The Kings Fund

Ideas that change health and care

How does the NHS compare to the health care systems of other countries?

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About this report

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Contents

Key messages

- The NHS, which sits at the core of the UK health system, is neither a leader nor a laggard when compared to the health systems of 18 similar countries.
- The UK has below-average health spending per person compared to other countries. Health spending as a share of gross domestic product (GDP) in the UK was just below average in 2019 but rose to just above average in 2020 – the first year of the Covid-19 pandemic.
- The UK lags behind other countries in its capital investment, and has substantially fewer key physical resources than many of its peers, including computerised tomography (CT) and magnetic resonance imaging (MRI) scanners and hospital beds.
- The UK has strikingly low levels of key clinical staff, including doctors and nurses, and is heavily reliant on foreign-trained staff. Remuneration for some clinical groups appears to be less competitive in the UK than in peer countries.
- The UK health system performs relatively well on some measures of efficiency, such as the rate at which cheaper generic medicines are prescribed. The UK also spends a relatively low share of its health budget on administration.
- Waiting times in the UK for common procedures like knee, hip and cataract operations were broadly 'middle of the pack' compared to peer countries in 2019 – before the Covid-19 pandemic. But the fall in activity for these procedures in the first year of the pandemic was dramatically sharper in the UK than in peer countries.
- The UK performs substantially less well than its peers – and is more of a laggard than a leader – on many measures of health status and health care outcomes. These include health outcomes that can be heavily affected by the actions of a health system (such as surviving cancer), and outcomes such as life expectancy, which are significantly affected by factors beyond the direct control of any health system.

- People in the UK receive relatively good protection from the potentially catastrophic costs of ill health. But financial protection is weaker for some services such as dental care, and there is growing concern that people in the UK with lower disposable incomes may be forced to choose between funding their own care or enduring longer waits for treatment.
- There is little evidence that one individual country or model of health care system performs consistently better than another across a range of performance indicators. Countries provide better health care for their populations predominantly by reforming their existing model of health care rather than by adopting an alternative model.

1 Introduction

Birthdays are a moment for reflection. So, as the NHS approaches the 75th anniversary of its founding, what would it see if it looked in a mirror? Sadly, it would see a service that has seen better days.

A health service that some describe as being in 'perma-crisis' is now experiencing one of its most challenged periods in living memory (d'Ancona 2023). Long waiting times for care dominate the newspaper headlines; care scandals continue to blight the service; satisfaction with the NHS has plunged to a 40-year low (Morris *et al* 2023); there has been widespread industrial action over pay and working conditions by clinicians; and if you walked into some older NHS hospitals, you would be greeted by the sight of steel props that are literally stopping the roof falling in (Hakimian 2023).

Many of these underlying pressures on the NHS pre-date the Covid-19 pandemic. But the economic, physical and mental scars of the pandemic have clearly contributed to a toxic cocktail of pressures that a health service would never wish to experience again and which will require a herculean effort to recover from.

If the NHS is in a state of perma-crisis, then it has also been caught in a maelstrom of 'perma-reform'. The NHS is now gingerly emerging from nearly 15 years of particularly intense changes to how its services are planned and delivered, which has seen collaboration replacing competition as the organising principle of health care in England.

Due to the current state of the NHS and the future pressures it will face, it is perhaps inevitable that some commentators have asked whether, after 75 years, the NHS has outlived its usefulness, and whether 'the NHS model' – which offers a comprehensive range of services that are taxpayer-funded and free at the point of use for a wide group of people – is sustainable.

Enter – international comparisons, which can offer some important insights on these questions. For a large part of its history, the NHS has been compared to the health systems of other comparable countries. This work has helped calibrate

judgements about how 'good' the NHS is (Dayan *et al* 2018), and generated ideas for how services could be improved. As Britnell and Edwards (2014) note, every health system has something to teach and something to learn.

The results of this international cross-pollination of ideas can be seen in different areas of the UK. For example, West Suffolk has trialled nursing care models originally pioneered by social enterprises in the Netherlands (Maybin 2019). Cardiff and the Vale of Glamorgan has established a learning partnership with the Canterbury Health Board in New Zealand (Collins 2021). And the health care reforms pursued by the NHS in England over the past seven years drew inspiration from the accountable care movement in the United States and parts of the Spanish health care system (Shortell *et al* 2014).

Some policy-makers are now looking at other countries for more fundamental ways to change 'the NHS model' in England. These include proposals by the former Secretary of State for Health and Social Care, Sajid Javid, to introduce charges for some GP and hospital appointments (Smyth 2023) – a common practice in some countries, including France and Sweden. Other senior politicians have called for the UK to adopt social health insurance – used in Germany and Austria, for example – as an alternative financing model for the NHS (Davis 2022).

But health systems are closely embedded in the society, culture and history of their home countries. So, there is clearly a danger in thinking of health systems as mechanical constructs that can be broken down, exported and then reassembled in another country. For example, the growth of voluntary health insurance in the United States was at least partly turbo-charged after World War II because insurance contributions were not classed as wages, and could become a competitive employee benefit at a time of post-war wage controls (Toth 2021). And no doubt some of the international experts we spoke to as part of this research would be puzzled by the UK's relationship with its health service – including the NHS's regular appearance at the top of 'things that make us proud to be British' and even our own anthropomorphising (when writing this report) of the NHS as something that could have a birthday or regard its reflection in a mirror.

It is clear, however, that changing how health care is financed in the UK involves a different magnitude of change to establishing learning partnerships with New Zealand and adopting Dutch approaches to flattened nursing management

hierarchies. Any discussion of these types of radical changes would benefit from a greater understanding of how different health systems are organised and how they are performing.

So this seems a good time to revisit the task of comparing the NHS to the health systems of other countries. Our report aims to add to the existing wealth of international comparisons and health system rankings by: assessing the current performance of health care systems; bringing together datasets from different sources that are normally presented separately; and supplementing quantitative performance analyses with the insights of international health policy experts we spoke to as part of the research.

We hope this report provides a comprehensive and balanced assessment of where the NHS performs well and where it could do better. As we get older, we should never pass up an opportunity to learn. And you only turn 75 once.

2 Our research approach

This report draws on desk-based research and a series of interviews.

We conducted a non-systematic literature review into previous attempts to compare the health care systems of a range of similar countries. We also collated quantitative data on health system characteristics and performance from data sources, including the Organisation for Economic Co-operation and Development (OECD), the Global Burden of Disease, the World Bank, the World Health Organization (WHO), Ipsos, The Commonwealth Fund and others.

This report relies particularly heavily on OECD data and the comparative approach developed by Dayan *et al* (2018). We are grateful for the OECD's work in standardising, collating and analysing information on health systems.

We conducted semi-structured interviews with three academic experts knowledgeable on how to compare health care systems, and with two other experts who each had experience and knowledge of both the UK NHS and their own health care system; these experts were selected, through personal knowledge of the author, from the health systems of Germany and Singapore.

We selected these two countries because they offer multiple contrasts with the UK in how health care is financed and organised. We do not claim that two individuals are a representative sample of a combined population of more than 80 million people. Nor can their views represent the full breadth of the opinions held by leaders in their domestic health care systems. But their first-hand accounts still provide valuable insights that help to contextualise the performance of their health care systems.

All the experts participated in the research on the basis that their views would be kept anonymous to give them the freedom to be open and honest – especially as most of the experts are still connected with the UK health system in some way today. We are grateful for the time and expertise they shared with us.

The remainder of this report is structured to answer four key questions.

- Why should we compare the NHS to the health systems of other countries?
- How should the NHS be compared? What methodological considerations are important to bear in mind when making such comparisons?
- How does the NHS compare on a broad range of measures?
- What are the implications of this analysis for politicians, policy-makers and NHS leaders?

3 Why make comparisons?

All health care systems are different. But they often face common challenges and have similar goals (Papanicolas *et al* 2019). Comparing how systems are tackling these challenges can be a powerful tool for learning and improvement.

But it is also fraught with risk.

In this section we begin by discussing four reasons why international comparisons of health care systems should be treated with caution, before moving on to argue why these comparisons are still worth pursuing.

Aggregation

Data used in international comparisons is more commonly available for the UK as a whole rather than the four constituent countries of England, Scotland, Wales and Northern Ireland. So, an aggregated UK figure underplays the substantial differences in how the health system in each of the four home nations operates – from health spending per capita to commissioning structures to charges for prescriptions and hospital car parking. However, none of these differences alter the fact that the health service in the UK is fundamentally tax-funded and largely free at the point of use.

There are also geographical differences within other countries' health care systems. For example, in Australia, regional state governments have such a large role in determining health care policy that some have argued that 'Australia's health system may be more accurately described as various connected health systems, rather than one unified system' (Australian Institute of Health and Welfare 2018). So, in making international comparisons, we are often not comparing one uniform entity (ie, the UK health system) with another uniform entity (ie, the health system of another country).

As far as possible, international data also tries to capture the resources and performance of a country's total health system – which, in the UK, will include services provided by non-NHS bodies (such as the private or independent sector).

Because of its size, the English NHS will clearly account for a dominant share of the overall performance of the UK health system. But it is important to remember that most international data reflects the UK health care system as a whole and not just the English NHS.

Many health systems across the world are focusing on reducing health inequalities – that is, the unfair and avoidable differences in health status and access across different population groups. These efforts have gained new prominence in the wake of the Covid-19 pandemic, which exacerbated health inequalities in many countries (OECD 2023b). Given that international data is aggregated across different population groups, we may have a sense of how the views, experiences and outcomes of health care for an 'average UK person' compare to those of an 'average French person'– but we have relatively little information on the variation in experiences within each country.

So then, when we compare different countries based on aggregate data, we are potentially understating the meaningful variation that may exist within a country. Part of the answer to this problem is to use more detailed data that compares different population groups or services or geographical areas within countries.

For example, Papanicolas *et al* (2021) have assessed the use of health care services across 11 countries for people with high need and high costs of health care – including older frail adults with a hip fracture and other conditions such as diabetes. By linking data for these individuals across different care settings, other researchers have been able to identify where higher health care costs in a given country could be driven by (for example) patients using more services or receiving follow-up care in more expensive specialist clinics rather than in primary care settings.

Differing availability and interpretation of data

There has been considerable investment in increasing the amount of health care data that is collected from different countries, and harmonising how that data is collected and reported. But substantial data gaps remain.

Many performance measures are still heavily focused on episodes of care delivered in hospital settings, rather than on services delivered in community settings such as general practice and district nursing. And collection of data on some key areas

of interest among policy-makers – such as how different countries are adopting and using digital technology in health care planning and delivery – is still nascent at best.

Even where performance measures are available across a wide range of countries, information may be systematically missing for some important sectors of the health service. For example, the numbers of clinical staff and medical imaging equipment are a key indicator of health system resourcing across countries. But data on these measures for some UK countries does not always include staff and facilities in the private sector.

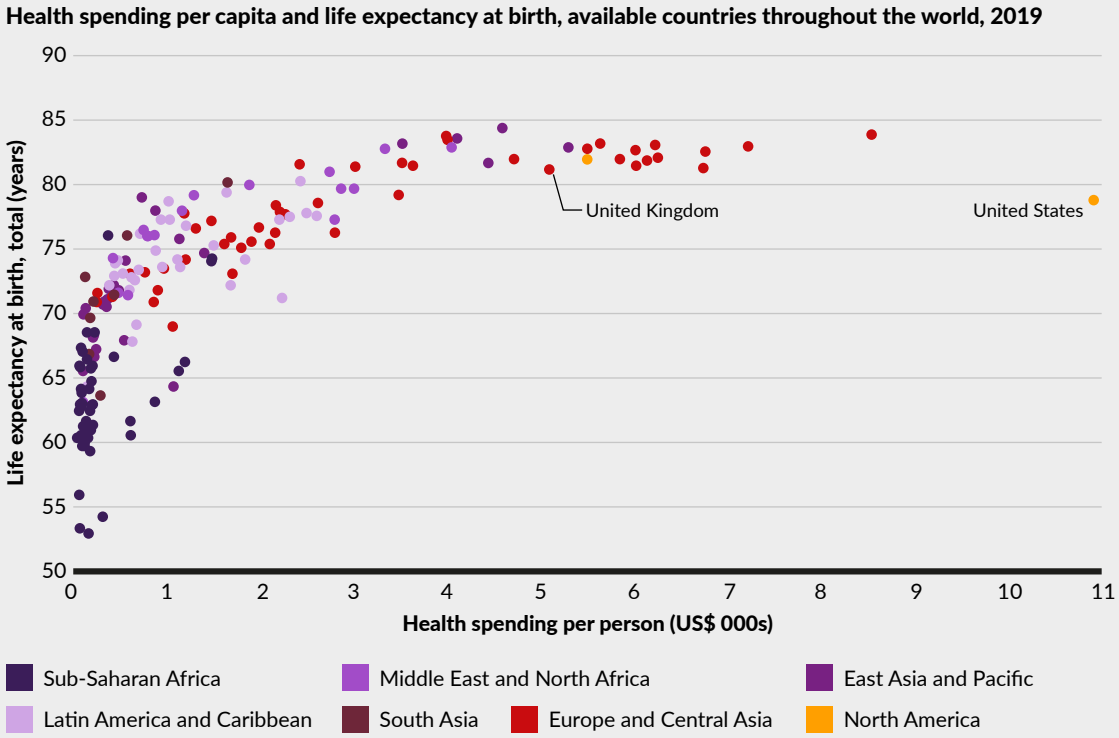
A separate but related problem is where data is broadly available but only on a differing basis across countries. Differences in coding practice – such as the recording of perinatal mortality (Papanicolas and Cylus 2015) or hospital admissions for diabetes (**OECD 2021**) – can also differ substantially across countries and account for apparent differences in mortality and morbidity.

Attribution and causality

Even if you are not attempting to create an explicit ranking or league table of health care systems, the act of comparison clearly involves forming implicit judgements about how health systems perform. It is important that these judgements reflect what a health system is trying to achieve and how well it achieves those goals, rather than wider factors that are beyond its control.

One of the most frequently used charts in comparative health policy (*see* Figure 1) is a good example of this issue. Alongside an association between higher health spending and higher life expectancy for lower-income countries in the Middle East and sub-Saharan and North Africa, one of the things that leaps out is the outlying position of the United States – which spends more on health care than other countries but gets a 'meagre return on its investment' because its citizens do not live as long (**Cohen 2020**). However, these associations should be made with some caution.

