Health Foundation long read (PDF version)

01 September 2023

The complexities of using international comparisons to guide NHS reform

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Contents

Key points

- Many of the challenges facing the NHS are not unique to the UK, creating opportunities to learn from health systems in other countries. But drawing meaningful insights from international comparisons of health system performance requires an appreciation of the limitations and complexities involved.
- Health systems have limited influence over the factors that affect needs for health care. Decisions that shape the social and economic conditions that determine a population's health and health inequalities are taken outside the health system – but these factors are not fully accounted for in international comparisons.
- How well health systems perform is about more than money. But differences in resources – including funding, health workers and equipment – is still important context for understanding performance.
- There are few shortcuts to a systematic and balanced assessment of health system performance. And, while we now have more and better data to support international comparisons, the openly available measures do not offer a balanced picture of what health care services are expected to deliver, with key gaps on primary care, long-term conditions, mental health, and other areas.
- International comparisons of health system performance can highlight where there are differences between countries, but corelation is not causation. Without comparative information about policies and context to guide priorities for reform, copycat changes could result in failed reforms and wasted effort.

1. Introduction

How the UK's national health service compares with health care in other countries is a recurring theme in policy debates. While public support for the NHS's founding principles is rock solid, satisfaction has dropped to a 40-year low – fuelling calls for fundamental reform and sparking renewed interest in how health care is organised elsewhere.

International comparisons of health system performance can help us to understand how the NHS compares and identify opportunities for improvement. Some of the reasons for this include:

- Many of the problems facing the health service are common to other countries. The needs of ageing populations, the growth in long-term conditions, shortages of health care workers, addressing inequalities in health and access to health care, getting to grips with data and technology, containing rising costs and recovering from the pandemic to name just some.
- The UK is not alone in seeking policy solutions to these problems. Health system reform is near continuous with different solutions to similar problems often introduced in parallel, creating opportunities to share learning between countries and take advantage of natural experiments.
- The optimal way of organising a health system is yet to be found – no type of system performs systematically better than others, so everyone has something to learn and to teach.

For this reason, the Health Foundation has a range of work to improve our understanding of international health systems and what the UK can learn from policy and practices elsewhere. Upcoming analysis aims to explain how other health systems raise revenue, examine how the UK compares on quality of care, resources and efficiency, as well as work with the OECD to map health system characteristics and compare performance between different types of systems. This is in addition to our ongoing partnership with the European Observatory on Health Systems and Policies, our role in the Sciana health leaders network, and working with the Commonwealth Fund to support Harkness Fellowships, international health policy surveys and the ICCONIC collaborative.

Comparisons of health system performance rely on access to high-quality data. With more open access data more easily available than ever, allowing anyone with a spreadsheet and an internet connection can find, download and analyse routine performance statistics to compare different health systems. But comparing performance across a diverse range of countries remains complex, with various pitfalls not always fully appreciated. Comparisons can be easily misinterpreted or misused, leading to misleading recommendations for policy.

This long read looks at how international comparisons can be best used to inform policy debates in the UK – drawing on literature and insights from experts and international bodies involved in collecting and comparing data across countries. We highlight six points for people involved in making, influencing,

analysing or commenting on health policy to consider when using international comparisons of health system performance.

2. Health system boundaries extend far beyond health care services

Discussion of how the UK's health system compares tends to focus on the NHS. But in many countries there is no direct equivalent.

The vast majority of the UK's formal health care services are funded by government from general taxation, with hospitals primarily run by state-owned providers and a large degree of national planning and coordination. Several countries have health systems that share at least some of these features. But others differ more fundamentally – such as those in which:

- health care is primarily funded through private or social health insurance – though such systems increasingly rely on government spending
- the private and/or voluntary sectors play a more extensive role in providing health care services
- access to health care is shaped more by market forces than by national or regional planning – with a far more limited role for the state or the public sector.

A like-for-like comparison of performance therefore needs to focus on what all or most health systems actually do – rather than who does what. In practice, the need for a consistent definition means health systems tend to be defined far more widely than simply the nearest equivalent of the NHS or even than health care more generally. The World Health Organization, for example, defines health systems as 'all organisations, people and actions whose primary intent is to promote, restore or maintain health.'

