveness of health systems. Technological innovation, such as the development of telemedicine, and advanced diagnostic tools, has revolutionised healthcare delivery, expanding access to care, improving diagnostics, and enhancing patient outcomes and safety. Innovation also refers to novel approaches to healthcare service design, delivery, and management, such as accountable care

organisations or Value-Based care models. This dimension also connects with the “pharmaceuticals and health technologies” one. Indeed, pharmaceutical advancements, including the development of new drugs, therapies, and medical treatments, have significantly improved the quality of healthcare by providing additional and/or more effective solutions for various medical conditions. These innovations often lead to better patient outcomes, reduced hospitalisations, and improved overall health, contributing to the sustainability of health systems. The number of clinical trials conducted within a health system and the patent activity can serve as markers of the knowledge and innovation dimension. A high volume of clinical trials reflects a health system’s commitment to advancing medical knowledge, improving patient care, and staying at the forefront of medical research. It indicates a willingness to explore cutting-edge treatments, therapies, and interventions, which can lead to the discovery of more effective. Moreover, a robust clinical trial ecosystem often attracts top-tier researchers, pharmaceutical companies, and healthcare professionals, fostering collaboration and knowledge creation and brokering.

### 3.4.6. Governance

Lastly, one key area of health system capacity and resources refers to a broad set of **governance** elements including the institutional architecture of health policy, leadership, and organisational structure, financing arrangements, and even the mechanisms for patient voice and participation. The OECD has collected several waves of data including these indicators via the Health Systems Characteristics Survey (OECD, n.d.<sup>[16]</sup>), for which a new data collection is ongoing. It describes country-specific arrangements to organise the population coverage against health risks and the financing of health spending. It depicts the organisation of healthcare delivery, focusing on the public/private mix of healthcare provision, provider payment schemes, user choice and competition among providers, as well as the regulation of healthcare supply and prices. It further includes information on governance and resource allocation in health systems, such as decentralisation in decision-making, nature of budget constraints, priority-setting, and areas where patient participation takes place (Paris, Devaux and Wei, 2010<sup>[51]</sup>).

**Table 3.10. Examples of indicators describing the health systems resources, characteristics and policy section**

Dimensions	Possible indicators
Health expenditure and financing	<ul style="list-style-type: none"> <li>• Health expenditure as a share of GDP</li> <li>• Health expenditure per capita</li> <li>• Health care volumes per capita compared to health expenditure per capita</li> <li>• Health expenditure by type of financing</li> <li>• Health expenditure from public sources as a share of total government expenditure</li> <li>• Health expenditure by type of service</li> <li>• Spending on primary healthcare services as a share of current health expenditure</li> <li>• Health expenditure by provider</li> <li>• Annual capital expenditure on health as a share of GDP</li> </ul>
Workforce	<ul style="list-style-type: none"> <li>• Practising doctors per 1 000 population</li> <li>• Share of doctors aged 55 and older</li> <li>• Share of female doctors</li> <li>• Share of different categories of doctors</li> <li>• Remuneration of doctors</li> <li>• Practising nurses per 1 000 population</li> <li>• Remuneration of hospital nurses</li> <li>• Hospital workforce composition</li> <li>• Medical and nursing graduates</li> <li>• Share of foreign-trained doctors and nurses</li> <li>• Practising pharmacists</li> </ul>

Dimensions	Possible indicators
Health technologies and pharmaceuticals	<ul style="list-style-type: none"> <li>• Expenditure on retail pharmaceuticals by type of financing</li> <li>• Expenditure on retail pharmaceuticals per capita</li> <li>• Annual average growth in retail and hospital pharmaceutical expenditure</li> <li>• Consumption of medicines for selected chronic conditions</li> <li>• Share of generics in the total pharmaceutical market</li> <li>• Availability and use of diagnostic technologies – CT scans, MRI and PET scans</li> <li>• Hospital beds per 1 000 population</li> <li>• Hospital discharges per 1 000 population</li> <li>• Occupancy rate of curative (acute) care beds</li> </ul>
Data and digital	<ul style="list-style-type: none"> <li>• In-person consultations and teleconsultations with doctors</li> <li>• Share of adults who received services from a doctor via telemedicine</li> <li>• Percentage of primary care physician practices using Electronic Medical Records</li> <li>• Key national health datasets availability, maturity and use</li> <li>• Percentage of key national health datasets available and regularly linked for monitoring and research</li> <li>• Proportion of national population covered by national dataset</li> <li>• Percentage of available national healthcare datasets coded to a terminology standard</li> </ul>
Knowledge and innovation	<ul style="list-style-type: none"> <li>• Business enterprise expenditure for pharmaceutical R&amp;D (BERD) and government outlays for health-related R&amp;D (GBARD)</li> <li>• Number of clinical trials per 100 000 population</li> <li>• Patent Activity (the number of patents filed by healthcare institutions or professionals within the health)</li> <li>• Publication output (e.g. indexed in Medline)</li> <li>• Amount of medical research funding per capita</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Characteristics of basic healthcare coverage</li> <li>• Regulation of health insurance markets for basic healthcare coverage</li> <li>• Competition between health insurers offering basic healthcare coverage and consumer choice</li> <li>• Provision of healthcare and payment of health services</li> <li>• Employment status and remuneration of healthcare professionals</li> <li>• Pay-for-performance and other financial incentives for providers</li> <li>• Patients' choice and competition among providers</li> <li>• Infrastructure and service delivery planning Section</li> <li>• Price regulation for healthcare services</li> <li>• Co-ordination and continuity of care</li> <li>• Utilisation of HTA to make coverage decisions or set reimbursements</li> <li>• Budgeting practices for health</li> </ul>

### 3.5. Measuring cross-cutting dimensions of the Framework

#### 3.5.1. Efficiency and equity

Improving the efficiency of health systems is a key policy objective in most countries to reconcile growing demands for healthcare with limited budgets. Based on conventional economic theory, “efficiency” is the relationship between one or more inputs and one or more outputs. Two types of efficiency indicators can be distinguished:

- Technical efficiency i.e. producing the greatest outputs or outcomes for a given level of inputs (either financial resources, or labour or physical/capital resources) or producing the same outputs or outcomes at a lower cost. Examples of technical efficiency indicators include the number of consultations per doctor in a given year or the number of operations per surgeon (or surgery unit).
- Allocative efficiency i.e. the allocation of resources to achieve the greatest health outcomes at the least cost. Examples of allocative efficiency indicators include avoidable hospital admissions (as an indicator of the potential benefits to reallocate some resources from hospital to the primary care

sector) which might result in better health outcomes at a lower cost, and the possible benefits of reallocating resources from care to prevention.

**Efficiency in the health sector can be measured at three levels: system-wide level; sub-sector level; and disease-based level.** Each of these levels of analysis has its advantages and disadvantages, and requires more or less aggregated data on various inputs, outputs and/or outcomes. Table 3.11 lists some of these indicators for each level of analysis (OECD, 2016<sup>[52]</sup>).

The main advantage of a system-wide level approach to measuring efficiency in healthcare is the accessibility of aggregate data on key indicators like health expenditure, human resources, and population health measures. However, there are two significant disadvantages. Firstly, as discussed in previous sections; population health measures are influenced by factors beyond healthcare, making it challenging to isolate the impact of healthcare inputs on health outputs. Secondly, system-wide analysis often does not provide actionable insights for policy makers regarding specific areas of inefficiency. To address these limitations, using indicators of amenable mortality, which focus on treatable deaths and can be broken down by causes, may offer a more targeted approach to assessing healthcare efficiency.

The sub-sector approach has the advantage of focusing on more concrete and specific activities of health systems and might therefore more easily lead to sector-specific policy recommendations and actions. Many efficiency analyses have focussed on the hospital sector because this sector still accounts for a large part of total health spending and data on human resource inputs and on outputs tend to be more widely available. Frequently used measures of hospital efficiency include reductions in average length of stay for different causes of hospitalisation and increases in the share of same-day surgeries for different surgical interventions. Efficiency in the primary care sector can be measured by relating certain measures of inputs (either in terms of the availability of human resources like GPs or in terms of spending) to outputs (e.g. the number of consultations per doctor) or outcomes (measured either directly through measures of effective control of chronic diseases for example, or indirectly through avoidable hospital admissions for conditions that should normally be treated outside hospital). Pharmaceutical spending is also a dimension of efficiency that is frequently analysed. The share of the generic market is often used as an indicator of efficiency in pharmaceutical spending, as generics are cheaper than on-patent drugs while providing the same health outcomes. The quality and appropriateness of pharmaceutical prescribing is also a domain of efficiency analysis.