Figure 1 Higher health spending is often associated with higher life expectancy



Source: World Bank 2023

Health spending is per capita, converted into a common currency (US dollars (US$s)) and adjusted to take account of the difference in purchasing power of different currencies (expressed in US$s at purchasing power parity (PPP). Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life

A wide body of evidence demonstrates that the factors that promote health and wellbeing and longevity can extend far beyond the actions of a health care system (Raleigh 2022). For example, healthier lifestyles, wider social determinants, primary education coverage and income levels all make critical contributions to delivering gains in life expectancy. These factors can certainly be influenced by a health system but can also be heavily affected by factors that fall more into the macro-economic, political, legislative and wider cultural domains. To give an example: two countries could have similar levels of health spending, but see different health outcomes if they take very different regulatory approaches to promoting healthier lifestyles (eg, banning smoking in public places or increasing taxes for tobacco or high-sugar-content products, for example).

There *is* data available that more closely reflects the actions of a health system – such as amenable mortality from conditions where death would be avoidable with timely and effective health care. But even plotting that data against health spending can be misleading, as a health system uses its financing and resources on services that might enhance patient experience and care (legitimate goals) without directly influencing amenable mortality.

These caveats do not absolve health systems of their responsibility to citizens. Health systems can, of course, improve our health by providing direct treatment when we are ill and by providing non-medical guidance and support to promote healthier living (such as helping people to stop smoking by offering them advice, prescribing cessation medicines and connecting them to further support). But there is still a need to be cautious in linking changes in health status with health system performance.

What does 'good' look like?

Part of the purpose of comparing health systems is to learn from good practice – but how do you know it when you see it? The task is not as straightforward as it seems.

First, individual performance indicators can be ambiguous when they are considered in isolation. For example, the average length of stay in hospital is often used as a measure of health system efficiency. But hospitals could have shorter lengths of stay in one country because the case-mix of demand is less severe than in other countries. Shorter lengths of stay in hospital could also be associated with higher rates of readmission or longer stays in rehabilitation facilities if patients are 'pushed' through the hospital system too quickly. These issues are not always captured by routinely available international data. So, even a relatively common and straightforward measure of hospital performance can make some countries appear 'good' when the true picture of performance is far more complicated.

Second, how a country fares in a league table obviously depends on who they are competing against (**Health Foundation 2022**). The UK has been painted in a very different light – even when using the same set of performance measures – depending on whether it is compared with all other countries or a smaller basket of high-income countries (**Papanicolas *et al* 2019**).

Third, even being top of the class in a league table is not necessarily synonymous with 'good performance'. For example, a country could have the lowest level of occupied hospital beds in its peer group but still not have enough spare capacity to deal with surges in demand.

Finally, there is more information available on what Papanicolas and Smith (2013) describe as 'performance benchmarking' (comparing health systems on measures or standards) than on 'practice benchmarking' – that is, comparing health systems on how those standards are achieved. For this reason, international comparisons are perhaps better used as exploratory tools rather than summative judgements.

Why make comparisons at all?

There are clearly substantial caveats with international comparisons and health system rankings. As Papanicolas and Cylus (2015, p 116) note, 'neither the bald presentation of league tables nor a detailed narrative of caveats is likely to guide [policymakers] towards appropriate responses'. So one might reasonably ask, why bother doing the comparisons at all?

Here are three answers to that question.

First, international comparisons can make a significant difference. In January 2000, during what became dubbed 'the most expensive breakfast in history', the then Prime Minister Tony Blair announced that the UK would increase its health spending up to the European Union (EU) average by 2005 (**Timmins 2021**). Around the same time, the NHS Cancer Plan aimed to raise the level of cancer services in the UK to among the best in Europe (**Richards *et al* 2018**). We spoke to someone with a front-row seat for this process, who said: 'Of course, that one political statement caused a lot of turbulence, but it also created heat and light and energy because then we had to create a plan…' For good or ill then, international comparisons can be a powerful political and policy tool to make the case for change and reset the overall level of ambition for a health system.

Second, international comparisons offer what Nolte *et al* (2006) have described as an 'experimental laboratory' for developing better policies on how to design and manage health systems. For example, diagnostic-related groups (DRGs, also referred to as health care resource groups in England) are groupings of clinically

similar treatments that consume similar levels of health care resource. These standard 'currencies' of health care are now widely used in the UK health system to reimburse hospitals and assess their performance. This type of classification tool was largely trialled in the United States Medicare and Medicaid systems, before its use spread to Australia, Austria, France, Germany and the UK (Papanicolas and Smith 2013).

Third, international comparisons can provide a benchmark on how a health care system is performing, particularly where objective measures of 'good performance' are hard to identify. For example, Papanicolas *et al* (2021) have shown how existing data on hip fracture care from the UK could be cast in a new light when compared to data from 10 other high-income countries. In England, older frail patients with hip fractures have relatively long stays in hospital – partly because of a lack of accessible post-hospital care. These findings can help guide future clinical and managerial decisions but may not have been as obvious without international benchmarks.

So then, international comparisons can be a powerful tool to measure health system performance and provide a focus for policy-makers and researchers (European Observatory on Health Systems and Policies *et al* 2018).

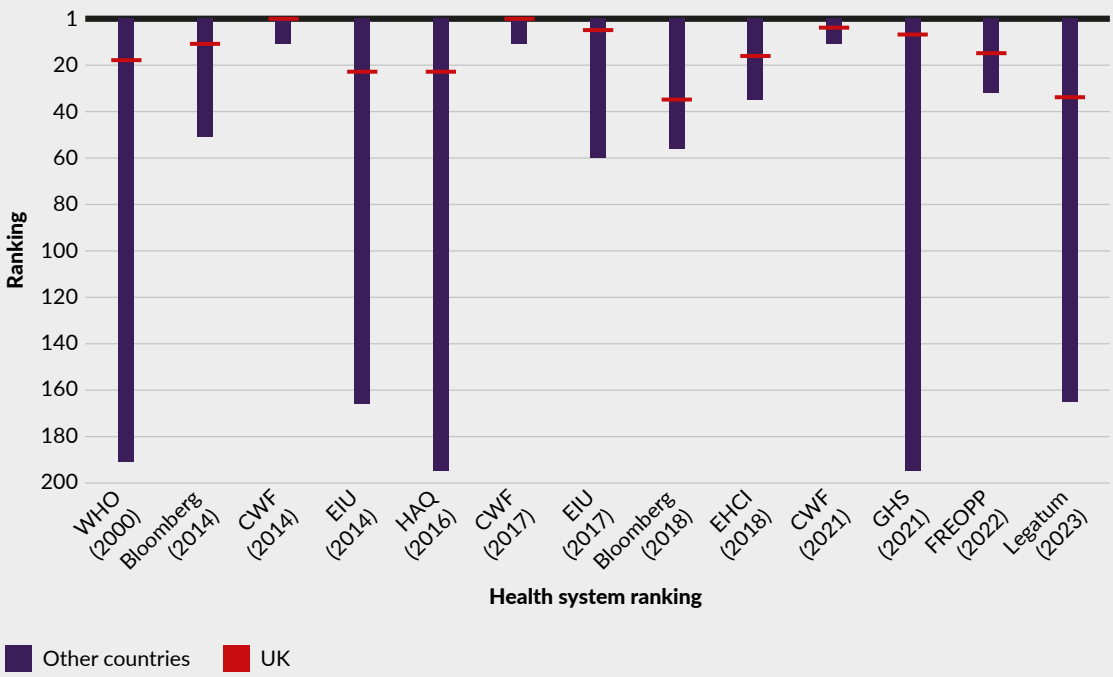
Health system rankings

There is a long history of attempts to rank health systems and compose league tables of 'who's better and who's best'. These exercises are sometimes a good illustration of the issues we have just discussed.

Perhaps the seminal modern exercise was *The world health report 2000*, published by the WHO, which ranked 191 countries on a composite index of health system performance. The composite indicator was based on a weighted sum across five dimensions: health outcomes; inequality; fairness of financing; responsiveness; and inequality in responsiveness.

The results of this ranking exercise were heavily contested at the time, but the ranking did succeed in stimulating debate over the relative performance of health systems, and spawned many successors. The UK often performs relatively well in many of these ranking exercises (*see* Figure 2), though that should not be

Figure 2 The UK comes towards the top of many health system rankings from the past 20 years... but this needs to be interpreted with caution



Source: The King's Fund analysis of multiple datasets

World Health Organization (2000); The Economist Intelligence Unit (2017, 2014) healthcare outcomes index; Bloomberg (2018, 2014) healthcare efficiency index; The Commonwealth Fund (Schneider *et al* 2021, 2017; Davis *et al* 2014) health system performance rankings; Health Consumer Powerhouse Euro Health Consumer Index (2019); Global Health Security Index (Bell and Nuzzo 2021); The Foundation for Research on Equal Opportunity World Index of Healthcare Innovation (Roy 2023); Legatum Institute Foundation Prosperity Index (2023); Global Burden of Disease (2018) healthcare access and quality index

cause for complacency. Different ranking exercises can vary significantly in the range of countries that are included, the mix of measures that are used to assess performance, and the weight given to each of these measures.

For example, the regular health care system efficiency rankings made by Bloomberg, a financial data and news company, use a very different approach to the WHO analysis. Health systems are ranked on three criteria (two of which are closely related): life expectancy (weighted for 60 per cent of the overall efficiency score); relative per capita cost of health care (30 per cent); and absolute per capita cost of health care (10 per cent). The UK's performance has varied from relatively good (for

example, ranking 11th out of 51 countries in 2014) to relatively poor (35th out of 56 countries in 2018) in two different iterations of these Bloomberg rankings that are in the public domain (Figure 2).

The UK has been a historically strong performer in rankings by The Commonwealth Fund (a US foundation) of high-income countries' health systems. These rankings use a broader range of measures than the Bloomberg analysis and assess 11 health systems on more than 70 individual measures that are grouped into 5 domains: access to care; care processes; administrative efficiency; equity; and health care outcomes. It is important to note that the UK often ranks lower for health care outcomes in particular, despite topping The Commonwealth Fund rankings in 2014 and 2017 before falling to 4th position (behind Norway, the Netherlands and Australia) in 2021 (**Schneider *et al* 2021**; **Schneider *et al* 2017**; **Davis *et al* 2014**).

Other rankings have taken a more focused approach on one topic while including a large basket of countries. For example, the UK was ranked 7th overall out of 195 countries in the Global Health Security Index (**Bell and Nuzzo 2021**), suggesting very strong relative performance on how prepared the UK is for health threats. But this ranking includes the widest possible basket of countries (the lowest ranked positions on the index were occupied by Somalia, Yemen and North Korea) and even the highest ranked country – the United States – was still judged to have critical weaknesses in how it identified and used its preparedness resources during Covid-19.

So, over the past 20 years, the UK's health system has been included in ranking exercises that used as many as 195 countries and as few as 11. It has been ranked on its overall performance and its performance in very specific domains. Based on a review of these exercises, we find it hard to disagree with the conclusions of one study, which suggests that league table rankings of health care systems can often generate more heat than light:

> *…determining that one health system is 'better' than another is rarely a clear, evidence-based and transparent process… In general, it is hard to advocate the use of composite measures of performance and the associated rankings of health systems, other than as a device to draw attention to the HSPA [Health System Performance Assessment] initiative.*
>
> (**European Observatory on Health Systems and Policies *et al* 2018**)

4 Comparing health care systems

What is a 'health care system'?

Before we compare health care systems, we first need to identify what they are and what we expect them to achieve.

The WHO's (2000) seminal report defined health systems as 'all the activities whose primary purpose is to promote, restore or maintain health'. It went on to identify three fundamental goals a health system should try to achieve for their populations – essentially, to improve the health of the population; be responsive to people's expectations of how they want to be treated; and provide financial protection from the costs of poor health.

The fundamentals of this conceptual framework have largely endured (Papanicolas and Smith 2013), although Rajan *et al* (2022) (for example) have helped further refine and elaborate this framework to identify the functions, intermediate objectives and final goals that contemporary health systems can be assessed on.

However, as the work of Frenk (2010) and Papanicolas and Smith (2013) has shown, there can still be a striking lack of consensus in how health systems are defined and assessed. For example, there are debates over where the boundaries of a health care system are, and to what extent the wider determinants of our health (such as environmental, education and employment policy and practice) should be included in assessing health care performance. These debates are even reflected in the different ways countries politically organise their health ministries, with some countries variously including environment, food, welfare or sport alongside health and social care.

There are no straightforward answers to these definitional questions. Our approach in this report is to align the boundaries of a health care system as closely as possible to the people and institutions responsible for improving health care outcomes,

while accepting that this will exclude factors such as education, employment and environmental policy, which also influence our health. For this reason, and because of a lack of routinely available international data, much of our report also focuses on the comparative performance of the UK health care system, rather than the adult social care and public health systems that play an important role in preventing disease and caring for people with additional needs.

Different types of health care system

Health systems differ from each other in obvious and sometimes subtle ways. For example, even countries whose systems are largely financed through social health insurance can differ in whether they have a single or 'national' sickness fund or multiple sickness funds or insurers, and whether people have a choice of which fund they enrol in. These apparently minor technocratic differences can have a significant impact on how the health system operates. For example, the market dynamics of social health insurance can be very different in countries where there are multiple sickness funds that compete to attract enrolees (Toth 2021).

Yet, understandably, people still try to group health systems together because developing 'typologies' of health care systems can help researchers and policy-makers identify and understand the general characteristics of health care systems that may be associated with better or worse outcomes (**Reibling *et al* 2019**). Health care systems have been grouped in different ways based on either the system characteristics (eg, how health care is financed; the level of resources; the model of governance and organisation) or national characteristics (eg, income per head; political systems; national culture) (**Ferreira *et al* 2018**).

Four types of health care system are commonly described in research literature (**Smółka 2022**): (1) the Bismarck model introduced in Germany in 1883; (2) the Beveridge model introduced in the UK in 1948; (3) the private market-based model used in the United States; and (4) the Semashko model, introduced in the then Soviet Union after the October Revolution of 1917 (*see* Table 1).

Table 1 Four 'idealised' types of health care system

Type of system	Examples	Characteristics
Beveridge	UK	State budgets – through central and targeted taxes – largely finance health system; strong role for the state and its agencies in planning health care; citizens have full access to health care
Bismarck	Germany	Financed largely through compulsory contributions from employees, employers and state subsidies, health care system managed by institutions that are largely independent of government; health risks are pooled over populations based on principle of social solidarity
Private	United States	Market-based system with heavy role for the private sector; costs of care largely covered by insurance or out-of-pocket spending except for some targeted groups (eg, older people)
Semashko	The then Soviet Union and some Eastern European countries	Centralised model based on a single-payer system with very high level of state control over planning and operation of health care services; free access to a wide range of services funded through national state budget; large role for multi-specialty primary care providers; health care facilities are owned by the state and clinical professionals are state employees

Source: Adapted from Smółka (2022)

Grouping health care systems – and finding the most appropriate group for the UK – can be a useful exercise if we wish to compare whether a particular 'type' of health care system is 'better' than another. But Toth (2021) makes two important observations on this topic.