How the health system is defined matters, not least because many of the metrics used to compare how different systems perform are designed to reflect a wider set of health-related activities than formal health care services. For example, international data on health expenditure include private spending on health care and a substantial element of what we generally consider to be social care, while also excluding some aspects of the NHS budget such as capital spending. When using international comparisons to guide policy decisions on NHS reform, we need to understand exactly what is being compared.

3. Social and economic context matters

All health systems operate in their own national context – a combination of social and economic circumstances over which the health system (even broadly defined) has limited influence, but that strongly influence the population's health and needs for health care.

Health is not solely the product of health care nor the wider health system. Access to health care has only a limited impact on a population's health, with the majority determined by wider social and economic conditions. These, in turn, are shaped by policy choices on education, housing, employment and other areas beyond health care. The wider determinants also drive stark inequalities in health within countries, as well as differences between them. For example, recent research found some European countries have significantly better cancer mortality than others, but in every country mortality is worse among people from more deprived backgrounds – linked to lower levels of education and higher rates of smoking. And, in terms of income distribution, some countries are much less equal than others.

Global patterns of death and disability have steadily shifted over time, with sustained reductions in mortality from injury and communicable diseases. Consequently, an increasing proportion of the burden on modern health systems is from long-term conditions – diseases such as asthma and diabetes that can be managed with treatment and support but generally cannot be cured. However, the overall prevalence of different long-term conditions varies between countries, as does the proportion of people living with multiple conditions who tend to have lower quality of life and make more use of health care services. Within countries, neither is distributed equally: people in more deprived areas tend to live with more chronic diseases and develop those conditions earlier in life.

Even among neighbouring countries there are also substantial differences in the prevalence of the risk factors that increase the chances of ill health – such as alcohol consumption. Some risks are inherent to the population, such as age, sex and genetics, and are essentially fixed. But individual and population exposure to other risks, such as alcohol and tobacco use, diet or physical inactivity, are powerfully shaped by social and economic conditions and the environments in which people live.

Everything that affects health has implications for our need for health care. Health systems should promote good health and provide equitable access to health care, but have limited influence over the wider factors that affect health care needs. The health of a population is primarily determined by social and economic conditions, which are largely shaped by government, commercial influences and other sectors of society.

International comparisons sometimes account for some of these contextual differences. For example, the OECD often publishes health system data adjusted for age because, while all high-income countries have ageing populations, some are considerably older than others. However, the extent to which comparisons can adjust for the many contextual factors shaping the demands on each health system is currently limited.

4. Performance should not be assessed independently of resources

With population health and needs for health care shaped by such a wide range of determinants, health system performance is clearly about more than money. But the resources available to the health system – including funding, health workers and equipment – still provides important context for understanding performance.

The quantity and type of resources available to health systems varies considerably, even among high-income countries. Among the advanced economies of the G7 in 2019, for example, public spending on health ranged from £2,023 per person in Italy to £6,783 in the US adjusted for differences in purchasing power – a more than threefold difference.

Understanding how efficiently health systems turn inputs (eg diagnostic equipment) into outputs (eg uptake of cancer screening) and better outcomes (eg survival rates) is also important, especially in the context of meeting the increasing needs of ageing populations while constraining cost growth. Part of the reason for comparing health systems is to understand whether differences in how health systems are organised is linked to differences in performance. Does higher spending and more resources always lead to more health care activity and better health outcomes – and, if not, what can be learnt from the health systems that do this well?

Comparisons of resources tend to emphasise current levels of day-to-day health spending, often expressed as a percentage of GDP, but this offers a limited picture. While spend as a share of GDP is indicative of the priority countries attach to health, it reveals as much about a country's economy as it does about its health system. For example, in the year before the COVID-19 pandemic, the UK's public health care spending was 8.0% of GDP – well above the EU14 average of 7.2%. But the actual amount spent per person in the UK (£2,647) was £261 less than in the EU14 (£2,908) because the UK's GDP per capita is smaller than across the EU14, so even a larger percentage of a smaller economy resulted in less spending.