A disease-specific approach to measuring efficiency has the advantage of possibly using more precise information on health outcomes related to specific diseases or treatments (measured most frequently in terms of survival rates, but also possibly in terms of health-related quality of life measured for instance through patient-reported outcome measures). However, it often faces the challenge of relating these health outcomes measures (where they exist) with specific information on inputs (e.g. expenditure by disease or treatment). One recent example of a disease-based approach to measuring efficiency is the 2013 OECD report on cancer care (OECD, 2013<sup>[53]</sup>). The exploratory analysis of efficiency in cancer care offered in this report described the relationship between a number of inputs (in terms of spending, but also human resources and technical resources), along with other cancer care system characteristics, with the outcome measure defined as cancer survival following diagnosis. There are however two main limitations with disease-based efficiency analysis: complete and reliable information on inputs (notably costs) by disease is lacking in most countries (except in those few countries that carry out regular cost-of-illness studies); and reliable health outcomes data are also missing for most diseases or treatments, with the notable exception of cancer.

One last dimension of efficiency relevant to the analysis of health system performance relates to administrative efficiency. **Administration plays a crucial role in modern health systems at both macro and provider levels.** While reducing administrative costs is often considered to control healthcare spending, it is important to recognise that administration serves essential public health functions like ensuring patient safety. The range of administrative tasks has expanded over time to address key



objectives such as equity, or access, and mechanisms are put in place to address trends like increased provider autonomy and innovations such as pay-for-performance. Proper administration can enhance care delivery efficiency, responsiveness, and patient safety, potentially leading to cost savings in the long run. Yet, one major hurdle when measuring administrative efficiency relates to the lack of standardised definitions and criteria for what constitutes administrative costs and activities across different health systems and providers. Indeed, healthcare administrative functions are highly heterogeneous, ranging from billing and claims processing to regulatory compliance and quality reporting, and they often overlap with clinical tasks. Additionally, data collection and reporting can be problematic, with costs dispersed across various items, making it difficult to obtain accurate and comprehensive data. The complexity of health systems, including public and private sectors, insurance companies, and regulatory bodies, further complicates measurement efforts.

**Table 3.11. Examples of indicators reported by the OECD measuring health systems efficiency**

Dimensions	Possible indicators
System-wide efficiency	<ul style="list-style-type: none"> <li>• Life expectancy vs. health expenditure</li> <li>• Treatable/amenable mortality vs. health expenditure</li> <li>• Life expectancy vs. health workforce</li> <li>• Treatable/amenable mortality vs. health workforce</li> </ul>
Hospital care efficiency	<ul style="list-style-type: none"> <li>• Length of stay</li> <li>• Same-day surgery</li> <li>• Outcome measures (e.g. 30-day case fatality rates for acute conditions) vs. input data (expenditure, workforce, etc.)</li> </ul>
Primary care efficiency	<ul style="list-style-type: none"> <li>• Number of consultations per doctor</li> <li>• Proportion of patients who visited an emergency department because the primary care physician was not available</li> <li>• Avoidable admissions for ambulatory care sensitive conditions vs. input data (expenditure, workforce, etc.)</li> </ul>
Pharmaceutical sector efficiency	<ul style="list-style-type: none"> <li>• Share of generics in the total pharmaceutical market</li> <li>• Price comparisons of medicines</li> <li>• Antibiotics consumption</li> <li>• Observance (e.g. persistent pharmaceutical utilisation rates for hypertension and diabetes)</li> <li>• Proportion of doctors using e-Prescribing software</li> </ul>

As already discussed, health is influenced by a range of social, economic and environmental determinants, but by ensuring access to care of good quality, as well as through prevention and public health policies, health systems play a key role in improving health outcomes. **Health systems can also contribute to reducing inequalities if they enable access to services based on needs rather than the actual ability to access** (financially, geographically, etc.). In most OECD countries, national health system strategies and policies highlight the importance of ensuring access to quality care for everyone and protecting all people against the cost of illness.

Overall, poorer health, high exposure to risk factors and problems accessing the health system tend to go hand in hand and to be more common among the less well-off and disadvantaged. On the other hand, those with higher socio-economic status generally adopt healthier lifestyles, find it easier to access the health system and are in better health overall. These effects can also reinforce each other and also influence labour market and educational outcomes (see Section 3.2). A range of health policy levers exist to redress these health-related inequalities. These include, for example, public health interventions to reduce the high exposure of risk factors among disadvantaged population groups, making sure a sufficient number of health providers are available in less affluent areas, and guaranteeing that the entire population is covered against the cost of healthcare.

**Importantly, the challenge of health inequalities also needs to be seen in a country-specific context.**

In many OECD countries, particular population groups such as indigenous peoples, first nations, ethnic and linguistic minorities concentrate socio-economic disadvantages but may also face additional barriers to access. In other countries, barriers of access may be concentrated in certain regions that are economically disadvantaged or scarcely populated.

Ensuring fair and inclusive access to effective, and reasonably priced healthcare stands as a foundational goal within the Framework of social policy across OECD nations. These objectives find endorsement in both national and international policy documents. Several notable initiatives, including the EU’s 2009 Communication on “Solidarity in Health: Reducing health inequalities in the EU”, the WHO conference addressing “Social Determinants of Health” in 2011, the adoption of the “Health 2020” strategy in 2012, the embrace of the “2030 Agenda for Sustainable Development” in 2015, and the establishment of the “EU Joint action on Health inequalities” in 2018, exemplify the unwavering commitment of government leaders to pursue health equity.

In sum, equity is a major dimension when crafting health policies. Designing policies with equity in mind means ensuring that healthcare services and resources are distributed according to needs rather than privileges, with a particular focus on vulnerable and marginalised populations. By addressing disparities in access to care and health outcomes, health policies can contribute to social justice and inclusivity and result in healthier, more cohesive, and economically robust societies. Table 3.12 presents some indicators measuring equity of health systems that have been presented in recent OECD publications (OECD, 2019<sup>[35]</sup>).

**Table 3.12. Examples of indicators measuring the equity dimension of health systems**

Dimensions	Possible indicators
Equity in health	<ul style="list-style-type: none"> <li>Standardised probability of reporting a poor-self assessed health status by education level</li> <li>Standardised probability of reporting limitation in daily activities by education level</li> <li>Standardised probability of reporting multiple chronic conditions by education level</li> </ul>
Equity in health determinants	<ul style="list-style-type: none"> <li>Standardised probability of smoking by education level</li> <li>Standardised probability to be overweight by education level</li> <li>Standardised probability to be a heavy drinker by education level</li> </ul>
Equity in service utilisation	<ul style="list-style-type: none"> <li>Needs-standardised probability of a doctor visit in the past 12 months, by income quintile</li> <li>Inequality levels in the probability of a doctor visit</li> <li>Needs-standardised probability and frequency of a GP visit, by income quintile</li> <li>Needs-standardised probability of a hospitalisation in the past 12 months, by income quintile</li> <li>Prevalence of cancer screening, by income quintile or educational level</li> <li>Probability of a dental visit in the past 12 months, by income quintile</li> <li>Probability of flu vaccination, by income quintile</li> </ul>
Equity and unmet needs	<ul style="list-style-type: none"> <li>Proportion of the population forgoing care because of the cost, by income quintile</li> </ul>
Equity and financial protection	<ul style="list-style-type: none"> <li>Share of households with difficulties to afford healthcare services</li> <li>Share of households with catastrophic out-of-pocket spending by consumption quintile,</li> </ul>

Gender equality is an aspect of the health equity question that deserves a particular attention since it is a core value and a strategic priority for the OECD, and the organisation is committed to accelerating the development of policy options to help close gender gaps and ensure that all its analysis, research and policy advice integrates a gender balance perspective (OECD, 2023<sup>[54]</sup>). Among the key actions to achieve this objective are the expansion of efforts to measure gender gaps, and mainstreaming gender dimensions in all relevant policy work. It is important to better incorporate the gender equality perspective in the revision of the OECD HSPA Framework and the analytical and indicator work based on it. For example, more efforts can be made to ensure that indicators are gender-disaggregated (i.e. data that are broken down by gender), gender-relevant (i.e. measurements specifically designed to capture changes in gender equality or inequality over time) (OECD, 2021<sup>[55]</sup>), and intersectional (i.e. measures that aim to account for

intersecting between gender and social stratifiers, such as “race”/ethnicity, indigeneity, geography, age, disability/ability, migration status) (Larson et al., 2016<sup>[56]</sup>).

While Table 3.13 includes a selection of gender-disaggregated and gender-relevant health indicators regularly collected and reported by the OECD, more can be done to expand the gender equality perspective, expanding collection and reporting to other health indicators and including intersectional ones. A few examples of gender-disaggregated indicators that are currently not collected include: per capita health spending; doctor consultations; remuneration of doctors and nurses. Other gender-disaggregated indicators are already collected, but not regularly reported, such as hospital admissions; length of hospital stay; and hospital discharge diagnostic category. Some of the data disaggregation will require additional efforts and work with countries to ensure that the gender equality perspective is included in all data collections. Moreover, there are some important opportunities for further development ahead. Data from the PaRIS survey, for example, will allow for some key dimensions of patient experience to be disaggregated by gender, including: doctor spent enough time with the patient; doctor involved the patient in treatment decisions; and doctor explained things in a way that patients could understand. Delegates are also invited to provide further feedback in how the gender equality perspective can be better incorporated into the Framework.