First, health system models evolve. For example, the Bismarckian model of social health insurance in Germany initially focused on insurance for workers who were most likely to suffer accidents. However, it was subsequently extended to more groups of workers, their dependants, and to pensioners as well as active workers. Many other countries that use social insurance have also broadened coverage to more of the general population, rather than insurance being solely linked with employment. The defining 'model' then is not set in aspic and, as Smółka (2022) notes, '[idealised models] are not used nowadays in their pure form in any developed country; which is a result of continuous social and cultural changes, as well as an ongoing reform of healthcare systems around the world'.

Second, there are very few 'idealised or pure models' because most health care systems blend together characteristics that could be attributable to ideologically opposed systems (Toth 2021). For example, even though most Western industrialised nations predominantly use one funding model, they still use a mix of ancillary funding models to cover different services (eg, dentistry can largely rely on out-of-pocket payments even in NHS-style systems) or populations (eg, older populations can be largely covered by state-organised funding even in systems that rely on voluntary health insurance). Using the vivid image of a cocktail, Toth argues that the mixed nature of health care systems needs to be taken into account in international comparisons:

> *Each cocktail has a basic ingredient, which must be used in greater quantity than the others. This basic ingredient identifies a 'type' of cocktail, a family of drinks that are similar to each other. Within these large categories, however, it is the secondary ingredients, those that are added to the base, that confer the distinctive flavour of the drink.*
>
> *The same is true for health systems. Focusing on the prevailing model is important because it allows you to group countries into families of similar health systems. However, if you want to understand how the individual nation system actually works, you cannot neglect the ancillary models and the ways in which they are mixed with the prevailing model.*
> (Toth 2021, p 65)

Do different types of health care system perform differently?

Accepting the caveat that there is no definitive typology of health care systems, some studies have tried to assess whether one particular 'type' of health care system performs better than another.

For example, Reibling *et al* (2019) included health care performance measures in their classification of health care systems. The researchers used five dimensions to group health systems: *supply* (eg, health spending per capita); *public–private mix* (eg, share of health spending that is out of pocket); *access regulation* (eg, whether individuals require a referral from a GP to access specialist care); *primary care orientation* (eg, ratio of GPs to specialists); and *performance* (eg, levels of smoking and alcohol consumption; hospital admission rates for long-term conditions).

Based on its scores on these measures, the UK was placed in the 'regulation-orientated public systems' cluster, alongside countries such as Canada and Italy. Countries in this group typically have: a medium level of resources that come primarily through public funding; a strong reliance on public regulation with high levels of gatekeeping for accessing specialist care; low out-of-pocket spending; and lower performance in prevention and quality of care compared to 'performance and primary-care orientated' systems (which include Finland and Japan, for example).

A similar exercise by Ferreira *et al* (2018) grouped countries based on measures such as the number of doctors per head and health spending per capita, which were used as proxies for the level of resources a health system has and how it uses these resources. Their analysis produced five clusters of European countries; researchers then found that the Eastern Countries 'A' cluster performed more poorly on a range of health outcome measures, such as premature mortality and life expectancy at birth.

Braithwaite *et al* (2020) took the relatively novel approach of assessing health care systems based on the cultural characteristics of countries. Using countries' scores on Hofstede's six cultural dimensions, which include (for example) individualism vs collectivism (the degree to which members of a culture are integrated into groups) and indulgence vs restraint (the extent to which people try to control their desires and impulses), the researchers grouped 35 OECD countries into three clusters: a collective-pyramidal cluster (characterised by being more collectivist, and having high avoidance of uncertainty and ambiguity); collaborative-networked (more individualistic, low avoidance of uncertainty); and orderly-future (high avoidance of uncertainty, long-term orientation). The researchers then compared the health care performance of these different clusters using data from the OECD and the United Nations (UN) Sustainable Development Goals (SDGs) and found that the collaborative-networked cluster (which included the UK) had significantly better-performing health care systems, followed by the orderly-future and then collective-pyramidal clusters.

In a comprehensive analysis of a comparative dataset on health policies and health system characteristics, Joumard *et al* (2010) identified six clusters of countries sharing broadly similar health care systems (*see* Table 2). They observed that: health spending tended to be higher in countries that rely mostly on market mechanisms (principally clusters 1 and 2); inequalities were relatively low in three of the four

countries that have regulated insurance-based systems (Germany, Netherlands and Switzerland); and administrative costs were higher in countries that predominantly use private insurance.

Table 2 Groups of countries sharing broadly similar institutions

Reliance on market mechanisms in service provision			Mostly public provision and public insurance		
Cluster 1	**Cluster 2**	**Cluster 3**	**Cluster 4**	**Cluster 5**	**Cluster 6**
Extensive reliance on market mechanisms in regulating both basic and 'over-the-basic' insurance coverage and abundant private provision of health care	Public basic insurance coverage combined with private insurance beyond the basic coverage. Heavy reliance on market mechanisms at the provider level, with wide patient choice among providers and fairly large incentives to produce high volumes of services contained by gatekeeping arrangements	Public basic insurance coverage with little private insurance beyond the basic coverage. Extensive private provision of care, with wide patient choice among providers and fairly large incentives to produce high volumes of services. No gatekeeping and soft budget constraint. Limited information on quality and prices to stimulate competition	Mostly public insurance. Users are given ample choice of providers but private supply is limited and prices tightly regulated. Gatekeeping is virtually non-existent	Mostly public insurance. Health care is provided by a heavily regulated public system and the role of gatekeeping is important. Patient choice among providers is limited and the budget constraint imposed via the budget process is rather soft	Mostly public insurance. Health care is mainly provided by a heavily regulated public system, with strict gatekeeping, little decentralisation and a tight spending limit imposed via the budget process
Germany, **Netherlands**, Slovak Republic, Switzerland	**Australia**, **Belgium**, **Canada**, **France**	**Austria**, Czech Republic, **Greece**, **Japan**, South Korea, Luxembourg	Iceland, **Sweden**, Turkey	**Denmark**, **Finland**, Mexico, **Portugal**, **Spain**	Hungary, **Ireland**, **Italy**, **New Zealand**, Norway, Poland, **United Kingdom**

Source: Joumard *et al* 2010. Countries in **bold** are included in this report's subsequent analysis of quantitative data

The researchers also assessed how the different groups of countries performed on measures of overall system efficiency. They did this by estimating the contribution of health care spending to life expectancy after taking into account differences in lifestyle and socio-economic factors – that is, essentially assessing how well countries transform health spending into health outcomes.

Joumard *et al*'s comments on their findings are particularly relevant to policy-makers that are considering substantial changes to how their health care system is financed or otherwise organised:

> *There is no health care system that performs systematically better in delivering cost-effective health care. In fact, the efficiency estimates vary more within country groups sharing similar institutional characteristics than between groups… It may thus be less the type of system that matters but rather how it is managed… In other words, big-bang reforms are not warranted.*
> (Joumard *et al* 2010)

Our approach to comparing health systems

The following sections compare the UK health system with the health systems of other countries on a range of performance measures. Our approach has been informed by the research literature we have reviewed in this section.

There is no definitive typology of health system and, as we have seen, even health systems grouped within the same 'type' can demonstrate differences in performance. For this reason we list data for a basket of *individual* countries, rather than grouping countries into types.

International comparisons are usually made with peers that share similar organisations, goals and challenges, and employ similar data collection methods (Papanicolas and Smith 2013). Our analysis uses the same basket of 19 higher-income industrialised countries as that used by Dayan *et al* (2018), which includes: the EU15 (the group of nations in the EU before the 2004 enlargement from Central and Eastern European countries); the enumerated members of the G7, representing the world's largest developed economies; and the Anglosphere of countries with close cultural and constitutional ties to the UK (*see* Table 3). Smaller countries such as Luxembourg have been excluded from the group because their performance data is heavily affected by commuter populations.

Table 3 Countries included in our analysis

Australia	Austria	Belgium	Canada
Denmark	Finland	France	Germany
Greece	Ireland	Italy	Japan
Netherlands	New Zealand	Portugal	Spain
Sweden	United Kingdom	United States	

On a few occasions we use a wider basket of countries – for example, where we want to place our basket of countries in a global context or to highlight that the basket as a whole is distinctive in some way. And for a small number of indicators, data is only available for Great Britain or the four countries of the UK rather than the UK as a whole.

We compare health systems in seven areas (*see* Table 4) but do not attempt to rank countries overall in a league table based on these individual measures or a composite measure of performance.

Table 4 Areas of comparison for health care systems

The context the health system operates in	The resources the health system has	How well the health care system uses its resources and what it achieves
1. Health status and behaviours of the population	2. Health care spending 3. Staffing 4. Other health care resources (eg, equipment and beds)	5. Processes and efficiency 6. Quality of care 7. Health care outcomes and financial protection

Some topics do not fit neatly into one of the three categories used in the table, so we have used our best judgement on where they should be placed. This sometimes means that closely related issues find themselves in different parts of this report. For example, life expectancy data comes towards the beginning of the report under the 'context' that a health system operates in because there are many

factors – within and without a health system's control – that affect how long we live. But amenable and preventable mortality rates, which measure deaths that could be avoided with timely and effective health care or public health and primary prevention, are included towards the end of the report with other indicators of how well a health care system uses its resources and what it achieves.

Data is not always available from all countries in our basket for each performance measure. We use the median as our measure of 'average' performance for our basket of countries because data on these performance measures is rarely normally distributed and often has outlier values.

All of the measures we use in this analysis will have been affected in some way by the Covid-19 pandemic. Many countries rapidly increased health service staffing, equipment and spending to cope with the pandemic (**OECD 2023b**). And Covid-19 has taken a toll on both the health status of populations and the performance of health care systems. Our analysis focuses on the structural and enduring performance issues of health systems and is not intended to be a review of how countries coped with the pandemic. For this reason, much of the data we use is from 2019 – the latest full year before the pandemic. Because of the lags in collecting and collating data, and because some of the available 2020 and 2021 data is subject to revision as countries finalise their data, 2019 is, in some cases, the most recent year of data available for many of the countries in our basket. On a few occasions, we use data from 2020 to highlight very specific issues – for example, how Covid-19 has affected comparisons of health care spending as a share of GDP.

5 The contexts that health care systems operate in

In this section we review data that helps set health systems in context, including the health status and behaviours of the populations they serve. As noted earlier, health care systems and health care professionals clearly have a significant role to play in improving people's health behaviours and lifestyle choices, but these issues are also impacted by wider societal, economic and political factors.

And of course the health of the nation, in turn, also impacts on these wider socio-economic factors. Self-reported ill health has been cited as one of the factors contributing to sluggish economic activity and employment rates in the UK after the Covid-19 pandemic (**Thomas *et al* 2023**).

And even this contextual information can only give a partial view of what affects people's health and their need for health care. A person's health will be heavily affected by the availability of high-quality housing, employment opportunities, access to education, transport, social relationships, and environmental surroundings. For example, we know that the UK has: a relatively high level of income inequality (as measured by the Gini index score); relatively few deaths from air pollution; some of the oldest housing stock in Europe; and relatively low unemployment rates (**World Bank 2023**; **OECD 2021**; **Piddington *et al* 2020**; **Bibby and Lovell 2018**). But it is difficult to quantify exactly how variations in these social determinants affect the challenges facing different health systems.

Health behaviours

Data is available on specific factors that can affect health, including smoking rates, alcohol consumption, diet and exercise, and uptake of vaccinations.

The UK is about average for the share of the adult population who smoke regularly: 15.8 per cent of adults smoke daily in the UK, compared with 15.4 per cent (on average) for our basket of countries. The lowest daily smoking rates were reported by Canada (10.3 per cent), and the highest were in Greece (24.9 per cent) (**Ritchie and Roser 2022**).

The UK is above average in its level of alcohol consumption (**OECD 2021**). Data on alcohol consumption is estimated from sales data (which is then corrected for factors like alcohol consumption by tourists). In 2019, average alcohol consumption in the UK for adults was 9.7 litres per person. This compares to an average of 9.2 litres per person for our basket of countries, with the highest consumption in Austria (11.6 litres per person) and the lowest in Greece (6.3 litres per person). However, these national-level figures can mask the impact of harmful drinking patterns among particular population groups.

Data from a 2016 survey shows that adults in the UK are slightly more likely to do insufficient levels of physical activity than average, with 38.4 per cent of survey respondents saying they did less than 150 minutes of moderate-intensity or 75 minutes of vigorous activity a week. In Finland, only 18.7 per cent of people reported insufficient levels of activity, with Portugal reporting the highest (46.4 per cent) of the countries in our basket (**WHO 2016**). Separate data from Ipsos Mori's Global Trends survey report (**2023**) shows that 4 in 5 people in Great Britain say they need to do more to look after themselves physically, which was less than in Greece (88 per cent) but higher than in many of the other countries in our basket.

Being overweight is a significant risk factor for common non-communicable diseases (NCDs), including cancer and heart disease. OECD data (**2021**) – for countries that submit *measured* data rather than less-reliable *self-reported* height and weight data (**Tolonen *et al* 2021**) – shows that 64.2 per cent of adults in the UK were overweight (including obese), which was just above average for our basket. The highest overweight rates were in the United States (73.1 per cent), Portugal (67.6 per cent) and Finland (67.6 per cent). France (49 per cent) and, notably,

Japan (27.2 per cent) were the only countries in our basket where less than half the adult population were overweight.

Vaccines are an important tool in a health system's armoury. Effective vaccination programmes can be a marker of how well health systems offer timely access to routine care to prevent further illness and death. The UK has the highest share of its older population (aged 65 and over) who were vaccinated for influenza in 2019 (72 per cent) (**OECD 2021**). The UK's performance was far higher than the average across our basket of countries (56 per cent) though below the WHO recommendation that 75 per cent of older people should be vaccinated against seasonal flu (**WHO 2018**).

In 2021/22, more than 90 per cent of children in the UK had received their vaccination for measles and diphtheria, tetanus and pertussis before reaching the age of 1 (**NHS Digital 2022b**). Although this may seem high in absolute terms, this level of vaccination was achieved or exceeded by several countries in our basket. Moreover, childhood vaccinations in England are below the 95 per cent coverage target set out by the WHO to support herd immunity (**WHO 2018**).