A focus on current spending also risks overlooking the cumulative impact of past spending patterns. Recent Health Foundation analysis found that while the UK was one of the highest spending countries in the OECD in 2020 and 2021, overall UK spend per person in the decade before the pandemic (2010–2019) averaged £40bn less per year than the average across the EU14. The impact of sustained underinvestment may take time to become apparent, but research suggests long-term spending constraints are likely to affect health system performance. Ultimately, we get what we pay for. Equally, a substantial and sustained increase in spending might also take time to result in measurable changes to performance. For example, the UK's relatively high level of spending in 2021 will have had no impact on the most recent international data on 5-year cancer survival rates, which concerns patients diagnosed between 2010 and 2014.

Other resources matter too. The shortage of health workers is global, but there is considerable variation between countries in the number and type of health workers available to different health systems – including highly qualified staff groups such as doctors, dentists, nurses, pharmacists and physiotherapists. Health systems also rely on having sufficient medical supplies, diagnostic machines and facilities to meet the needs of the population.

While health systems may have some influence over the quantity and mix of resources available for delivering health care, all operate within a wider set of political, economic, social and legal constraints.

5. There are few shortcuts to understanding health system performance

Comparing health systems is further complicated by the lack of a single, definitive measure of performance. Measures of overall health outcomes, such as life expectancy, are sometimes offered as the final word on health care effectiveness and system performance. However, as described above, health care has a relatively weak and indirect relationship with overall health outcomes.

Even measures that seek to isolate the impact of health care on health, such as deaths that should mainly by avoided through timely and effective health care, are not intended to provide definitive evidence of the comparative effectiveness of care. Such measures may have greater validity in tracking changes over time than comparing countries directly. Various frameworks for analysing performance suggest health systems should have a mix of overall objectives (such as those in Table 1). Overall health outcomes are not measures of how well all of those objectives are being met.

Table 1 Health system objectives

Health system goal	**Definition**
Health improvement	Improvement of the health of the population, including different parts of the life cycle, morbidity and premature mortality
People centredness	Approach to care organised around the comprehensive needs of people rather than individual diseases, and with respect to social preferences
Financial protection	Safeguarding people against the financial hardship associated with paying for health services
Efficiency of the health system	Making the most of the available resources to deliver health improvement, people centredness and financial protection
Equity of the health system	The distribution of health improvement, people centredness and financial protection across the population as a whole
Summarised from: Papanicolas I, Rajan D, Karanikolos M, Soucat A, Figueras J. Health system performance assessment: a framework for policy analysis. European Observatory on Health Systems and Policies; 2022 (https://eurohealthobservatory.who.int/publications/i/health-system-performance-assessment-a-framework-for-policy-analysis).	

Each of these overall objectives is a domain in itself, with multiple measures needed to understand the many different aspects of performance within them. For example, comparing how well people are protected from the financial risks of ill-health would find that universal health coverage has now been achieved by most high-income countries, with the notable exception of the US. But stopping there would overlook important differences in the range of services covered, the charges paid at point of use and the proportion of households that incur catastrophic costs. Equally, an overall national measure is likely to mask substantial variations in financial protection between demographic groups or in different localities.

While health system performance would ideally be judged on outcomes rather than inputs, activities or processes, outcome metrics (such as reduced mortality or improved quality of life) are often difficult to measure, slow to change and may be affected by a range of other factors. So we also need to look at performance against a range of 'intermediate objectives' – essential steps towards achieving the overall objectives that are important in their own right and help us to understand what contributes to better or worse performance. Such measures include the quality of clinical care – measures of access, safety, effectiveness, experience, equity and efficiency at different levels of the health system.

As no health system performs universally well, comparisons of health system performance should look across and within a range of conditions and services. To support this, various frameworks have been developed to promote a systematic and balanced approach to analysing performance – such as the OECD's HealthCare Quality and Outcomes Indicators and the WHO's Health System Performance Assessment. While applying these frameworks may be time consuming, especially in looking across multiple countries, excluding important aspects of performance without clear justification risks a skewed and potentially misleading assessment.

While various efforts have been made to combine multiple measures of health system performance into an overall summary measure or league tables, such approaches have significant limitations. Decisions about what to include or exclude in the rating and whether some indicators should be considered as more important than others are inherently subjective, with no consensus on how data should be combined into an overall measure. Even within the same health system, the various ways of calculating an overall rating for individual hospitals may produce very different results. Summary ratings therefore tend to mask the complexity of health system performance and conceal far more than they reveal.