**Table 3.13. Examples of indicators measuring gender equity in health and health systems**

Dimensions		Possible indicators
Gender equality	Sex-disaggregated indicators	<ul style="list-style-type: none"> <li>• Life expectancy, by gender</li> <li>• Causes of mortality, by gender</li> <li>• Potential years of life lost, by gender</li> <li>• Perceived health status, by gender</li> <li>• Cancer, number and incidence by gender</li> <li>• Daily smoking, by gender</li> <li>• Overweight and/or obesity by gender</li> </ul>
	Gender-sensitive indicators	<ul style="list-style-type: none"> <li>• Share of female physicians</li> <li>• Long-term care formal workers, by gender (number/share)</li> <li>• Long-term care recipients, by gender (number/share)</li> </ul>

### 3.5.2. Sustainability and resilience

Sustainability and resilience are essential objectives of high performing health systems. **Sustainability** revolves around the responsible management of resources (financial and others), ensuring that healthcare services can be consistently delivered over the long term without depleting essential assets or undermining future generations. **Resilience**, on the other hand, focuses on a system’s ability to withstand and rebound from disruptive events. By bolstering resilience, a health system not only safeguards the sustainability of its activities over time but also enhances its adaptive capacity and ability to maintain high-quality care in the face of unexpected challenges. Together, these two principles create a dynamic equilibrium that underpins a health system’s ability to ensure the health and well-being of its population in both routine and extraordinary circumstances.

In the past two decades, public health spending has consistently grown faster than the GDP in all OECD countries. Although this increased spending has led to improvements in health outcomes, there are apprehensions about the sustainability of this upward trajectory. Without effective measures to control costs, OECD forecasts indicate that public expenditures on healthcare and long-term care are projected to approach nearly 9% of GDP by 2030 and could even reach as high as 14% by 2060.

The OECD defines fiscal sustainability as the ability of a government to maintain public finances at a credible and serviceable position over the long term (OECD, 2015<sup>[17]</sup>). Fiscal sustainability implies governments are able to maintain policies and expenditure into the future, without major adjustments and

excessive debt burdens for future generations. The term refers to overall government spending, revenues, assets and liabilities that reflect past commitments and adapt to future trends such as socio-economic trends and environmental factors. In the context of the healthcare sector, fiscal sustainability should be viewed as a general constraint rather than a goal on itself. This suggests that the methods employed by governments to attain fiscal sustainability are crucial, as it should not merely involve indiscriminate cost-cutting measures. For instance, raising user fees for healthcare services might appear as a straightforward means to reduce budget deficits, but it can undermine health system objectives related to financial protection and improved health outcomes. A more effective approach would involve for instance eliminating interventions that are not cost-effective.

Possible indicators of fiscal sustainability include:

- Average annual growth rate of real public health spending and GDP per capita;
- Public health spending as a share of GDP;
- Projected public expenditure on health and long-term care as a percentage of GDP;
- Health spending as a share of total government spending;
- Revenue sources for funding government health expenditures;
- Relative share of public and private spending.

**Yet, the concept of sustainability in health systems extends beyond fiscal considerations and encompasses several additional dimensions.** One important aspect is the need for a long-term strategic perspective and innovativeness, which connects with the governance dimension (Fischer, 2014<sup>[57]</sup>). Sustainable health systems require shifting from incremental decision-making to long-term planning based on strategic analysis. This involves setting clear, long-term goals and implementing lasting reforms that balance social and financial imperatives while fostering open discussions about trade-offs in society. Another dimension is the institutionalisation of environmental concerns within health systems. Sustainability in healthcare recognises the ecological environment as a critical factor, emphasising the need to minimise the negative impact of resource consumption (see earlier section on environment and health dimension).

**Resilience is understood as the ability of systems to prepare for, absorb, recover from and adapt to major shocks** (OECD, 2020<sup>[9]</sup>). It is not simply about minimising risk and avoiding shocks: resilience is also about recognising that shocks *will* happen. Such shocks are defined as high-consequence events that have a major disruptive effect on society. This concept touches on almost all elements of health systems design, policy, process, outcomes and impacts. The COVID-19 pandemic revealed weaknesses in health systems and in how they respond to shocks, highlighting the need to improve their resilience. Health systems need to prepare better for shocks – not only pandemics but also antimicrobial resistance; armed conflict; climate change; biological, chemical, cyber, financial and nuclear threats; natural and environmental disasters; and social unrest. Health systems also need to be able to absorb such disruptions, to recover as quickly as possible and with minimal cost, and to adapt by learning lessons to improve performance and manage future risks. Rather than relying solely on planning for, avoiding and absorbing shocks, a resilience approach acknowledges that some shocks will be of a size and scale that will disrupt an entire health system. In this scenario, it is important that the health system is capable of recovering and adapting for the future.

**Assessing the resilience domain requires indicators to cover the entire shock cycle and to capture the dynamic nature of resilience** – how a health system performs before, during and after a shock. This is clear in applications of resilience assessment and testing that is conducted in other sectors, such as financial and banking services (Baudino et al., 2018<sup>[58]</sup>), or electricity utilities (DeMenno, Broderick and Jeffers, 2022<sup>[59]</sup>). What is common across such methods is that it views the resilience of systems as a dynamic characteristic that is based on the response to simulated stress. This assessment is challenging

as performance during a shock depends not only on the available resources but also on a rapid and co-ordinated response that may extend beyond the health system (Fleming et al., 2022<sup>[60]</sup>).

The inclusion of resilience as a cross-cutting dimension in the proposed revision of the OECD Health System Performance Assessment Framework is a reflection of the need to ensure that it maintains policy-relevance in the current context. This considers not only the lessons of the major shock of the COVID-19 pandemic, but also other ongoing threats such as the rapidly escalating effects of climate change and its consequences in societies and health systems.

Table 3.14 includes a sample of indicators that have been used to infer health system resilience across several areas of the OECD Health System Performance Assessment Framework. A more thorough assessment of resilience will require that these indicators are further refined, and expanded to better reflect dynamic aspects of health systems (e.g. the ability to rapidly increase health workforce, redeploy them across the territory, or even retrain them to face new challenges).

The incorporation of resilience as a cross-cutting analytical in the Framework also highlights the importance of the issues of timeliness and disaggregation of data. The pandemic provided a clear example of the need for real-time data, and yet timeliness of the indicators is still a constraint, with most indicators being available for year  $t-2$  and only a few being available for year  $t-1$ . Regional disaggregation of indicators within countries, as well as disaggregation of data by gender (the gender equality perspective discussed above), income, education or other areas of socio-economic status, as well as ethnicity and migrant status is the exception, rather than the norm for most indicators, and yet these are also key for analysis of resilience.

**Table 3.14. Examples of indicators measuring health systems resilience**

Dimensions	Possible indicators
Preparation / Health systems capacity	<ul style="list-style-type: none"> <li>• General vulnerability of the population: proportion of people aged 65 and over; poverty rates; prevalence of chronic conditions and risk factors; etc. [currently collected]</li> <li>• Capital expenditure on health as a share of GDP [currently collected]</li> <li>• Laboratory capacity [currently collected]</li> <li>• Hospital bed capacity and occupancy (curative and intensive care) [currently collected]</li> <li>• Workforce capacity and strategies to increase that capacity (rapid hire, mobilisation of retired professionals, etc.) [not systematically collected]</li> <li>• Preparedness plans: disaster plans exercised, crisis communication protocols defined, etc. [not systematically collected]</li> <li>• Mature surveillance and early detection systems [not systematically collected]</li> </ul>
Performance under pressure	<ul style="list-style-type: none"> <li>• Excess mortality [currently collected]</li> <li>• Health workforce motivation and well-being, support to staff (childcare, psychological assistance), staff protection (vaccination rates, enhanced surveillance of staff health) [not systematically collected]</li> <li>• Increased use of telehealth [currently collected]</li> <li>• Reduction in activity of essential services: elective diagnostic and surgical care cancelled or delayed, backlog of elective care, screening programmes disrupted, etc. [not systematically collected]</li> <li>• Participation of the private sector to the crisis response [not systematically collected]</li> <li>• Impact on timeliness: increased waiting times, etc. [not systematically collected]</li> </ul>