Data from the Global Burden of Disease (**Institute for Health Metrics and Evaluation 2023**) shows that in 2019, like many other Western industrialised nations, common causes of death in the UK included NCDs such as heart disease and stroke, rather than communicable diseases (data is taken from before the Covid-19 pandemic) or injuries.

Separate data from the OECD (**2021**) shows that nearly 2 in 5 people in the UK (37.8 per cent) reported a longstanding illness or health problem in 2019 (or nearest year). The UK was just above average among the countries in our basket, with Italy reporting the lowest rate of chronic disease burden at 15.9 per cent, and Finland (49.5 per cent), Australia (45.6 per cent) and Germany (43.2 per cent) reporting the highest rates.

The Global Burden of Disease (**Institute for Health Metrics and Evaluation 2023**) also assesses the risk factors that drive death and disability across different countries. In the UK, the factors that contribute most to ill health largely included behavioural risk factors (such as tobacco use or poor diet) and metabolic risks (such as high body mass index and blood pressure).

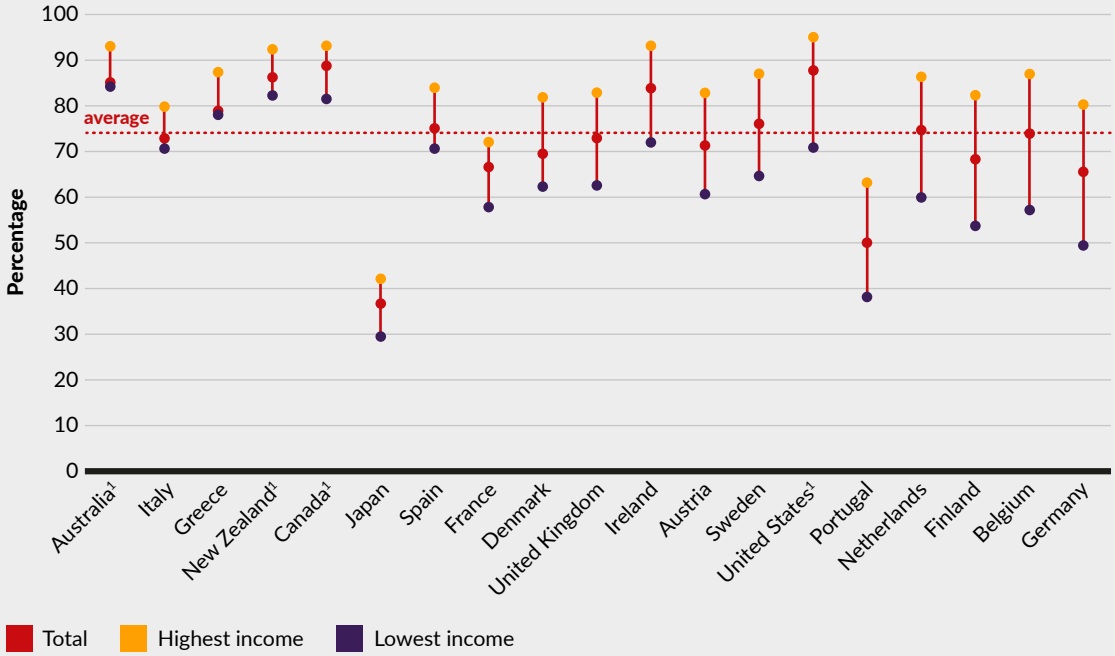
The health of the population

Alongside more objective measures of population health, we might also ask the simple question, how healthy do people *feel* in different countries? OECD data shows that 72.9 per cent of the surveyed UK population rated their own health as 'good' or 'very good', which was just below the average for our basket of countries.

A far higher share of people in the highest-income group in the UK reported good health (82.9 per cent) than people in the lowest-income group (62.5 per cent). In absolute terms, the UK's health gap between different income groups was also about average, with greater gaps seen in Germany and Belgium, for example (*see* Figure 3).

Figure 3 More than 70 per cent of adults in the UK say they are in good health

Adults rating their health as good or very good, by income quartile, sorted by range from highest to lowest income



Source: OECD 2021 (EU-SILC for EU countries)

1 Results for these countries are not directly comparable with those for other countries, due to methodological differences in the survey questionnaire resulting in a bias towards a more positive self-assessment of health

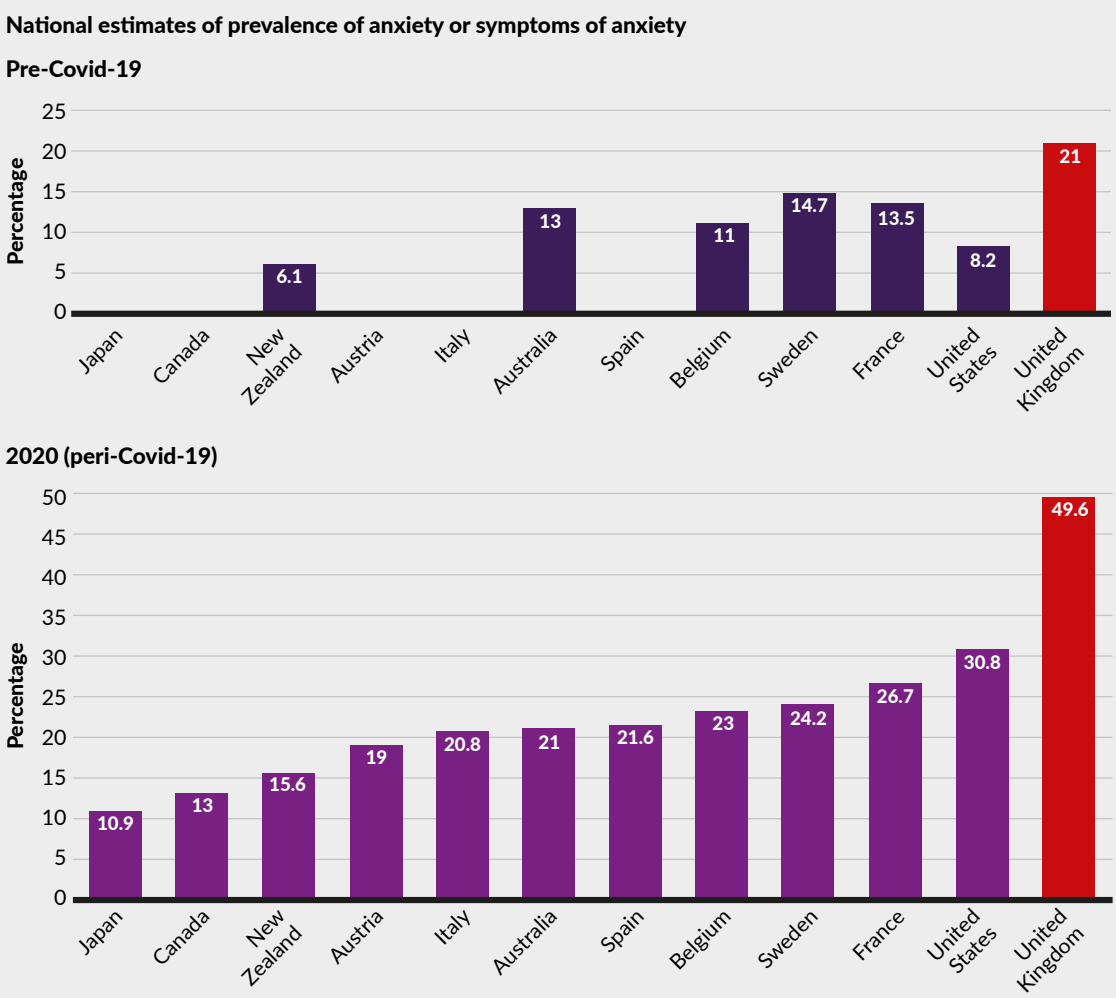
Asking people how healthy they feel sounds like a simple question. But it is a good illustration of how difficult international comparisons can be. People in different countries can report different levels of health because of socio-cultural differences, subtle differences in how data is collected, and the overall structure of their populations. For example, self-reported health tends to worsen with age, which will affect countries with older populations. And many of the countries that report high levels of good health (including Australia and the United States) use asymmetrical response scales with more positive potential responses (ie, 'excellent', 'very good', 'good', 'fair' and 'poor') than other OECD countries that use symmetrical response scales ('very good', 'good', 'fair', 'poor' and 'very poor') (**OECD 2021**).

Self-reported measures capture how people feel about their physical and mental health. But separate data is also available on the mental health of populations – which is a growing challenge for health care systems. In a recent Ipsos Mori poll, on average across a basket of 24 countries, 36 per cent of respondents (43 per cent for Great Britain) said that mental health was the biggest health problem in their country, with only cancer scoring higher on average (**Ipsos Mori 2022a**).

There is international data available on some mental health symptoms and conditions, but not the full range of measures that would paint a comprehensive picture of the mental health of a country's population. The UK does have a strikingly high share of people who report symptoms of anxiety (both during and before the Covid-19 pandemic, *see* Figure 4) and is roughly average in the share of people reporting symptoms of depression. However, we advise caution when comparing figures across countries because of cultural and societal differences that can influence how likely people are to report mental health problems (**OECD 2021**).

The final and, arguably, most important measure of health is how long people live. Life expectancy has increased since the 19th century in most countries, due to improvements in nutrition, hygiene and sanitation, and advances in medical treatment (**Raleigh 2022**). Healthy life expectancy – the number of years we would expect to live in good or very good health – has also increased over the same time, though not as much as overall life expectancy, so more years are spent in poor health.

Figure 4 The UK has higher prevalence of anxiety or symptoms of anxiety



Source: OECD 2021

2020 data is from March/April 2020 where possible. Survey instruments and population samples differ between countries and in some cases across years, which limits direct comparability

The recent path of life expectancy improvements has been less rosy in England and Wales[1] even before the impact of the Covid-19 pandemic. Increases in life expectancy slowed from 2011 in England and Wales for reasons that are unclear and contested (**Raleigh 2022**). While many other European countries saw this same slowdown in life expectancy growth between 2010 and 2019, the slowdown was greatest in the UK.

OECD data shows that the UK has among the lowest figures for female and male life expectancy at birth of all the countries in our basket, with only the United States reporting consistently lower performance. This poor relative performance was evident even before the pandemic, though the falls in life expectancy during the first year of the pandemic are particularly striking in the United States, the UK, Belgium, Italy and Spain (*see* Figure 5).

The authors of a recent study of life expectancy trends over the past 70 years charted the UK's fall down the life expectancy league tables among a wider basket of countries. In 1952, the UK had the 7th highest life expectancy at birth in the world, but by 2020 it had fallen to 36th place, just above countries that include the Maldives, Chile and Costa Rica (**Hiam *et al* 2023**).

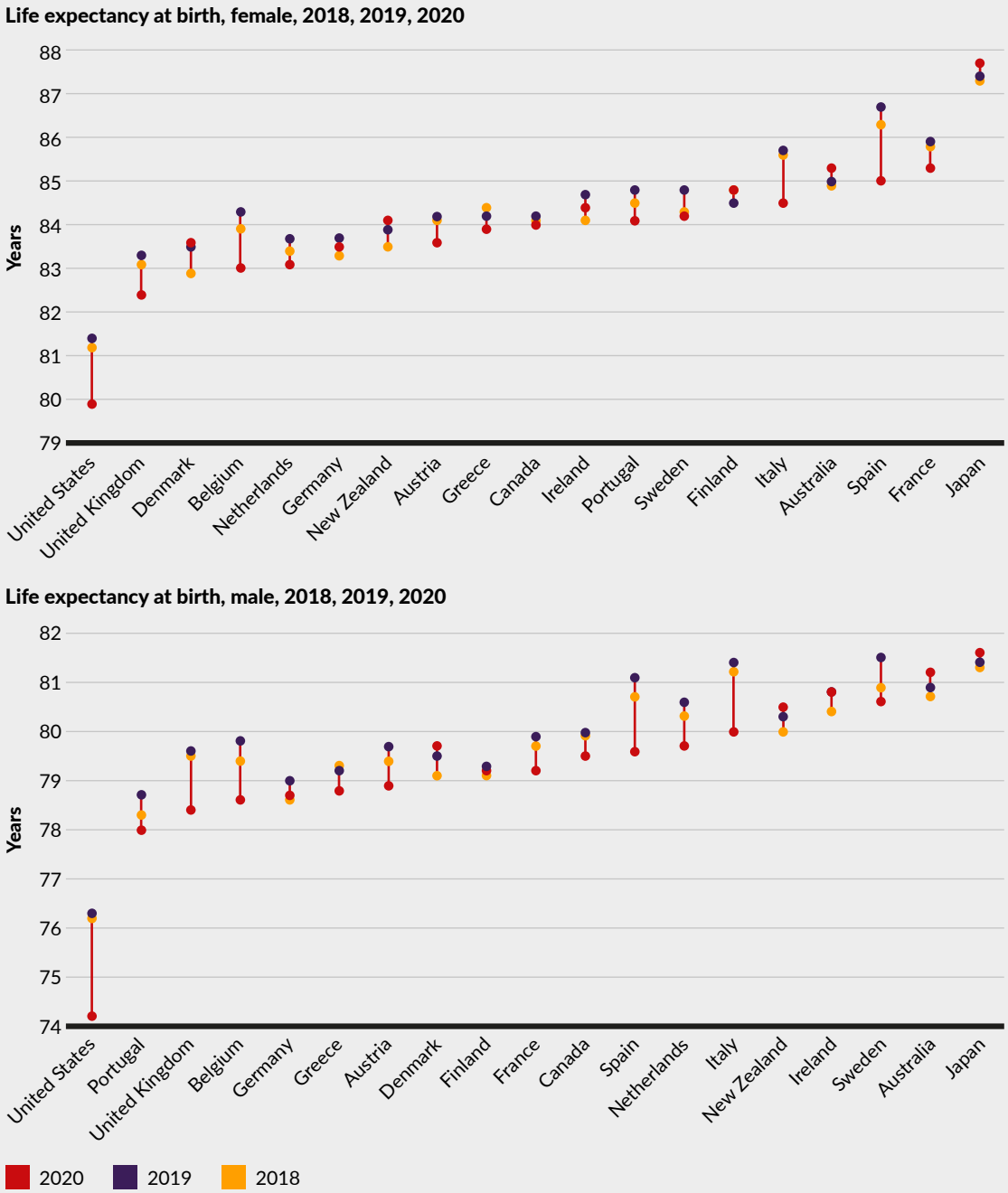
International data for our basket of countries generally takes two or three years to be collected and processed. So we do not yet have a comprehensive view across our basket of countries of the impact of Covid-19 on people's health status – but it is clearly the elephant in the room when comparing health of populations. We do know that the UK is facing a post-pandemic mountain of long-term ill health, with slower growth in healthy life expectancy and a large proportion of preventable morbidity and mortality (**Thomas *et al* 2023**; **Burn-Murdoch 2022**).