6. Important gaps exist in the data available for international comparisons

An enormous amount of international data are now openly available for comparing health systems in different countries. The work of the WHO, OECD, Commonwealth Fund and others has enabled comparisons to move beyond spending, staffing and structures towards measures of access, quality and experience.

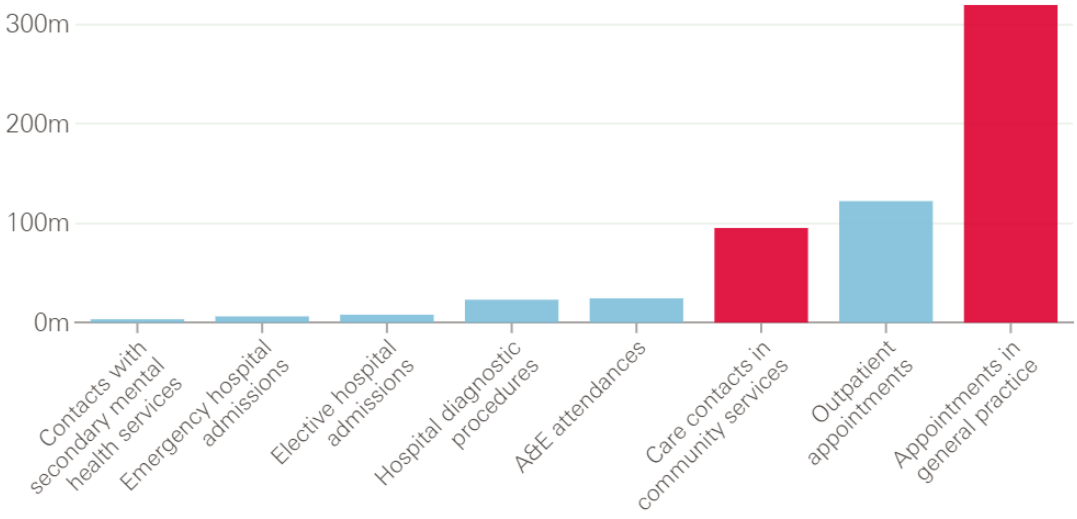
However, more and better data do not equate to complete data. Nor do the available measures necessarily offer a balanced reflection of what health and health care services are expected to deliver.

Health care is as concerned with improving quality of life, as with extending how long we live. However, the relative ease of counting common, unambiguous events (eg deaths), where there is also a high degree of consensus between countries in terms of measurement, means we have far more international data on mortality and causes of death. This leaves a critical gap on the impact of long-term conditions and the growing numbers of people with multiple health conditions, which are among the biggest challenges facing the NHS. A new generation of indicators is being developed to redress this balance and should be a valuable source of insight.

The OECD's Health Care Quality Indicators focus on acute care and what happens in hospitals – including several of the primary care indicators, which use hospital admissions as a proxy for the quality of primary care. What happens in acute hospitals is relatively easy to count and, with data often required to support payment systems, is available across a wide range of countries. However, the vast majority of health care activity, at least in the UK, happens in primary and community-based services.

The vast majority of health care activity in England happens in primary and community-based services

Reported activity in different services (millions), England, 2021/22



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Source: NHS Digital, Hospital Episode Statistics (for emergency and elective hospital admissions, A&E attendances and outpatient appointments); NHS Digital, Community Services Statistics; NHS Digital, Mental Health Services Monthly Statistics; NHS England, Monthly Diagnostics Data; NHS Digital, Appointments in General Practice

1 in 4 adults and 1 in 10 children experience mental illness, and there are growing concerns about the rising prevalence of mental health problems in the UK. But there are far less international data on mental health than physical health conditions. OECD data on the quality of mental health care is limited to rates of suicide and excess mortality among patients diagnosed with a mental health disorder. The limited scope for comparing mental health care is further constrained by how few countries report these indicators to the OECD, which recently called for 'bold action' on mental health in the wake of COVID-19.

Some aspects of health care performance that matter to patients and the public are hard to measure, not measured in all countries or not measured at all. For example, waits for hospital treatment is one of the public's top priorities for the NHS. While the UK devotes considerable effort to measuring waiting times and lists, only a few other countries do similarly and so the scope for comparisons of this aspect of performance is limited.