# References

- Arah, O. et al. (2006), “A conceptual framework for the OECD Health Care Quality Indicators Project”, *International Journal for Quality in Health Care*, Vol. 18/suppl\_1, pp. 5-13, <https://doi.org/10.1093/intqhc/mzl024>. [6]
- Baudino, P. et al. (2018), “Stress-testing banks – a comparative analysis”, *FSI Insights on policy implementation No 12*, Bank for International Settlements, Basel, <http://www.bis.org/emailalerts.htm>. [58]
- Bodenheimer, T. and C. Sinsky (2014), “From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider”, *The Annals of Family Medicine*, Vol. 12/6, pp. 573-576, <https://doi.org/10.1370/afm.1713>. [45]
- Brundtland Commission (1987), *Our Common Future: Report of the World Commission on Environment and Development*, United Nations, <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>. [18]
- Carinci, F. et al. (2015), “Towards actionable international comparisons of health system performance: expert revision of the OECD framework and quality indicators”, *International Journal for Quality in Health Care*, Vol. 27/April, pp. 137-146, <https://doi.org/10.1093/intqhc/mzv004>. [3]
- Chapman, S., A. Szklanowska and R. Lopert (2023), “Exploring the feasibility of monitoring access to novel medicines: A pilot study in EU Member States”, *OECD Health Working Papers*, No. 151, OECD Publishing, Paris, <https://doi.org/10.1787/8c1d16c4-en>. [50]
- Cylus, J., G. Permanand and P. Smith (2018), *Making the economic case for investing in health systems What is the evidence that health systems advance economic and fiscal objectives?*. [32]
- Dahlgren, G. and M. Whitehead (2021), “The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows”, *Public Health*, Vol. 199, pp. 20-24, <https://doi.org/10.1016/j.puhe.2021.08.009>. [11]
- DeMenno, M., R. Broderick and R. Jeffers (2022), “From systemic financial risk to grid resilience: Embedding stress testing in electric utility investment strategies and regulatory processes”, *Sustainable and Resilient Infrastructure*, Vol. 7/6, pp. 673-694, <https://doi.org/10.1080/23789689.2021.2015833>. [59]
- Donabedian, A. (2005), “Evaluating the Quality of Medical Care”, *The Milbank Quarterly*, Vol. 83/4, p. 691, <https://doi.org/10.1111/J.1468-0009.2005.00397.X>. [10]

- Donabedian, A. (1972), *Models for Organizing the Delivery of Personal Health Services and Criteria for Evaluating Them*, The Milbank Memorial Fund Quarterly, <https://www.jstor.org/stable/3349436> (accessed on 28 August 2023). [61]
- ECDC (2023), *European Centre for Disease Prevention and Control*, <http://www.ecdc.europa.eu/en/data>. [41]
- Evans, R. (1983), “Incomplete vertical integration in the health care industry: pseudomarkets and pseudopolicies”, *The Annals of the American Academy of Political and Social Science*, Vol. 468/468, pp. 60-87, <https://doi.org/10.1177/0002716283468001005>. [63]
- Fischer, M. (2014), “Fit for the Future? A New Approach in the Debate about What Makes Healthcare Systems Really Sustainable”, *Sustainability 2015*, Vol. 7, Pages 294-312, Vol. 7/1, pp. 294-312, <https://doi.org/10.3390/SU7010294>. [57]
- Fleming, P. et al. (2022), “Metrics and indicators used to assess health system resilience in response to shocks to health systems in high income countries—A systematic review”, *Health Policy*, <https://doi.org/10.1016/j.healthpol.2022.10.001>. [60]
- Heinen, M. et al. (2013), “Nurses’ intention to leave their profession: a cross sectional observational study in 10 European countries”, *International journal of nursing studies*, Vol. 50/2, pp. 174-184, <https://doi.org/10.1016/J.IJNURSTU.2012.09.019>. [47]
- Hurst, J. and M. Jee-Hughes (2001), “Performance Measurement and Performance Management in OECD Health Systems”, *OECD Labour Market and Social Policy Occasional Papers*, No. 47, OECD Publishing, Paris, <https://doi.org/10.1787/788224073713>. [1]
- IDF (2021), *IDF Diabetes Atlas*, International Diabetes Federation, <http://www.diabetesatlas.org>. [25]
- International Center on Nurse Migration (2018), *Nurse retention*, [https://www.icn.ch/sites/default/files/inline-files/2018\\_ICNM%20Nurse%20retention.pdf](https://www.icn.ch/sites/default/files/inline-files/2018_ICNM%20Nurse%20retention.pdf). [49]
- International Council of Nurses (2022), *The global nursing shortage and nurse retention*, [https://www.icn.ch/sites/default/files/inline-files/ICN%20Policy%20Brief\\_Nurse%20Shortage%20and%20Retention\\_0.pdf](https://www.icn.ch/sites/default/files/inline-files/ICN%20Policy%20Brief_Nurse%20Shortage%20and%20Retention_0.pdf). [48]
- International Labour Organization (2019), “The future of work in the health sector”, *ILO Working Paper*: No. 325, [https://www.ilo.org/sector/Resources/publications/WCMS\\_669363/lang--en/index.htm](https://www.ilo.org/sector/Resources/publications/WCMS_669363/lang--en/index.htm) (accessed on 26 April 2023). [44]
- Kelley, E. and J. Hurst (2006), “Health Care Quality Indicators Project: Conceptual Framework Paper”, *OECD Health Working Papers*, No. 23, OECD Publishing, Paris, <https://doi.org/10.1787/440134737301>. [2]
- Kleczkowski, B., M. Roemer and A. Van Der Werff (1984), *National health systems and their reorientation towards health for all*, World Health Organization, [https://apps.who.int/iris/bitstream/handle/10665/41638/WHO\\_PHP\\_77.pdf](https://apps.who.int/iris/bitstream/handle/10665/41638/WHO_PHP_77.pdf) (accessed on 28 August 2023). [64]
- Larson, E. et al. (2016), “10 Best resources on... intersectionality with an emphasis on low- and middle-income countries”, *Health Policy and Planning*, Vol. 31/8, pp. 964-969, <https://doi.org/10.1093/heapol/czw020>. [56]

- Lee, K. et al. (2022), “Measuring the Commercial Determinants of Health and Disease: A Proposed Framework”, *International Journal of Health Services*, Vol. 52/1, p. 115, <https://doi.org/10.1177/00207314211044992>. [31]
- McKee, M. (2010), *The World Health Report 2000: 10 years on*, [68]  
<https://doi.org/10.1093/heapol/czq032>.
- Moreira, L. (2018), “Health literacy for people-centred care: Where do OECD countries stand?”, *OECD Health Working Papers*, No. 107, OECD Publishing, Paris, [39]  
<https://doi.org/10.1787/d8494d3a-en>.
- Murray, C. and A. Frenk (2000), “A Framework for assessing the performance of health systems. Bulletin of the world Health Organization”, *Bulletin of the World Health Organization*, Vol. 78/6, pp. 717-731, [https://www.who.int/bulletin/archives/78\(6\)717.pdf?ua=1](https://www.who.int/bulletin/archives/78(6)717.pdf?ua=1). [70]
- Newton-Lewis, T., W. Munar and T. Chanturidze (2021), “Performance management in complex adaptive systems: A conceptual framework for health systems”, *BMJ Global Health*, Vol. 6/7, [72]  
<https://doi.org/10.1136/bmjgh-2021-005582>.
- Nolte, E., S. Merkur and A. Anell (2020), *Achieving Person-Centred Health Systems. Evidence, Strategies and Challenges*, Cambridge University Press. [7]
- Oderkirk, J. (2017), “Readiness of electronic health record systems to contribute to national health information and research”, *OECD Health Working Papers*, No. 99, OECD Publishing, Paris, <https://doi.org/10.1787/9e296bf3-en>. [38]
- OECD (2023), *Environment at a Glance Indicators*, OECD Publishing, Paris, [28]  
<https://doi.org/10.1787/ac4b8b89-en>.
- OECD (2023), *Health at a Glance 2023: OECD Indicators*, OECD Publishing, Paris, [20]  
<https://doi.org/10.1787/7a7afb35-en>.
- OECD (2023), *OECD Health Statistics*, <https://doi.org/10.1787/health-data-en>. [19]
- OECD (2023), *Ready for the Next Crisis? Investing in Health System Resilience*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/1e53cf80-en>. [5]
- OECD (2023), *The OECD’s Contribution to Promoting Gender Equality*, [54]  
<https://www.oecd.org/mcm/documents/The-OECD-Contribution-to-Promoting-Gender-Equality.pdf>.
- OECD (2021), “Gender-relevance of policies in the OECD Green recovery Database”, *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, [55]  
<https://doi.org/10.1787/e6a03378-en>.
- OECD (2021), *Health at a Glance 2021: OECD Indicators*, OECD Publishing, Paris, [42]  
<https://doi.org/10.1787/ae3016b9-en>.
- OECD (2021), *Health for the People, by the People: Building People-centred Health Systems*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/c259e79a-en>. [4]
- OECD (2021), *OECD Environment Statistics*, <https://doi.org/10.1787/env-data-en>. [36]