And, as the OECD notes, the Covid-19 pandemic has emphasised that:

> *…the health status of populations needs to be improved to make people more resilient against future health system emergencies. Cross-country analysis has shown that countries where the population was less obese and less likely to smoke generally had better health outcomes during the pandemic.*
> (**OECD 2023b**)

1 Some life expectancy data is more often available for England and Wales than for the UK as a whole.

Figure 5 Female and male life expectancy at birth in the UK lag behind other peer countries



Source: OECD 2023b

Life expectancy at birth is defined as how long, on average, a newborn can expect to live, if current death rates do not change

6 Health spending

In this section we consider the level of health spending in different countries, the sources of that spending, and what services it purchases.

It is important to note that comparative measures of health spending in our analysis are largely drawn from the OECD and are based on the System of Health Accounts methodology. This definition includes spending on some services that would be considered as social care in the UK (eg, spending on health-related long-term care services to help dependent persons with activities of daily living, such as mobility, bathing or eating). These measures (unless otherwise stated in this report) exclude areas of spending that would normally be regarded as health spending in the UK – principally capital investment in long-term assets such as buildings, information technology (IT) and medical equipment such as MRI and CT scanners. And spending relates to the wider health system in the UK including the private sector for example (ie, the definition of spending is broader than only 'NHS spending').

How much is spent on health care services?

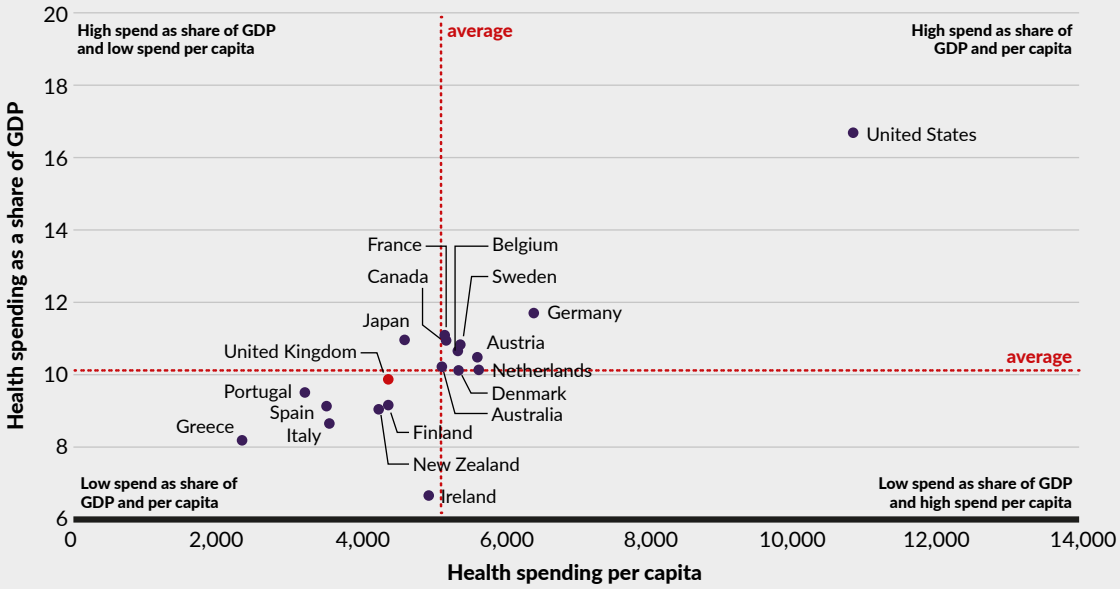
Two measures are commonly used to compare health spending across countries: health spending per person; and the share of GDP (the total value of goods and services produced in a country) that is accounted for by spending on health care.

Both measures can be useful individually. But they are particularly helpful when viewed alongside each other because some very high-income countries can have high health spending per capita (because they spend a relatively large amount on *all* their public services) but may still have relatively low health spending as a share of their GDP.

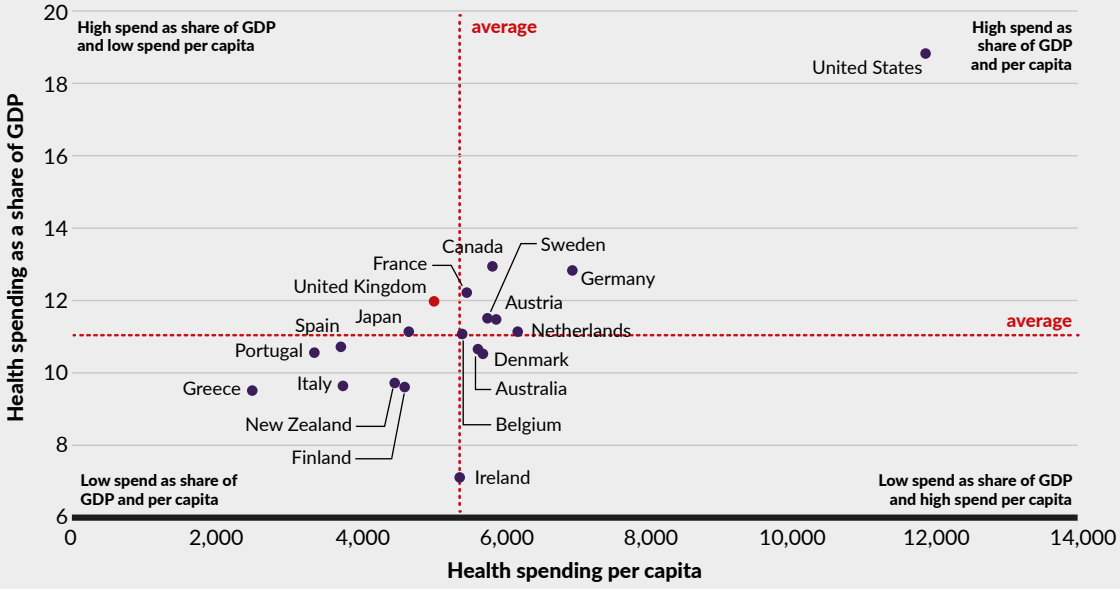
Based on OECD data, UK health spending was 9.9 per cent of its GDP in 2019, 12.0 per cent in 2020 and 11.9 per cent in 2021 (*see* Figure 6). Both the numerator (health spending) and denominator (GDP) for this measure were particularly affected by the Covid-19 pandemic during 2020. There was higher-than-usual health spending in response to the pandemic on vaccination, test and trace, and personal protective equipment (PPE) programmes. And because of the pandemic,

Figure 6 Health spending per person in the UK is below average and health spending as a share of GDP moved from being below average to above average during the Covid-19 pandemic

Health spending per capita (current prices, current PPPs) and health spending as a share of GDP, selected countries, 2019



Health spending per capita (current prices, current PPPs) and health spending as a share of GDP, selected countries, 2020



Source: OECD 2021

Per capita health expenditures have been converted to a common currency (US$s) and adjusted to take account of the differences in purchasing power of the national currencies

there was lower-than-usual GDP growth. This has affected the UK's relative position on this spending measure, in part, because different countries will have had different experiences and policy responses during the pandemic.

The UK spent $4,385 per person on health care in 2019, $5,019 per person in 2020 and $5,387 per person in 2021 (expressed in a common currency and adjusted to take account of the different purchasing power of different currencies) (*see* Figure 6).

So overall then, Figure 6 shows that the UK is generally below average in its spending per person each year, and its spending as a share of GDP was about average before the pandemic and rose to above average during the pandemic. Looking at the two key spending measures together, excepting Covid-19, the UK is roughly average at best in the amount it spends on health care compared to our comparator countries.

Where does the money come from?

Health care spending can be financed through different schemes. These include funds raised through central taxation, compulsory or voluntary health insurance, or 'out-of-pocket' spending by households (which can include charges for accessing health care).

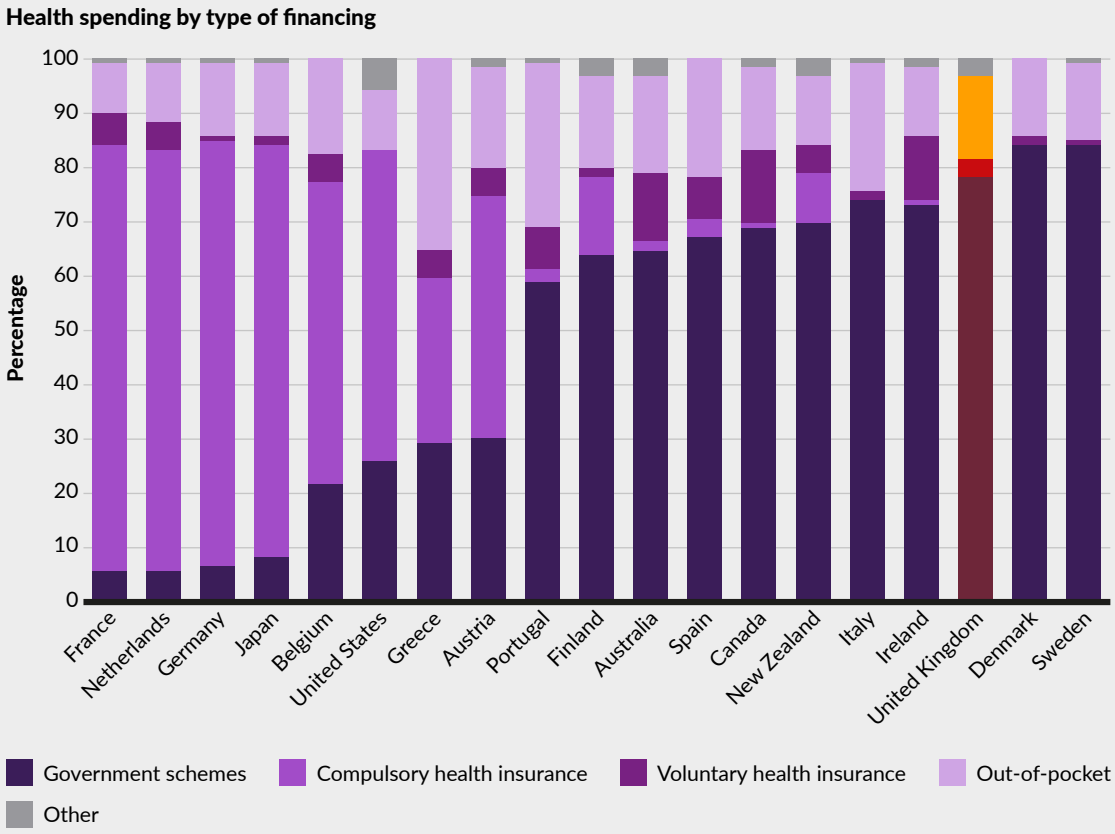
Of course, there is still considerable variation and nuance in how countries use these schemes to finance health care. For example, some countries like Singapore use schemes that are relatively rare, such as medical savings accounts, where individuals deposit funds in savings accounts that can only be used for future health care expenses. And countries with high levels of voluntary insurance – like the United States before the Affordable Care Act 2010 reforms – can also operate targeted programmes such as Medicare (for people older than 65) and Medicaid (for people on lower incomes or people with disabilities) that are financed through social solidarity means such as federal and state taxes.

But it can still be helpful to draw some broad comparisons over how health care is financed. The majority of health care financing in OECD countries is via compulsory schemes, including government-administered schemes (eg, for tax-funded health care systems like the UK, Denmark and Sweden) and compulsory health insurance

(eg, Germany and France). Compared to other countries in our basket, a relatively high share of UK health spending is financed through government schemes, relatively little is financed through voluntary health insurance, and financing through out-of-pocket spending was about average (*see* Figure 7).

This is unsurprising because the NHS is largely funded through central taxation, and although charges or co-payments are levied for some health goods and services (such as pharmaceutical prescriptions in England), NHS services are largely free at the point of use (Dayan *et al* 2018).

Figure 7 The vast majority of health spending in the UK is financed through government schemes



Source: OECD 2023a

Under the Affordable Care Act (2010), much of the private insurance in the United States is now mandatory and so is included under compulsory schemes. Category 'Other' refers to financing by non-governmental organisations, employers, non-resident schemes and unknown schemes.

What is the money spent on?

On average in 2019, across the wider basket of more than 30 OECD nations, the majority of health spending measured by the OECD was on services to help cure and rehabilitate patients that are largely delivered in inpatient and outpatient settings (accounting for around 60 per cent of health spending, where 'outpatient' services include non-hospital care in clinics and primary care settings). This was followed by spending on medical goods such as pharmaceuticals and therapeutic appliances (19 per cent), health-related long-term care services (15 per cent), and spending on 'collective services' that include preventive and public health services, and the administrative and governance costs of the system (6 per cent) (**OECD 2021**).

The UK is broadly similar to the EU and OECD average in its share of spending across these different categories, though it spends relatively less of its total health spending on medical goods (13 per cent) than average and more on collective services (12 per cent) than average.

Local factors strongly affect how much a health system appears to spend in each of these areas. For example, countries with more formal arrangements for providing long-term care for dependent and older populations (such as the Netherlands and Sweden) spend more than a quarter of total health spending on long-term care. Countries with less formal arrangements for delivering this care, which may not be fully captured by available health system data (such as some southern, central and eastern European countries like Greece and Portugal) spend less than 5 per cent of their total health spending on long-term care (**OECD 2021**).