This is not intended as a criticism of the organisations working to collect, analyse and continuously improve the data. But it is an important limitation to be aware of when interpreting the available data.

7. International comparisons of health system performance often raise more questions than answers

Identifying differences in performance is an essential step towards improving health systems, but cross-country snapshots rarely offer robust evidence to explain why differences exist.

Some features of health systems are difficult to measure objectively, such as contextual and institutional factors. Others may appear more amenable to observation and measurement, such as how the system is structured, how health care is financed and the quantity of funding. But even these characteristics are complex, operate within specific contexts and are liable to change over time. For example, the way social insurance systems raise revenue varies considerably between countries and has evolved to place greater reliance on tax funding.

Anyone looking to use international comparisons to advocate for radical changes to the health system should remember that correlation is not causation. If a health system's stronger performance is partly or wholly due to other less obvious features, or are enabled by a set of wider factors, making copycat changes elsewhere could well result in failed reforms and wasted effort.

In discussion of international comparisons, health systems are sometimes grouped together into different types, often based on sharing similar funding mechanisms or historical origins. As well as being convenient, the aim is to understand whether certain types of health systems generally perform better than others. However, organising countries into meaningful clusters has proved difficult – while attributing differences in performance to particular funding models or organisational approaches has been even harder. Successive studies have found no clear evidence of systematic differences in performance between similar health systems or those with comparable funding models. Developing a rounded understanding of why one health system performs better or worse than another in certain areas may need more focused research and analysis (such as the International Cancer Benchmarking Partnership described in Box 1).

Box 1: International Cancer Benchmarking Partnership

The International Cancer Benchmarking Partnership (ICBP) was created in 2009 to produce research comparing cancer survival, incidence and mortality across high-income countries with comparable registry-based data and identify factors driving differences to improve patient care. The partnership covers 22 jurisdictions across eight countries.

A range of data sources and multiple research disciplines are used to examine areas such as public awareness, the role of primary care in cancer diagnosis, patient pathways and the organisation and structure of health systems. The partnership was initiated by the Department of Health and Social Care in the UK, where survival rates from some cancers are consistently lower than other comparable countries – possibly due to later diagnosis.

Research, including that produced by the ICBP, has examined whether patients in the UK present later than elsewhere, are referred late by GPs or are not promptly diagnosed in secondary care. Despite the impact of the partnership's early research – and the practical benefits of having more timely, in-depth and policy relevant analysis – the model of the ICBP has not yet been widely replicated for other conditions.

Much of the available data used in international comparisons only offer a glimpse of how well parts of the health system perform for people with a particular condition or who use a specific service. As patients with complex needs may require services from across many settings, being able to compare the quality of the health care delivered across entire patient care pathways is becoming increasingly important. International collaborations such as ICCONIC have advanced the use of linking patient-level data across clinical pathways to provide more in-depth insights than the existing aggregate measures. However, these are constrained by major gaps in the data – limiting comparisons of pathways that span primary, community and social care to what happens in acute settings.

8. Conclusion

Identifying International comparisons can be a valuable source of information about the relative strengths and weaknesses of different health systems. Advances in analytical techniques promise to offer increasingly robust and detailed insights into health system performance, such as by comparing the experiences across pathways of care for high-need, high-cost patients. Few other methods are able to shine a spotlight on the relative performance of health systems, and the quality and quantity of the open data available for use in comparisons are improving all the time.

However, comparisons of health system performance across different countries remain challenging and time consuming to do well. Comparisons are still limited by gaps and biases in the available data, the difficulties of isolating the health system's contribution to the population's health from the impact of other factors and accounting for considerable differences in resources. And, even as data on health systems continue to get better, combining comparisons of performance with insights into policy and context is essential to understanding what causes performance differences and priorities for health system reform.

Being exposed to new policy ideas, alternative ways of achieving similar goals and understanding what other countries do well can potentially add substantial value to health service reform efforts in the UK. But a better appreciation of the many limitations, complexities and pitfalls around international comparisons is required to truly realise that value.

9. Supporting information

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This long read was published originally on 01 September 2023 at the following address: https://www.health.org.uk/publications/long-reads/the-complexities-of-using-international-comparisons-to-guide-nhs-reform