- OECD (2021), “The inequalities-environment nexus: Towards a people-centred green transition”, *OECD Green Growth Papers*, No. 2021/01, OECD Publishing, Paris, <https://doi.org/10.1787/ca9d8479-en>. [29]
- OECD (2020), “A systemic resilience approach to dealing with Covid-19 and future shocks”, *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, <https://doi.org/10.1787/36a5bdfb-en>. [9]
- OECD (2019), *Health for Everyone?: Social Inequalities in Health and Health Systems*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/3c8385d0-en>. [35]
- OECD (2019), *Health in the 21st Century: Putting Data to Work for Stronger Health Systems*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/e3b23f8e-en>. [37]
- OECD (2019), *PaRIS survey of Patients with Chronic Conditions: Putting people at the centre of health care*, OECD Publishing, Paris, <https://www.oecd.org/health/health-systems/PaRIS-survey-Patients-with-Chronic-Conditions-June-2019.pdf> (accessed on 1 September 2023). [73]
- OECD (2017), *Healthy people, healthy planet: The role of health systems in promoting healthier lifestyles and a greener future*, <https://www.oecd.org/health/health-systems/Healthy-people-healthy-planet.pdf>. [27]
- OECD (2017), “Ministerial Statement: The Next Generation of Health Reforms, OECD Health Ministerial Meeting”, <https://www.oecd.org/health/ministerial-statement-2017.pdf> (accessed on 18 August 2022). [14]
- OECD (2016), *Scoping paper on health system efficiency measurement*. [52]
- OECD (2015), *Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives*, OECD Publishing, <https://doi.org/10.1787/9789264233386-en>. [17]
- OECD (2013), *Cancer Care: Assuring Quality to Improve Survival*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/9789264181052-en>. [53]
- OECD (2002), *Measuring Up: Improving Health System Performance in OECD Countries*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264195950-en>. [69]
- OECD (1994), *The Reform of Health Care Systems: A Review of Seventeen OECD Countries*, OECD Publishing, Paris. [66]
- OECD (1992), *The Reform of Health Care: A Comparative Analysis of Seven OECD Countries*, OECD Publishing, Paris. [65]
- OECD (n.d.), *Health at a Glance (series)*, OECD Publishing, Paris, <https://doi.org/10.1787/19991312>. [15]
- OECD (n.d.), *Health at a Glance: Asia-Pacific (series)*, OECD Publishing, Paris, <https://doi.org/10.1787/23054964>. [22]
- OECD (n.d.), *Health at a Glance: Europe (series)*, OECD Publishing, Paris, <https://doi.org/10.1787/23056088>. [21]
- OECD (n.d.), *Health Systems Characteristics Survey*, <https://qdd.oecd.org/subject.aspx?Subject=hsc> (accessed on 15 January 2024). [16]

- OECD/European Union (2020), “Air pollution and its impact on health in Europe: Why it matters and how the health sector can reduce its burden”, in *Health at a Glance: Europe 2020: State of Health in the EU Cycle*, OECD Publishing, Paris, <https://doi.org/10.1787/5286cd4d-en>. [26]
- OECD/Eurostat/WHO (2017), *A System of Health Accounts 2011: Revised edition*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264270985-en>. [43]
- OECD/ILO (2022), *Equipping Health Workers with the Right Skills: Skills Anticipation in the Health Workforce*, Getting Skills Right, OECD Publishing, Paris, <https://doi.org/10.1787/9b83282e-en>. [46]
- OECD/The World Bank (2023), *Health at a Glance: Latin America and the Caribbean 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/532b0e2d-en>. [23]
- OECD/The World Bank (2020), *Health at a Glance: Latin America and the Caribbean 2020*, OECD Publishing, Paris, <https://doi.org/10.1787/6089164f-en>. [24]
- OECD, ILO and WHO (2016), *Working for health and growth: Investing in the health workforce*, High-Level Commission on Health Employment and Economic Growth, <https://www.who.int/publications/i/item/9789241511308>. [33]
- Papanicolas, I. et al. (2022), “Health system performance assessment”, *A framework for policy analysis*, <https://www.ncbi.nlm.nih.gov/books/NBK590192/> (accessed on 1 September 2023). [12]
- Paris, V., M. Devaux and L. Wei (2010), “Health Systems Institutional Characteristics: A Survey of 29 OECD Countries”, *OECD Health Working Papers*, No. 50, OECD Publishing, Paris, <https://doi.org/10.1787/5kmfxfq9qbnr-en>. [51]
- Perić, N., M. Hofmarcher and J. Simon (2018), “Headline indicators for monitoring the performance of health systems: Findings from the european Health Systems\_Indicator (euHS\_I) survey”, *Archives of Public Health*, Vol. 76/1, <https://doi.org/10.1186/S13690-018-0278-0>. [13]
- Slawomirski, L. and N. Klazinga (2022), “The economics of patient safety: From analysis to action”, *OECD Health Working Papers*, No. 145, OECD Publishing, Paris, <https://doi.org/10.1787/761f2da8-en>. [40]
- Van Olmen, J. et al. (2012), “Health systems frameworks in their political context: Framing divergent agendas”, *BMC Public Health*, Vol. 12/1, <https://doi.org/10.1186/1471-2458-12-774>. [62]
- Veillard, J. et al. (2005), “A performance assessment framework for hospitals: the WHO regional office for Europe PATH project”, *International Journal for Quality in Health Care*, Vol. 17/6, pp. 487-496, <https://doi.org/10.1093/intqhc/mzi072>. [71]
- WHO (2001), *Macroeconomics and health: Investing in health for economic development / report of the Commission on Macroeconomics and Health*, <https://iris.who.int/handle/10665/42435> (accessed on 26 September 2023). [34]
- World Health Organization (2023), *Operational framework for building climate resilient and low carbon health systems*, World Health Organization, Geneva, <https://www.who.int/publications/i/item/9789240081888>. [30]

- World Health Organization Regional Office for Europe (2016), *Integrated care models: an overview Working document*, WHO Regional Office for Europe, [https://www.euro.who.int/data/assets/pdf\\_file/0005/322475/Integrated-care-models-overview.pdf](https://www.euro.who.int/data/assets/pdf_file/0005/322475/Integrated-care-models-overview.pdf). [8]
- World Health Organization. (2000), *Health systems : improving performance.*, World Health Organization. [67]

# Annex A. Three decades of health system performance assessment

## A first glance at performance: OECD comparisons of goals of health system reforms (1992-94)

The 1980s were marked by global macroeconomic shifts, mostly driven by sovereign debt crises, rising interest rates and declining government budgets. This decade proved to be a challenging period for health systems public financing. As trends in public policy making shifted towards values of efficiency, lean government, deregulation, and privatisation, the Donabedian model (an approach to healthcare quality developed in the 1970s that focuses on three main components: structure, process, and outcomes (Donabedian, 1972<sup>[61]</sup>)) offered governments the possibility of conceptualizing health systems using similar frameworks (Van Olmen et al., 2012<sup>[62]</sup>). As national efforts to identify the bounds of their health systems continued, further models followed, including the framework by Evans to describe the structural organisation of health system actors, including providers, patients, payers, and government regulators (Evans, 1983<sup>[63]</sup>), and that of Kleczkowski et al. to elucidate the role of financing and other health system resources in sustaining these relationships (Kleczkowski, Roemer and Van Der Werff, 1984<sup>[64]</sup>).

In this context of knowledge development in health systems models, **the relevance of relatively stable comparisons across health systems took hold**. Governments interested in solutions to macroeconomic challenges in the health system sought to develop a suite of policy tools based in empirical evidence to reform them. As a technical space for knowledge sharing, the OECD served as a key venue of comparative analysis of public governance and service delivery, including in the health sector.

**In 1992, the OECD published a first report comparing health systems of its member states: *Reform of Health Care: Comparative Analysis of Seven OECD Countries***. Through interviews with seven OECD member governments on their reforms conducted from 1989 to 1992, the OECD outlined key macroscopic differences between the structure of health systems, while establishing similarities between a set of “subsystems”, or structures of third-party payment and benefit provision. The OECD noted several issues faced by the seven countries at the time of publication, including remaining gaps in community access to services and in income protection when medical care was required. (OECD, 1992<sup>[65]</sup>)

**A second report followed in 1994** in which the OECD reviewed a total of 17 OECD member states. Building on the previous 1992 paper, the OECD outlined a distinct set of seven health system models characterizing specific relationships between payers, providers, patients, and governments. These were listed as:

- the voluntary out-of-pocket model
- the voluntary reimbursement-of-patients model
- the public reimbursement-of-patients model
- the voluntary contract model
- the public contract model
- the voluntary integrated model
- the public integrated model.

As the ability to compare countries grew through the expanded range of health systems considered, the OECD grouped health systems reforms into specific themes: equity, cost containment/micro-efficiency, and choice (OECD, 1994<sup>[66]</sup>). This summary of reforms provided an early toolkit to governments for the adjustments required in a period of macroeconomic uncertainty and fiscal constraint. In addition, at an international level, the translation of core values in health system governance to models of health system assessment provided a blueprint for the development of new indicators to appraise the actual value of these reforms.

## Measuring “performance”: A growing need for more and better data (2000-02)

The growing recognition of the value of comparing national health system experiences drove the development of assessment programmes at the national and international levels. Central to this development was the focus on the “measurement” of health, where processes in the health system were linked theoretically to assessments of healthcare quality and population health outcomes.