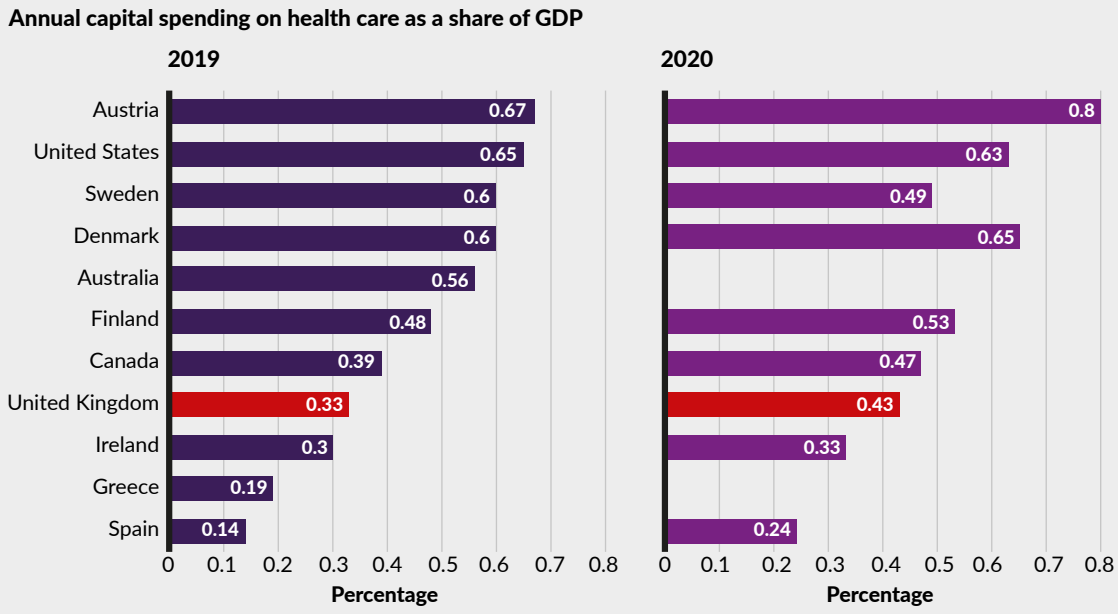
It is also possible to split health spending data based on the setting in which care is delivered, including estimates of how much countries spend on 'basic care services' in: primary care, including general outpatient curative care (eg, a visit to a GP or nurse for a long-term condition); dental outpatient curative care; home-based curative care (eg, home visits by a GP); or preventive care services (eg, immunisations and health check-ups).

The UK spent 14 per cent of its total health expenditure on primary health care services in 2019, which is slightly more than the EU average. But data on this measure can be difficult to interpret. Some countries may appear to spend less on primary care services because they have dedicated primary care health units embedded in hospital settings. And the OECD notes that countries will differ in

their ability to distinguish between general outpatient and specialist services when submitting data on this measure – for example, in countries where specialists often see patients in office-based non-hospital settings (OECD 2021).

Separate data is available from the OECD on capital investment. That data is not included in the total health spending figures above and is only supplied by a limited number of countries. It shows that the UK is far from average and spends less on capital investment than most of the other countries in our basket. In 2019, the UK spent 0.33 per cent of GDP on capital investment in health care, compared to an average of 0.48 per cent for comparable countries (*see* Figure 8). These differences may sound small but they reflect substantial underinvestment. As other analysis has shown, the UK's health care capital investment has been consistently below the average of comparable countries for nearly 20 years, and an extra £2.5 billion of spending would have been needed to bring capital spending in England up to the average of comparable countries in 2019 (Kraindler and Gershlick 2019).

Figure 8 The UK has below-average investment in health care infrastructure such as buildings and equipment



Source: OECD 2023a

Gross fixed capital formation in the health sector is measured by the total value of the fixed assets that health providers have acquired during the accounting period (less the value of disposals of assets) and that are used repeatedly or continuously for more than one year in the production of health services

Although there is no objectively 'right' level of capital investment for a health care system, it is clear that the UK invests less than other comparable countries. The consequences of historical underinvestment within the UK are increasingly evident. In the English NHS, the backlog of maintenance issues with buildings and equipment has risen substantially over the past decade. Data for 2021/22 published by NHS Digital (2022a) shows that there were more than 1,000 serious safety incidents in the NHS related to estates and facilities issues, and it would cost £10.2 billion to restore buildings and equipment to the desired state.

In summary then, in our basket of countries, the UK spends a roughly average amount on health care overall, with the exception of capital investment, where it lags behind many of its peers. And the vast majority of health care system funding comes from government schemes, mainly taxation.

7 Staffing

Workforce pressures are a common concern across a wide range of countries. The WHO projects a shortfall of 10 million health workers by 2030, mostly in low- to lower-income countries (WHO 2023b). And 1 in 6 of the world's nurses are expected to retire by the end of the decade. In a recent Ipsos Mori poll (2022a) of what the public see as the biggest policy problems facing their system, not having enough staff was the joint top issue, alongside access to timely care.

In this section we consider the number of key clinical professionals working in health care systems and other available comparable data on (for example) their morale and remuneration levels.

Numbers of staff

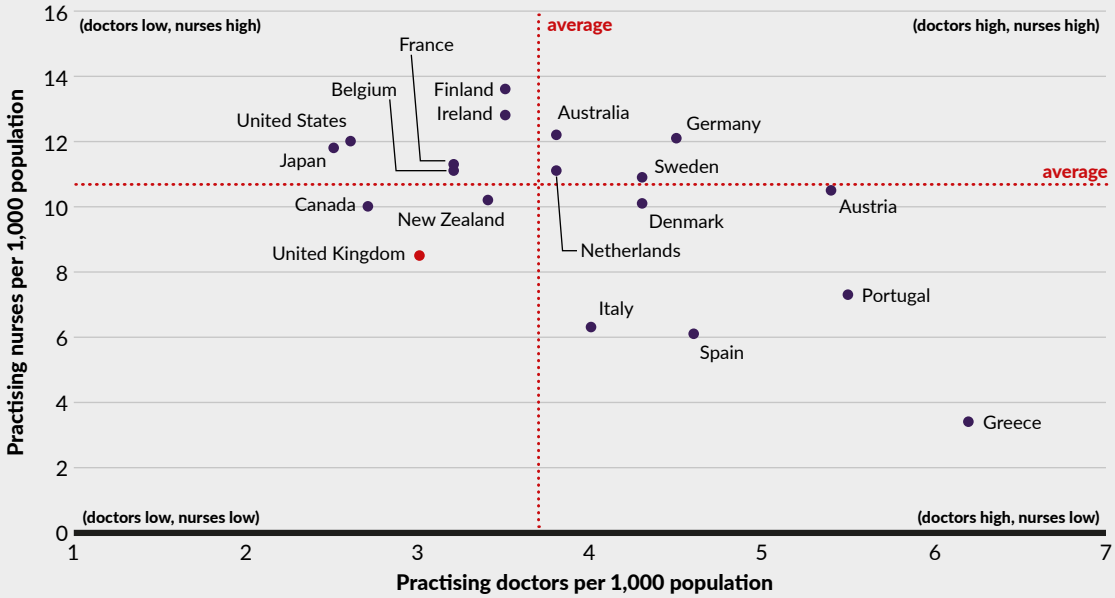
The UK NHS is often listed as one of the largest employers in the world, alongside Walmart, McDonald's and the People's Liberation Army of China. But this does not mean that the UK has the largest health care workforce in the world (Minter 2015). In part, the UK's status as one of the world's largest employers reflects how different health care systems are organised – and the NHS's status as a dominant single employer in UK health. Looking at the total health and care workforce of different countries, 12.4 per cent of jobs in the UK are accounted for by health and care workers, which is about average for our basket of countries but is less than in other countries such as the Netherlands, Sweden, Finland and Denmark, where more than 15 per cent of jobs are accounted for by the health and care workforce (OECD 2021).

Unfortunately, not all countries are able to submit consistent data on their health and care workforce. For example, some countries in our basket (including Greece and Portugal) include data on all doctors who are licensed to practise – which may be more than the number who actually do practise (some physicians may hold largely managerial or administrative positions, or retain their licence while not actively practising).

UK figures for nurses at least partially exclude nurses in primary care settings in Scotland, Wales and Northern Ireland, while figures for the four nations partially exclude nurses in social services, and the independent and third sectors. Of course, this potential underestimate is mitigated by the fact that the NHS is still – by far – the dominant employer of physicians and nurses in the UK.

With these caveats in mind, in our basket of countries, the UK has (on average) fewer practising doctors and nurses per person. Doctor-to-nurse ratios can reflect different models of care. Some countries have fewer physicians per person (including Canada, Japan and the United States), whereas others have fewer nurses per person (including Greece, Italy, Portugal and Spain). But the UK has strikingly low numbers on *both* of these staffing measures (*see* Figure 9).

Figure 9 The UK has fewer doctors and nurses per person than most of its peer countries



Source: OECD 2021

Nurses: data for some countries may differ, eg, some countries include associate professional nurses with a lower level of qualifications; nurses working in the health sector as managers, educators, researchers and similar; all nurses licensed to practise; only nurses employed in hospitals. Doctors: data for some countries may include: all doctors licensed to practise, resulting in a large overestimation of the number of practising doctors (eg, of around 30 per cent in Portugal); doctors working in the health sector as managers, educators, researchers.

It is a similar picture for other staff groups where data is available. Compared to peer countries, the UK has more midwives than average but fewer pharmacists, dentists and physiotherapists (**OECD 2023a**). It is possible that the UK makes greater use of non-clinical staff than other countries do (**Winkelmann *et al* 2022**) – though the level and impact of this difference in staffing mix is unclear.

Countries can increase the availability of clinical professionals by (for example) training new staff, recruiting staff from other countries, and trying to retain existing staff who might otherwise retire or leave employment in the health care sector. There is some limited data to provide insights into each of these areas.

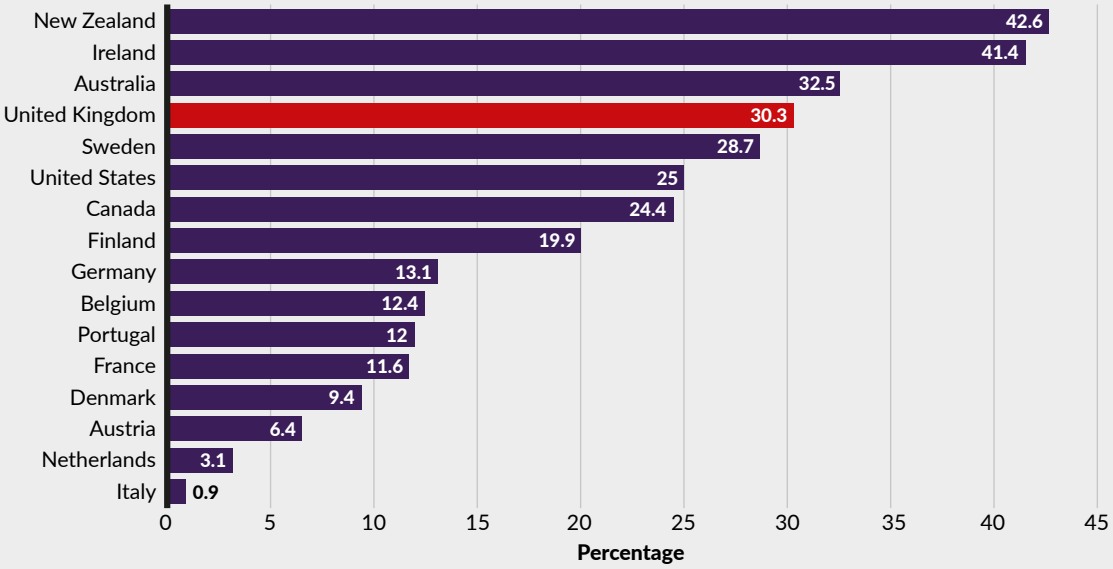
The UK is close to average for the number of medical graduates per person (students who graduate from medical schools in a given year, excluding dental, public health and epidemiology graduates), and is slightly below average for the number of nursing graduates. The number of clinical graduates can reflect a combination of policy initiatives and structural health system factors. For example, medical schools in Ireland train a large share of students who come from, and then go on to practise in, other countries (**OECD 2021**).

Countries that do not domestically train high numbers of clinical staff can bolster their workforce by recruiting foreign-trained staff. The UK is above average for the share of doctors and nurses who were trained in other countries (*see* Figure 10) (**OECD 2023a**).

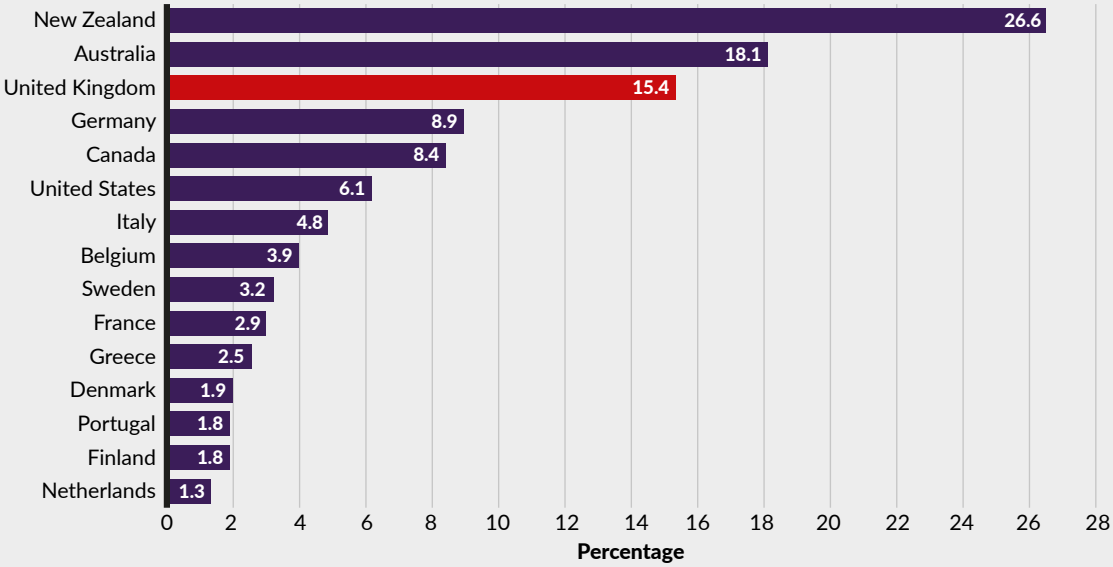
Countries that have a high number of foreign-trained nurses, such as Australia, New Zealand and the UK, rely heavily on recruitment from India and the Philippines. However, Australia and New Zealand also recruit heavily from the UK. In 2021, only 1.1 per cent of foreign-trained nurses in the UK came from Australia, with 0.3 per cent from New Zealand. In contrast, UK-trained nurses account for 1 in 5 foreign-trained nurses in New Zealand and 1 in 4 in Australia (*see* Figure 11).

Figure 10 The UK has a larger-than-average share of foreign-trained doctors and nurses

Share of doctors who are foreign trained, 2019 or nearest year



Share of nurses who are foreign trained, 2019 or nearest year



Source: OECD 2023a

Data for Germany is based on nationality not place of training. The data source in some countries includes interns and residents, while these physicians in training are not included in other countries. Because foreign-trained doctors are often over-represented in the categories of interns and residents, this may result in an underestimation of the share of foreign-trained doctors in countries where they are not included (such as Austria and France).

Figure 11 A large share of nurses in Australia and New Zealand were trained in the UK, but there is relatively little traffic in the other direction

Source: The King's Fund analysis of OECD health statistics (OECD 2023a)

Other characteristics of medical professionals

Data is more readily available for medical professionals than for other staff groups on a range of other staffing measures.

Nearly 3 in 4 doctors in the UK are classed as specialists, with the remainder classed as general practitioners. This measure is affected by variation in how countries classify their doctors. For example, in the United States, general internal medicine doctors are classed as specialists but can perform GP-like roles (OECD 2021). However, overall, the UK seems to have a more specialist-dominated mix of doctors than average for our basket of countries.

Health care workers possess vital skills that are needed by multiple countries during the current global health workforce crisis. And remuneration levels can

provide a strong incentive for retaining staff and recruiting staff, domestically and internationally. Unfortunately, data on remuneration comes with some caveats that can affect our interpretation of how much clinical staff are paid in different countries. Payments for overtime work and other bonuses can be excluded in some countries for some doctors (eg, in Austria, Ireland and Italy); some countries include physicians in training in their figures (eg, Australia); and data from private sector employees is excluded by several countries (eg, Denmark, Greece, Ireland and the UK).

There is also considerable variation in remuneration levels between and within different staff groups. For example, in some countries, surgeons and anaesthetists can earn more than twice as much as other medical doctors such as paediatricians and psychiatrists. In Australia and Belgium, self-employed specialists earn more than twice as much as self-employed GPs, while in Germany this difference is much smaller (**OECD 2021**).

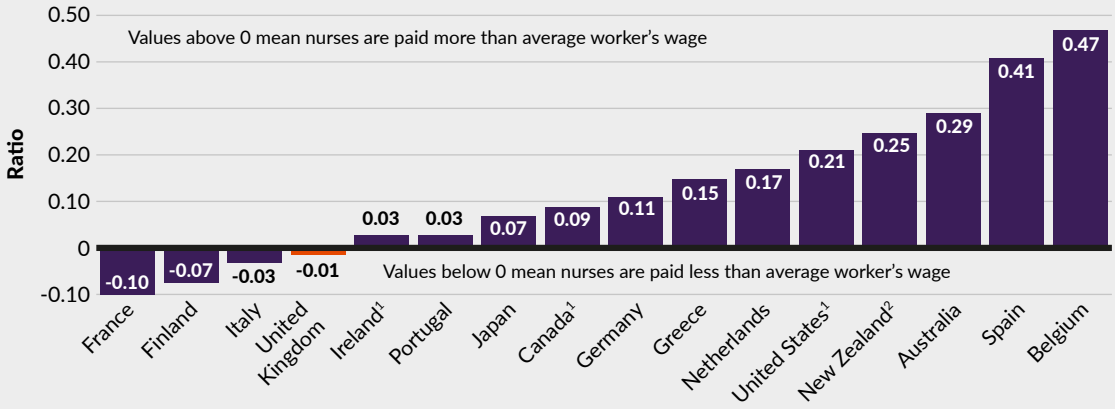
Compared to countries that were able to supply data for these measures, remuneration of specialist doctors in the UK is above average, while remuneration of nurses is below average for our basket of countries (**OECD 2021**). In the UK, nurse remuneration is also roughly equal to the average wage for all workers in the UK (*see* Figure 12), while in the majority of peer countries, nurses earn more than the average wage. In keeping with many of the other countries in the basket, UK doctors earn approximately 2–3 times more than the average worker in the UK (**OECD 2021**).

Different countries have taken different paths on health professional remuneration over time. This can reflect domestic economic circumstances and national policies. For example, some countries (such as Hungary) rapidly increased doctors' salaries to reduce the number of doctors who emigrate to higher-paying countries. Not all countries in our basket submit historical data on physician salaries, but compared to those that do, doctor and nurse salaries have fallen in real terms over the past 10 years in the UK, while many other countries in our basket have seen salaries for these groups increase over this period (*see* Figure 13).

Despite the significant focus governments have placed on the mental health and wellbeing of health care workers during the Covid-19 pandemic (**OECD 2020**) there is surprisingly little contemporary comparable data on the morale of the health care workforce.

Figure 12 Nurses in the UK earn about the same as the average worker

Remuneration of hospital nurses, ratio to average wage (0 = parity), 2019 (or nearest year)



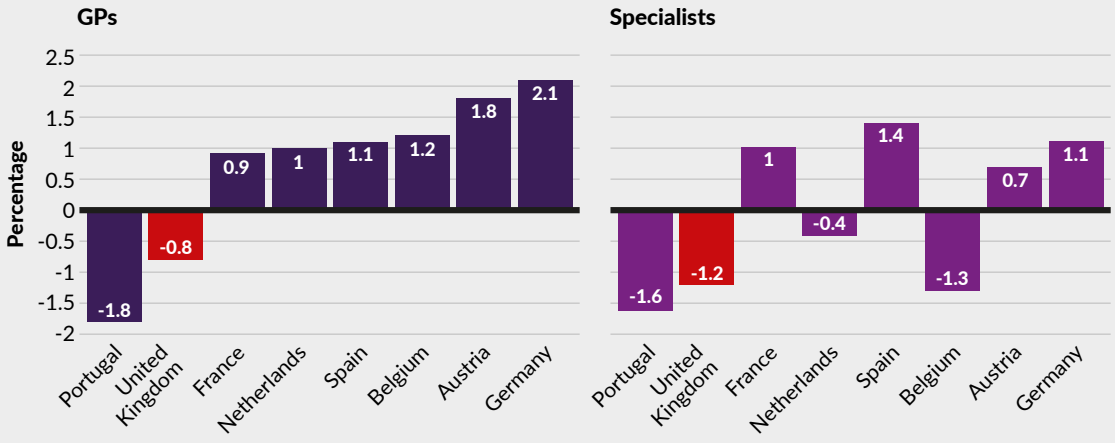
Source: OECD 2023a

1 Data refers to registered ('professional') nurses only in the United States, Canada, and Ireland (resulting in an overestimation).
2 Data for New Zealand includes 'associate professional' nurses, who have lower qualifications and revenues.

The income of nurses is compared to the average wage of full-time employees in all sectors in the country. It is also compared across countries based on a common currency (US dollars) and adjusted for PPP

Figure 13 Doctors' salaries in the UK and Portugal have fallen in real terms, unlike many other countries

Average annual growth rate (in real terms) in remuneration of GPs and specialists, 2010 to 2020 (or nearest years)



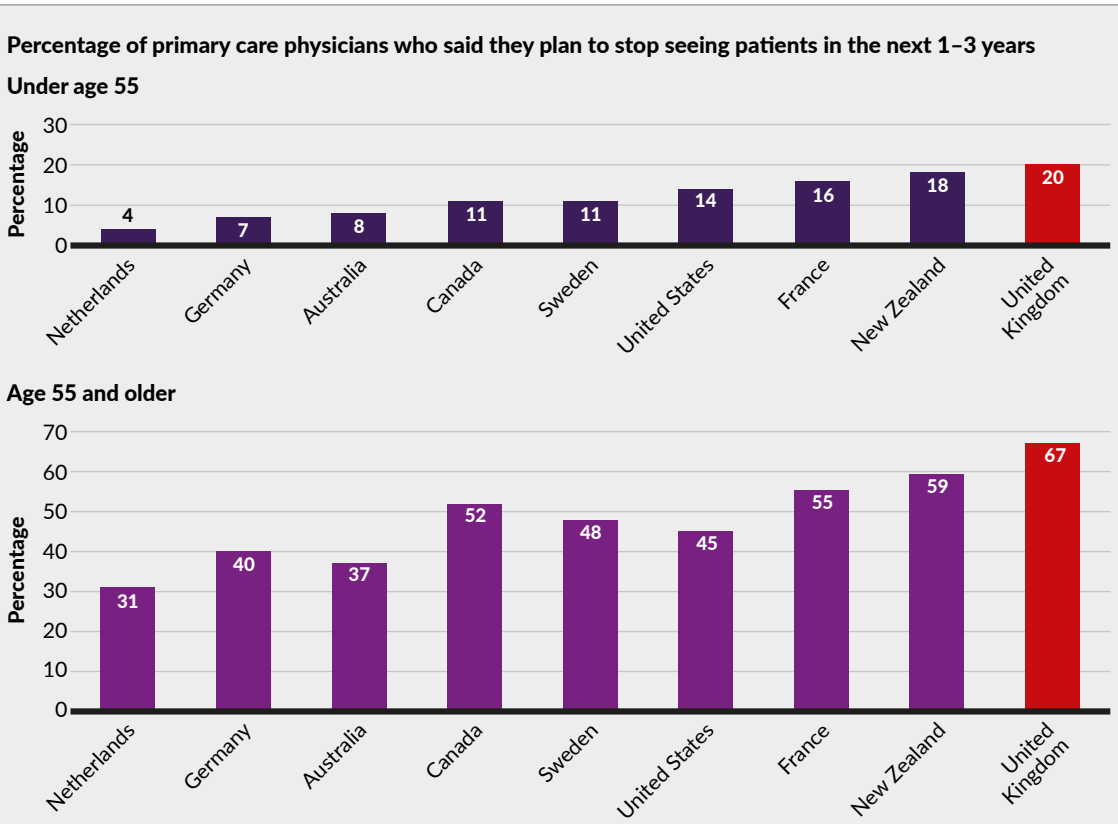
Source: OECD 2023a

Data for the UK includes only England. Growth rates for Germany, France, Austria and Belgium are for self-employed GPs and specialists

One of the few data sources comes from The Commonwealth Fund, which recently surveyed primary care physicians in 10 high-income countries (Gunja *et al* 2022). It found a mixed picture for the UK. Compared to other countries, the UK had a relatively high share of younger physicians (under age 55) reporting burnout, with a relatively lower share of older physicians (age 55 or older) reporting the same. The UK also had the highest share of younger and older primary care physicians who planned to stop seeing patients in the next three years (*see* Figure 14).

In summary, the UK has a strikingly low number of both nurses and doctors per person compared to its peers, and is heavily reliant on recruitment from other countries. And a service that is already short of doctors and nurses is losing them to other countries or professions with better remuneration and working conditions.

Figure 14 Two-thirds of older primary care physicians in the UK say they intend to stop seeing patients in the near future



Source: Gunja *et al* 2022

Reasons to stop seeing patients include changing careers, retiring, etc

8 Other health care resources (equipment, beds and medicines)

Health care systems rely on a wide range of resources to deliver services for patients and the public. These range from low-cost wound dressings to high-cost sophisticated technologies such as proton beam therapy. But due to a lack of available comparable data, we can only compare countries on a relatively narrow range of resource measures, including some diagnostic technologies, hospital beds and pharmaceuticals.

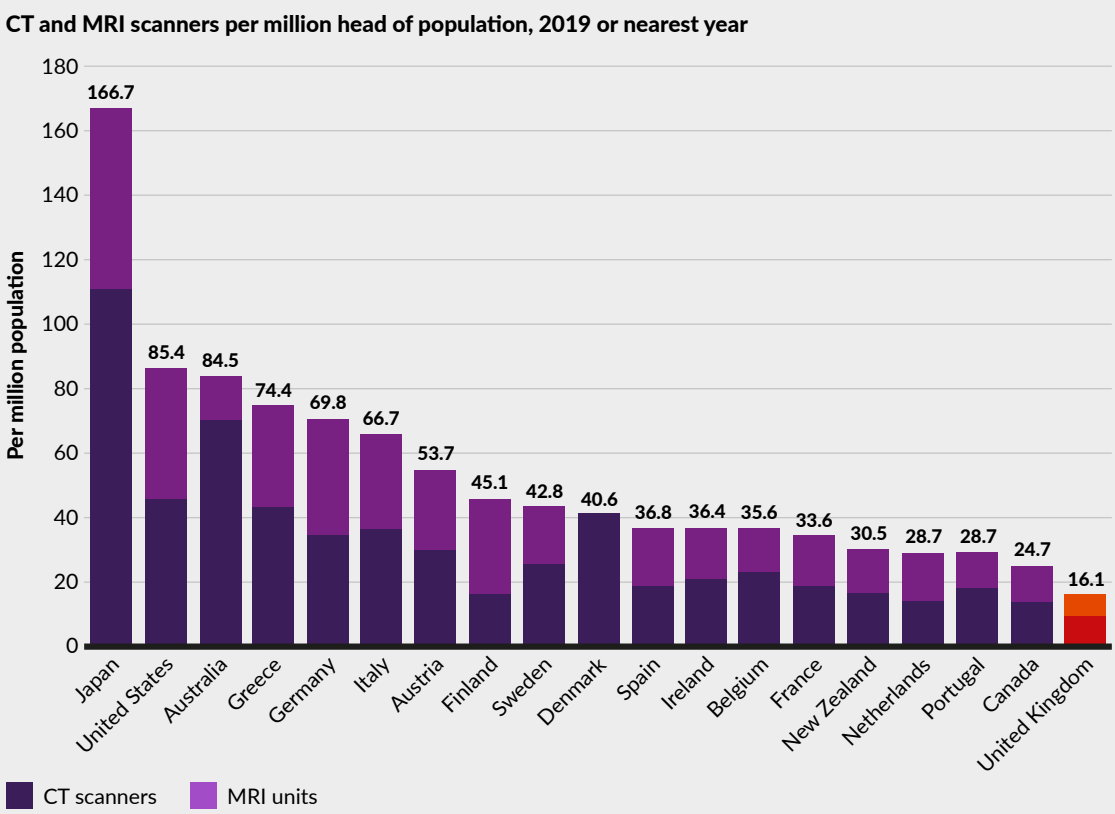
Diagnostic technologies

Diagnostic technologies play a crucial role in the diagnosis and treatment pathways for health care conditions. Compared to our basket of countries, the UK has far fewer units of two key diagnostic technologies: computerised tomography (CT) and magnetic resonance imaging (MRI) scanners (*see* Figure 15). However, data for the UK on these measures does not fully capture MRI and CT scanners outside hospital and in the private sector.

As with capital investment overall, there is no 'right' level of diagnostic equipment. The OECD (2021) notes that too few scanners can lead to longer waiting times or under-diagnosis of health conditions, while too many scanners could lead to overuse of costly equipment for little clinical benefit.