At the turn of the century, in the vein of the Millennium Development Goals agreed to by the United Nations, the World Health Organization (WHO) published its landmark *World Health Report 2000* aimed at providing the **WHO’s first summary of the evidence regarding measurement of health system indicators**. In introducing its inaugural HSPA Framework, the WHO intended to further comparative analysis of health systems goals and functions into mechanisms for “improving performance” across its member states. Most notably, it aimed to “[break] new ground” with the report in introducing a novel index of overall health system performance, presented as a ranking of national health systems in a league table based on performance according to three overall health system goals: “good health”, “responsiveness to the expectations of the population”, and “fairness of financial contribution” (World Health Organization., 2000<sup>[67]</sup>). These health system goals were operationalised through numerical indicators contributing to the calculated index of overall health system performance. These indicators included, *inter alia*: disability-adjusted life expectancy (DALE), health equality in terms of child survival, the level and distribution of responsiveness (employing a survey of key informants regarding elements of dignity, autonomy, confidentiality, prompt attention, access to social support networks during care, and choice of care provider), fairness of financial contribution, and performance on level of health.

While the *World Health Report 2000* additionally contributed summaries of evidence on the vital functions of health systems, and the complex challenges of actor governance and resourcing, this translation of goals into a numerical league table generated significant attention and controversy. Some of the criticism was due to lack of face validity of the rankings as well as technical aspects such as using complex modelling where data was not available (McKee, 2010<sup>[68]</sup>),

Moving away from view of health system performance as a singular international process of comparison, governments and their multilateral partners shifted towards generating and capturing a more diverse range of data to contribute to national measurement processes. Accounting for the wide variation in health system structures, **the OECD and Health Canada – the Canadian federal ministry of health – partnered to deliver *Measuring Up in 2002***, a report intended to standardise the collection and use of indicators at all levels of health service organisation and delivery (2002<sup>[69]</sup>).

*“Together we can take great pride in what our varied health systems have achieved. But for all the reasons outlined above, every nation must now redouble its efforts to assess system performance at multiple levels. Assessment must go from appropriate use of medications in a single clinic, to costs per patient day across a set of acute care hospitals in a region, and on to broad markers of population health and system efficiency and equity. Without such information and indicators, health systems across the OECD will continue to vary more by institutional culture, political geography and historical happenstance, than by explicit evidence-based design.” (OECD, 2002, p. 16<sup>[69]</sup>)*

Building on the development of the WHO and OECD international frameworks, and national health system performance assessment frameworks in Australia, Canada, the United Kingdom, and the United States, the report identifies four dimensions of health system performance. These include:

- health improvement/outcomes
- responsiveness
- equity
- efficiency.

In moving from conceptualisation of health system models toward a comparison of assessment activities common to national and international frameworks, *Measuring Up* established performance assessment as a process necessitating consideration of varying subsystems (as first outlined in the 1992 and 1994 OECD reports) while acknowledging common health system goals across these subsystems. This marked a significant shift towards comparing “models” to “indicators”: moving from fundamental indicators like life expectancy to discuss health outcomes, to disease-specific clinical indicators aimed at understanding the efficiency of clinical care processes.

The move toward improved measurement of health systems inputs, processes, outputs, and outcomes coincided with the emerging challenge of conceptualizing health system performance. With a growing focus on indicator development and the expansion of data availability to health system stakeholders, new mechanisms for organizing these data were set to be considered.

### Defining “performance”: Development of health system performance through the quality agenda (2000-06)

The comparison of health system organisation in the 1990s raised questions regarding the linkage of health system goals with mechanisms for assessing achievement of such goals. As Murray and Frenk (2000<sup>[70]</sup>) posit in their 2000 WHO Bulletin article *A framework for assessing the performance of health systems*, an assessment of differences in health system “performance” requires a comprehension of differences in socially valued outcomes embedded in health system organisation, like “health improvement”, “responsiveness to expectations”, and “fairness in financial contribution”.

Understanding the achievement of these goals thus called for their translation into a “convincing and operational framework for assessing health system performance” by governments, development agencies, and multilateral institutions (Murray and Frenk, 2000<sup>[70]</sup>). Introduced earlier as the WHO HSPA framework, the Murray and Frenk framework provided the first summary of the functions and actions performed by health systems towards the achievement of common health system goals. For instance, the framework defines health systems by delimiting their bounds in terms of the “health actions” they perform (Murray and Frenk, 2000<sup>[70]</sup>). These included primary and clinical health services, as well as public health actions with a “primary intent” criterion of health in order to exclude other social services like education despite their role as a determinant of health outcomes.

From this global framework of the health system, the WHO framework defined performance as a process of assessment anchored in the four functions of health systems:

- financing (including revenue collection, fund pooling, and purchasing functions)
- provision (of personal and non-personal health services)
- stewardship
- resource generation

Along with the WHO Framework, the OECD HSPA framework provided an alternative and complementary vision of the composition of health systems. In 2001, the OECD published a working paper by Hurst and Jee-Hughes (2001<sup>[1]</sup>) defining performance assessment and its unique conceptualisation of the health system. Performance, as first defined by Hurst and Jee-Hughes, is “the extent to which the system is meeting a set of objectives” in the measurement process (Hurst and Jee-Hughes, 2001, p. 8<sup>[1]</sup>). Centred on these objectives, the proposed OECD framework built on earlier developments by Murray and Frenk towards the WHO Framework by adapting the health system goals into components for assessment.

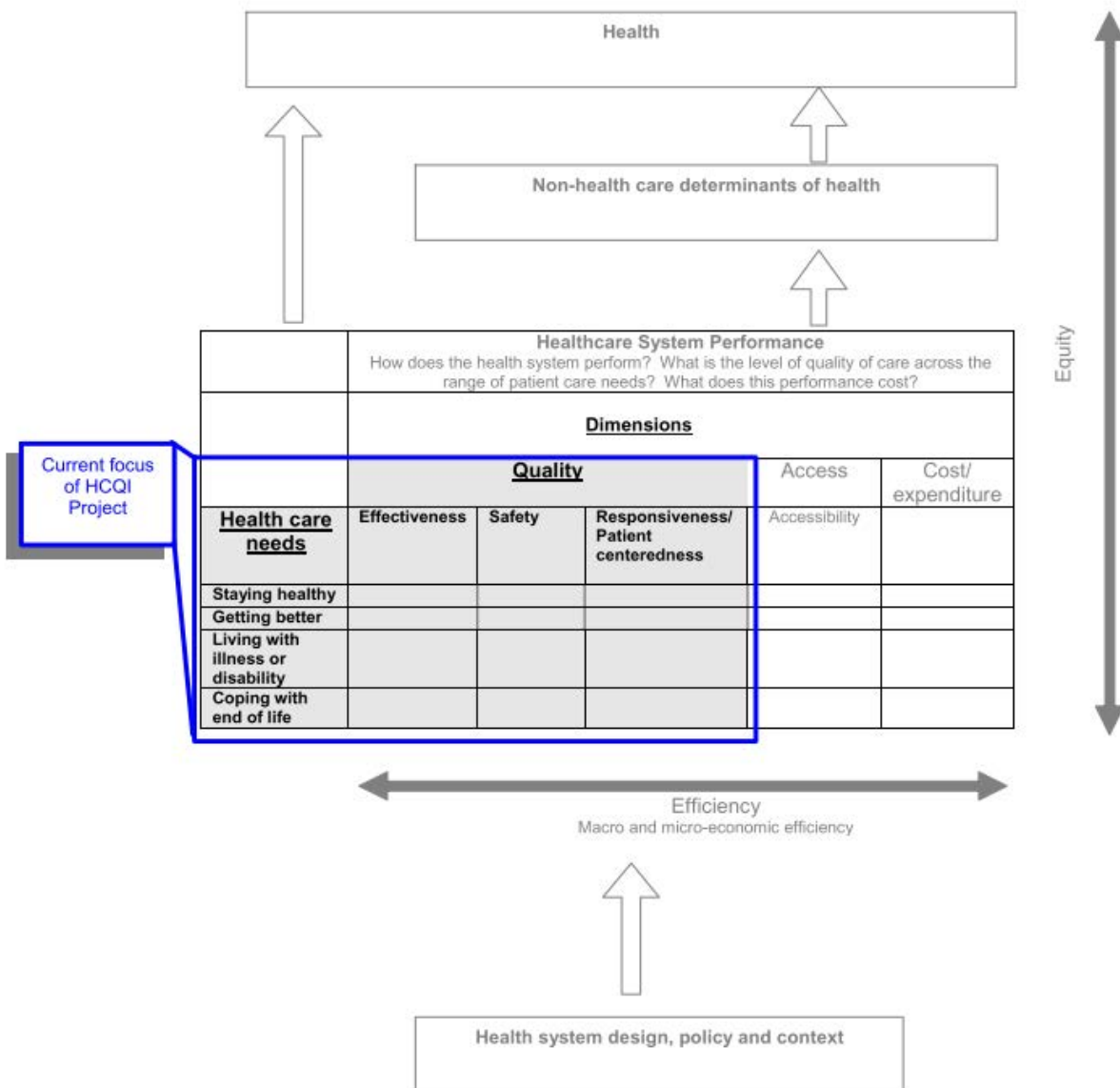
However, several differences were also noted. Social determinants of health, like education, were not excluded by the OECD Framework, but instead considered as part of frontier analyses while remaining external to accounting of health expenditures. Furthermore, the OECD framework incorporated several additional elements:

- The consideration of “access” as a component of responsiveness, and the incorporation of equity of health service access within the framework;
- The conversion of health expenditure as a goal integrated with fairness in financial contribution, and the specification of a desirable level of health spending (building on the value of macroeconomic efficiency raised in the 1992 OECD report) as part of the framework;
- The decision to not weight goals in an index, instead reporting performance on several separate dimensions; and
- A focus on healthcare system performance, to the exclusion of public health activities and other wider health-promoting activities.

The development of the WHO and OECD health system performance assessment frameworks provided a foundation for performance assessment activities at the national and international levels, while setting the stage for further developments in assessment at the subsystem level. In one instance, the WHO Regional Office for Europe (WHO EURO) – as part of its Performance Assessment Tool for quality improvement in Hospitals (PATH) project in 2005 – developed a framework specific to hospitals and the clinical treatment provided in tertiary settings. As part of its theoretical model, WHO strategic orientations – the former health systems goals – were adapted into four “dimensions” of performance in the hospital subsystem context, namely clinical effectiveness, efficiency, staff orientation, and responsive governance (Veillard et al., 2005<sup>[71]</sup>). These dimensions were additionally overlaid with two transversal perspectives: safety, and patient-centredness.

**Heightened attention towards the healthcare quality improvement agenda defines the later years of this phase.** With a greater number of health system stakeholders and care settings involved in performance assessment through internal quality improvement, more sources of data became increasingly available to national governments and multilateral institutions. Given the range of new ideas emerging across healthcare systems for indicator development, efforts at the international level to organise this growth began to take shape in the years following the publishing of the international performance assessment frameworks. At the OECD, the Health Care Quality Indicators (HCQI) Project comprised an expert group representing 23 member states and supported by The Commonwealth Fund to define a conceptual framework for dimensions of healthcare quality to be measured by national governments. Launched in 2001, the Project aimed to build on developments since the OECD first proposed its broader Health System Performance Assessment Framework. Kelley and Hurst (2006<sup>[2]</sup>), presenting on behalf of the OECD, outlined the sub-framework applicable to the “Quality” dimension of the Health System Performance Framework of concern to the HCQI project, see Figure A A.1.

Figure A A.1. Proposed conceptual framework for OECD’s HCQI project (2001)



Source: Kelley and Hurst (2006<sup>[2]</sup>) "Health Care Quality Indicators Project: Conceptual Framework Paper", <https://doi.org/10.1787/440134737301>.

Of note is the introduction of “healthcare needs” by the Project. At the intersection of the performance management and quality improvement agendas, the proposal for indicators to address both goals of the health system (including effectiveness, safety, and responsiveness/patient-centredness) as well as patient needs throughout the life-course (such as “staying healthy”, “getting better”, “living with illness or disability”, and “coping with end of life”) provided a novel integration of the patient perspective in health system planning.

Additionally, the HCQI Conceptual Framework presented a vision for the lifecycle of health system performance assessment and improvement. Beginning with health system design, policy and context at the foundation of health production, health system performance is presented as a subsequent tier, permitting an evaluation of health system design by balancing the tensions between healthcare quality, access to health services, and costs from health expenditure. Through its direct impacts on the health of



patients and indirect improvements to determinants of health outside the care system, health system performance is crystallised by the HCQI Conceptual Framework in its intermediary role between health system design and health outcomes.

By 2006, the OECD expanded on the details of the HCQI Conceptual Framework, proposing a variety of subdomains for consideration in the other stages of health production. In a publication for the *International Journal for Quality in Health Care*, Arah et al. (2006<sup>[6]</sup>) – representing the OECD and academic partners – added guiding questions for each domain of the HCQI Conceptual Framework, and further specified dimensions to the tiers of health system design and context, non-healthcare determinants of health, and health status.

While the OECD included only a select group of dimensions to be represented in the framework of the many explored in national performance assessment frameworks, the HCQI Conceptual Framework, and the wider quality agenda, provided a clearer picture of the role of health system performance in between the processes of health system design and the outcomes of health status.

### Practicing “performance”: Strengthening the link between indicators and health systems policy action (2015-16)

Following nearly a decade of healthcare quality indicator development in the multilateral, national government, and academic contexts, **the OECD Health System Performance Assessment Framework developed during the HCQI Project shifted its attention to the actionability of international comparisons of healthcare quality.** By 2015, the OECD Health Care Quality Indicators Expert Group, led by Carinci et al. (2015<sup>[3]</sup>), aimed to revise the HCQI components of the broad OECD framework to suit evolving policy needs and to validate the reliability of indicators as part of decision support tools.

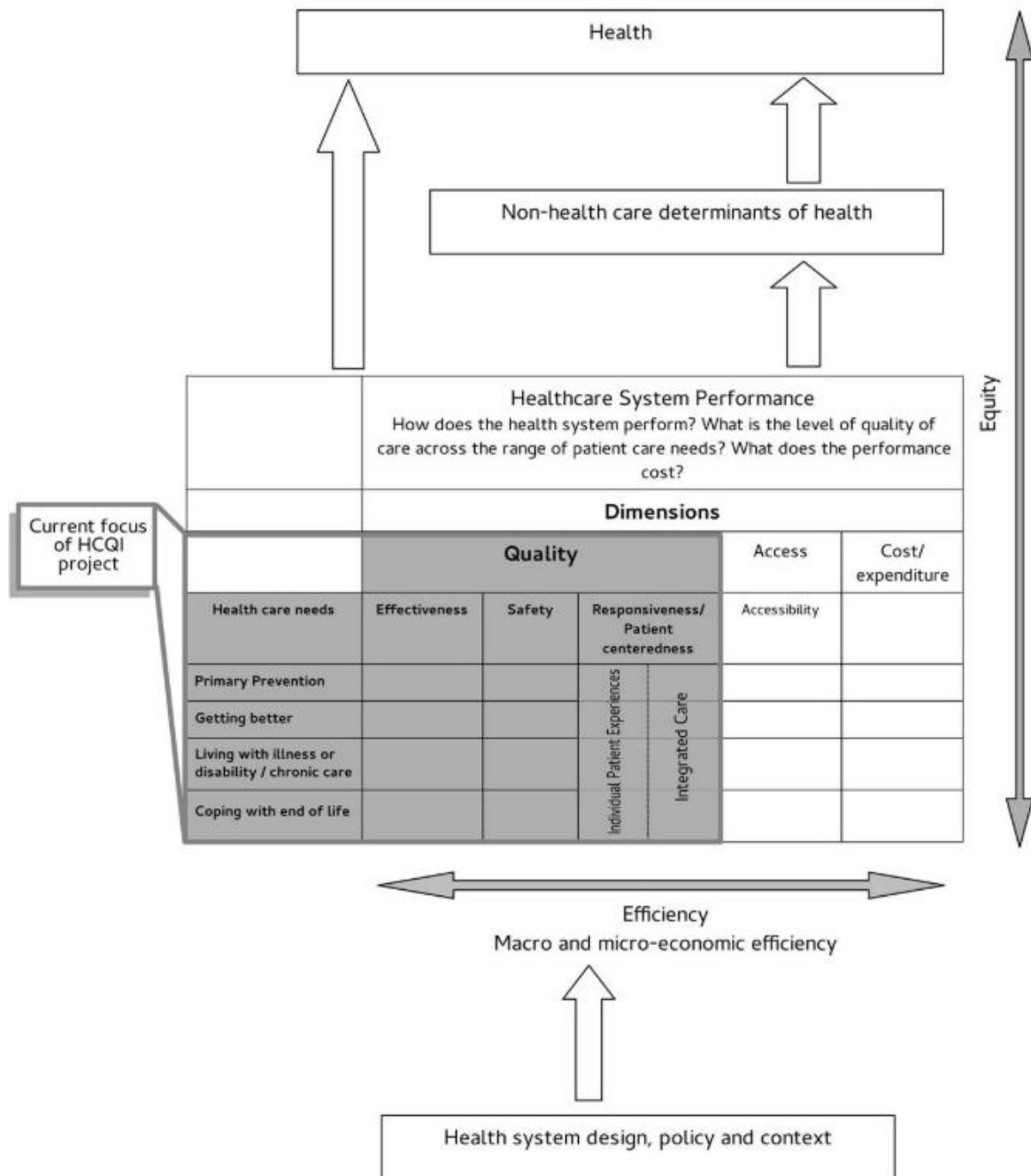
Through a modified Delphi approach and consensus meeting, Carinci et al. (2015<sup>[3]</sup>) applied a variety of criteria to score HCQI indicators for their effectiveness as part of healthcare quality improvement data collections and to identify gaps for further research and development.

The recommendations of the Delphi panel and consensus meeting identified revisions to the broader OECD conceptual framework, as well as a remapping of current indicators comprising the HCQI Project into new dimensions. Carinci et al. described the revised structure of the framework in an article published with the *International Journal for Quality in Health Care* as follows:

*“Minor changes to the original structure were agreed upon: change the wording of ‘staying healthy’ to ‘primary/secondary prevention’ to provide a clearer distinction with ‘living with illness and disability –chronic care’ [and] include the categories of ‘individual patient experiences’ and ‘integrated care’ under the theme of ‘responsiveness’, to pave the ground for future indicator development” (Carinci et al., 2015, p. 3<sup>[3]</sup>).*

The revised framework can be seen in Figure A.2. The results of the remapping exercise significantly reduced the number of HCQI indicators included in the HCQI Project’s data collection for the year 2015 and onwards. Although the OECD originally identified indicators in primary care, acute cardiac care, and mental health as key priorities in the 2005-06 HCQI documents, several of these indicators were slated for omission from future data collection in the exercise. Additionally, indicators centred on communicable diseases (such as indicators for coverage of the diphtheria/tetanus/pertussis (DTP), measles, hepatitis B, and influenza vaccinations in recommended populations) and cancer care (regarding mortality from breast cancer, cervical cancer, and colorectal cancer) were omitted from the regular HCQI data collection process.

Figure A A.2. Revised OECD framework for performance measurement



Source: Adapted from Carinci et al. (2015<sup>[3]</sup>), Towards actionable international comparisons of health system performance: Expert revision of the OECD framework and quality indicators, <http://dx.doi.org/10.1093/intqhc/mzv004>.

Despite the reduction in indicators, the exercise offered a clear evaluation of indicators as health system assessment tools, towards broader national efforts to address key condition-specific health burdens. With these validated indicators integrated into the OECD HCQI project, collaborative partnerships between multilateral organisations, national governments, academia, and civil society stakeholders became increasingly possible to firm up data collection efforts and support the translation of data into policy action.

## Rethinking “performance”: People-centredness, shocks and megatrends (2017-22)

The challenges facing health systems have continued to evolve. As member governments grapple with shifting health burdens amid demographic trends, changing political interests, and socio-economic and environmental concerns, the conceptualisation, measurement, and actionability of health system performance assessment continue to be evaluated.

**One key development has centred on the integration of communities served by health systems into performance assessment.** A novel framework introduced by Newton-Lewis et al. (2021<sup>[72]</sup>) aimed to characterise health systems as complex adaptive systems – systems with multiple actors organised independently yet collaboratively towards the production of individual and community health. While conventional health system performance assessment largely centres on the final component by viewing measurement as an isolated tool for generating policy action, the complex adaptive system conceptual framework instead promotes linkages between measurement and “enabling” directives like incentives and policy support to strengthen individuals and organisations to act in health systems. In the shift away from the directive approach in governing health systems, performance assessment is increasingly viewed as a tool to support measures carefully targeted within health systems for community-driven quality improvement in healthcare.

In the international policy space, performance assessment has also adjusted to reflect the needs of the people comprising and participating in health systems. At the OECD’s 2017 Health Ministerial Meeting, health ministers of the member states issued a clear mandate for the OECD to support the development of people-centred health systems across the Organisation. Despite efforts of health systems to increase healthcare quality towards improved health outcomes, health ministers noted persistent inequalities, a rise in chronic disease and growing socio-economic and environmental risk factors to health (OECD, 2017<sup>[14]</sup>). From the Ministerial meeting, three calls to action were issued in a joint statement: promoting high-value systems for all, adapting health systems to new technologies and innovation, and reorienting health systems to become more people-centred, while encouraging dialogue and international co-operation. **In response to this third call to action, the OECD put forward a People Centred Health Systems Framework in its publication *Health for the People, by the People: Building People-Centred Health Systems* in 2021.** As part of its framework and pursuant scorecard, indicators generated from OECD Health Statistics, the European Quality of Life Surveys, and the Commonwealth Fund International Health Policy Surveys were collated under five dimensions of people-centredness: “voice”, “choice”, “co-production”, “integration”, and “respectfulness” (OECD, 2021<sup>[4]</sup>).

To translate this framework into cross-country comparative indicators, the OECD launched the Patient-Reported Indicator Survey (PaRIS) initiative, a ground-breaking international survey comprised of Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs) aimed at measuring how health systems respond to patient needs (OECD, 2019<sup>[73]</sup>). While several PROMs and PREMs survey instruments had been previously developed and validated in clinical research settings and in use by some national governments, the goal to build capacity in people-centred measurement across 20 participating countries was a milestone development. This shift in characterizing performance as dependent on the patient experience promises to generate new insights in the practice of care alongside existing macroeconomic and microeconomic indicators.

In recent years health systems have also faced significant shocks. As they were dealing with rapid and successive waves of COVID-19 infections between 2020 and 2022, the mass disruption to supply chains and redirection of human and financial resources for emergency response stressed care pathways for chronic conditions in many countries. **During this time, the OECD developed a health systems resilience programme, outlined in the 2023 publication of *Ready for the Next Crisis? Investing in Health System Resilience*.** With major vulnerabilities identified in underprepared, understaffed, and

underinvested health systems across member states, the OECD recommended significant policy action to promote population health, workforce retention and recruitment, data collection and use, international co-operation, supply chain resilience, and governance and trust (OECD, 2023<sup>[5]</sup>). In addition to performance assessment strategies, the OECD cited the importance of preparedness through the use of frameworks for data-driven decision-making and co-ordination for effective responses during the disruption of a shock to health systems. In this context, building on the lessons of the pandemic and considering further shocks, the OECD Resilience Shock Cycle Framework served as the basis for the OECD analysis of health system resilience (OECD, 2023<sup>[5]</sup>).

As multiple crises increasingly compete for attention from health system stakeholders, several “megatrends” are also shaping the architecture of performance assessment. The OECD and its national and multilateral partners are centred on indicator development for mitigation and adaptation strategies. Amid climate change, the development of new data governance and co-operative structures as health systems digitalise, improvements in long-term care as populations age, and promoting gender-informed care to reduce gender-based inequalities in health outcomes.

In that note, the latest WHO Health System Performance Framework published in 2022, demonstrates this heightened role of whole of government and whole of society approaches in international performance assessment, drawing relationships between intersectoral and intersectoral actors across health system functions, intermediate objectives, and final goals (Papanicolas et al., 2022<sup>[12]</sup>).

Another widely used framework in the area of public health is the Dahlgren-Whitehead model, also known as the rainbow model (Dahlgren and Whitehead, 2021<sup>[11]</sup>). An important difference between this framework and those discussed above is that this model is not a health system framework but a framework on the determinants of health. This model provides a broader picture and reminds us that although health is the main outcome of most health systems frameworks, health systems as a whole are among a range of other factors that affect people’s health.

# Notes

<sup>1</sup> This indicator could also be considered among the environment and health indicators currently collected by the OECD, some of which are presented in Table 3.2. We defer from doing so here given its particular focus on fine particulate matter (PM 2.5) a major health risk related to the broader concept of air pollution.

<sup>2</sup> The PaRIS International Survey of People Living with Chronic Conditions is the first international survey of patient-reported health outcomes and experiences of adults living with one or more chronic conditions who are managed in primary or other ambulatory care settings. It is the first of its kind to assess the outcomes and experiences of patients managed in primary care across countries.

**OECD Health Policy Studies**

# **Rethinking Health System Performance Assessment**

## **A RENEWED FRAMEWORK**

Health systems are under intense pressure to adapt to evolving needs and megatrends driven by population ageing, digitalisation, and climate change. They also need to be better prepared to withstand sudden, large-scale shocks such as pandemics, financial crises, natural disasters, or cyberattacks. This shifting policy context and emerging challenges called for a revision in how OECD countries assess health system performance, to help ensure that health systems meet people's health needs and preferences while providing quality healthcare for all. This document presents the OECD's renewed health system performance assessment framework. It incorporates new performance dimensions, notably people-centredness, resilience, and environmental sustainability, and places increased emphasis on addressing inequalities, including those related to gender. This framework expands on existing OECD efforts in these domains and integrates the most recent advancements in health system performance assessment. By offering common definitions and fostering a shared understanding among policy makers, stakeholders and organisations, the updated framework will enhance international collaboration. Furthermore, it lays the foundation for developing future indicators, facilitating data collection, policy analysis, and the integration of knowledge.



**PRINT ISBN 978-92-64-83500-9**  
**PDF ISBN 978-92-64-65339-9**



9 789264 835009