The number of scanners a country has can also reflect historical and wider societal practice. For example, Japan is a clear outlier in having far more scanners per head than other countries, including an MRI scanner based at a gas station in Yamaguchi prefecture (Yanase 2022). This reflects Japan's large and mature diagnostic manufacturer market and the role of access to diagnostic devices in the competitive market between smaller private hospitals (Matsumoto *et al* 2015; Niki 1985).

Figure 15 The UK has fewer CT and MRI scanners than comparator countries



Source: OECD 2023a

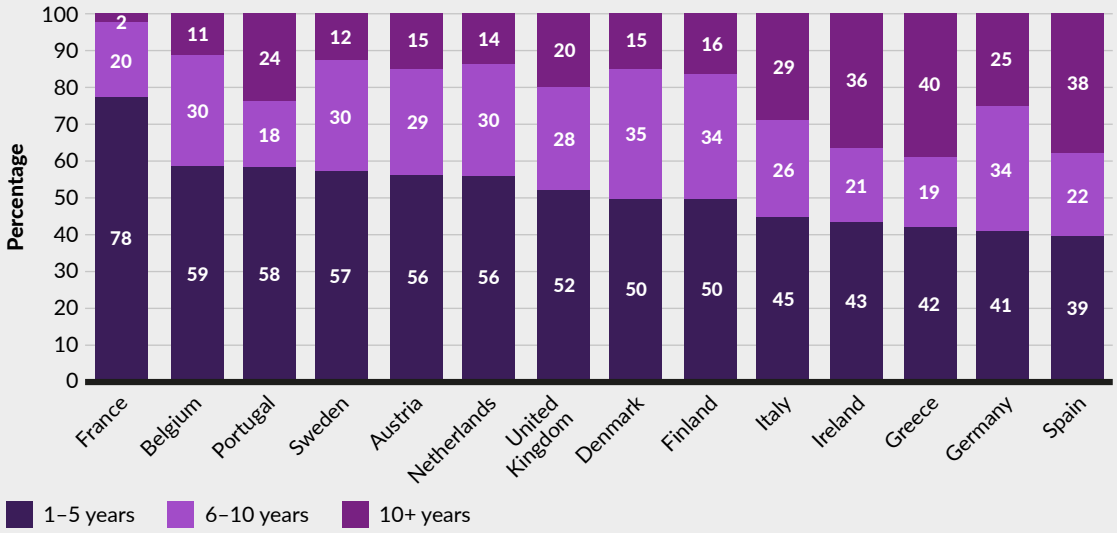
Data on MRI units is not available for Denmark. Equipment outside hospital is excluded for Portugal, Sweden, United Kingdom. Only equipment eligible for public reimbursement is included for Australia

But even if the UK is not seeking Japanese levels of scanning technology, it is unlikely to be content with its current position. As noted earlier, capital investment in health care is low in the UK overall and has been associated with rising maintenance problems with NHS buildings and infrastructure. Scanning equipment is no exception to this trend.

A survey by the European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry (2021) found that the age profile of medical imaging equipment in the UK is about average compared to many of the countries in our basket (*see* Figure 16). Older medical equipment can often be used safely, but newer technology can offer benefits, including higher-quality images, scans with lower radiation doses, and faster examinations.

Figure 16 Slightly more than half of the UK's MRI machines are relatively new

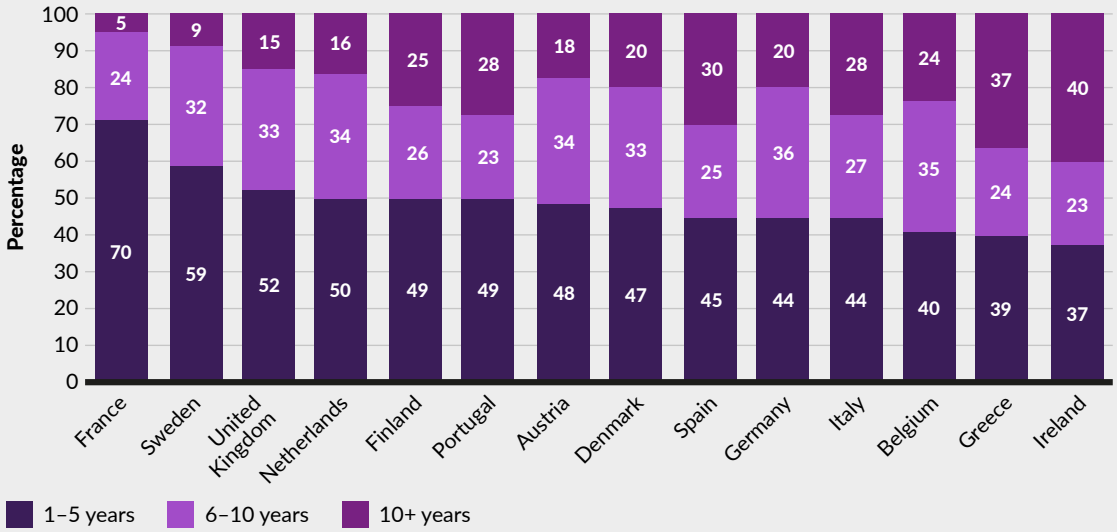
Age profile of magnetic resonance imaging (MRI) equipment, 2021, surveyed companies



Source: European Coordination Committee of the Radiological, Electromedical and Healthcare IT industry 2021

Based on survey of companies including Canon Medical Systems, GE, Philips, Siemens Healthineers.
Numbers may not sum due to rounding

Age profile of computed tomography (CT) equipment, 2021, surveyed companies



Source: European Coordination Committee of the Radiological, Electromedical and Healthcare IT industry 2021

Based on survey of companies including Canon Medical Systems, Fujifilm, GE, Philips, Siemens Healthineers.
Numbers may not sum due to rounding

The UK government has said it will provide additional funding to replace old diagnostic equipment and develop new one-stop shop diagnostic facilities in local communities. The available data suggests that the UK has a lot of ground to make up before the number and condition of its medical imaging equipment matches the level of peer countries.

Hospital beds

The UK also has relatively few of another key resource – hospital beds. It has 2.5 beds per 1,000 people, compared to the average for our basket of countries, of 3.2 beds per 1,000. The UK is also below average for the number of intensive care beds it has (*see* Figure 17).

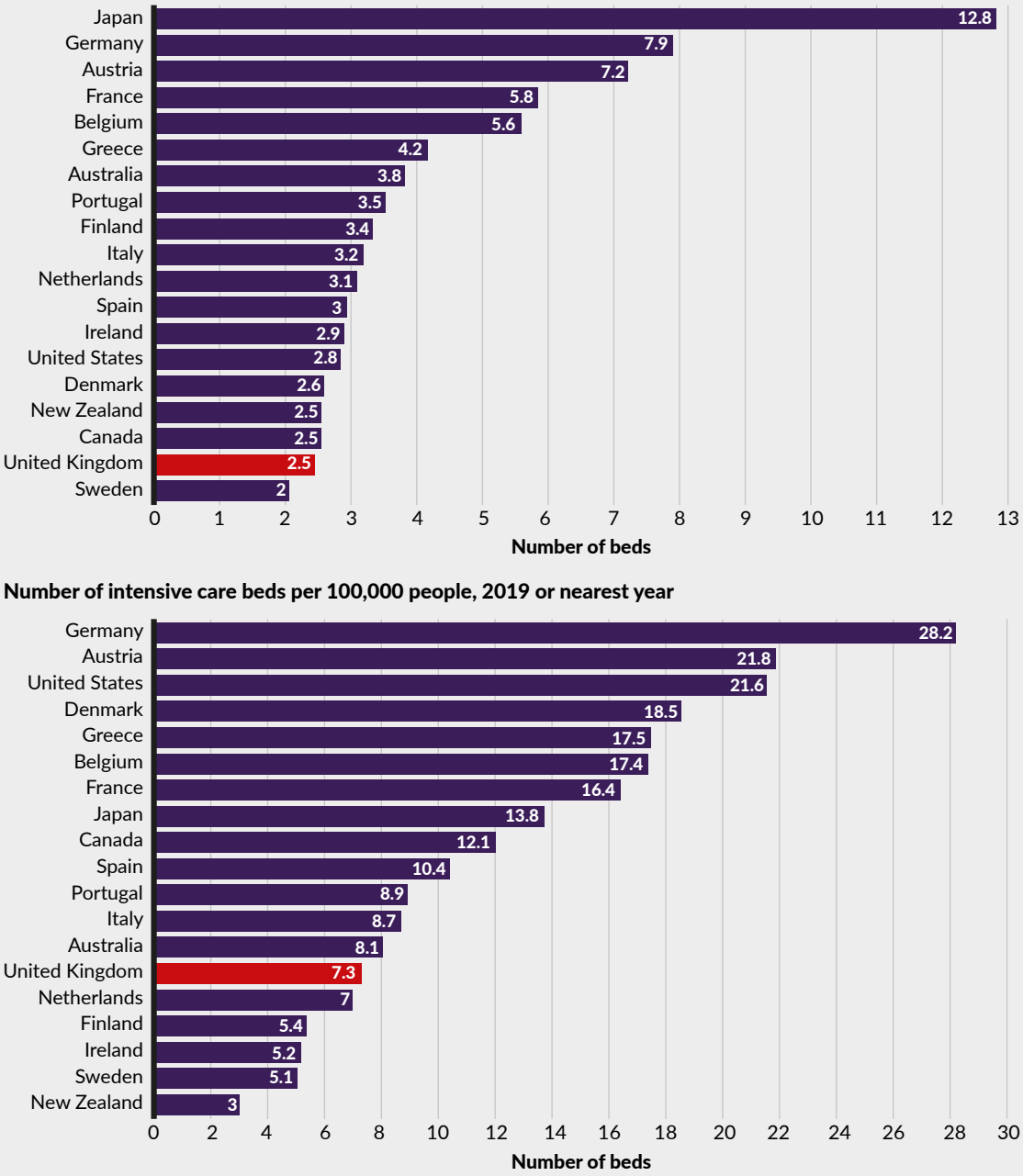
Many countries have reduced their number of hospital beds over previous decades, reflecting changes in how care was delivered. For example, shorter hospital stays were needed as medical technology advanced and as more procedures (such as cataract operations) could be done on a same-day basis.

However, a low level of available hospital beds has been associated with poorer performance in health care systems, including longer waiting times for urgent care and routine planned care. The Covid-19 pandemic also highlighted how a lack of hospital beds could lead to bottlenecks in access to care and a lack of resilience to surges in demand (**OECD 2023b**).

The number of clinical staff is one of the key factors that affects how many hospital beds a system can operate (together with other factors, including available physical space, funding, and guidelines and regulations on how many patients each clinician can be assigned to care for). So the low number of hospital beds in the UK may be at least partly associated with the low number of clinical staff discussed in earlier sections.

The UK does not submit comparable information on bed occupancy rates, but separate data from NHS England (**2023**) shows that 88 per cent of available beds were occupied on average in 2019 (including beds for general and acute care, mental health and learning disabilities, and maternity). This is above the recommended levels to maintain standards for safe care and good patient flow through hospitals (**National Institute for Health and Care Excellence (NICE) 2018**). From separate data collected by the OECD, only Canada and Ireland in our basket had a higher share of their hospital beds occupied.

Figure 17 The UK has fewer hospital and intensive care beds than most of its peers



Source: OECD Health Statistics, OECD 2023a

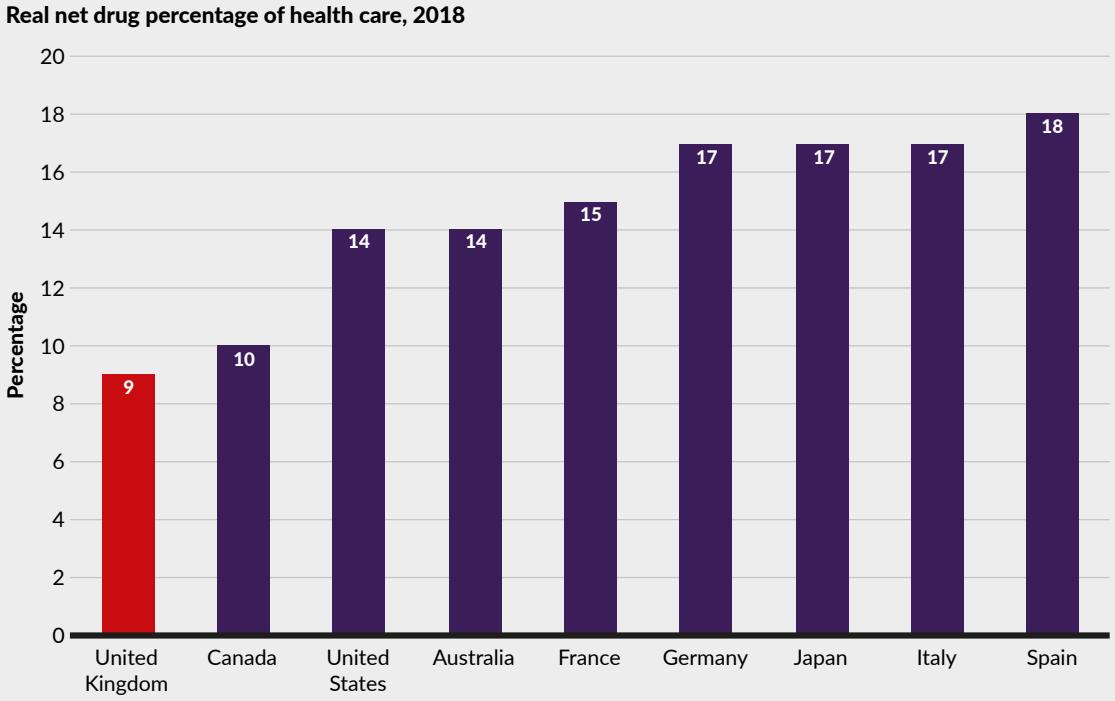
Intensive care beds data are for England rather than the whole of the UK; data for Ireland relate only to critical care beds

Medicines

Health systems aim to provide timely and cost-effective access to medicines to support the health needs of their populations. In our basket of countries, the UK is below average for spending per head on retail pharmaceuticals. This includes spending on prescription medicines and self-medication (also described as over-the-counter products), but excludes medicines used during hospital treatment.

Separate data from IQVIA, an analytics research company, shows that the UK spends a relatively low share of its health spending on medicines compared to peer countries that submit data on this measure (*see* Figure 18). Spending levels will be heavily affected by the approach each country takes to controlling the prices of medicines, prescribing practice (including which medicines can be prescribed, and approaches to prescribing cheaper generic versions of medicines), and patient

Figure 18 Drug spending accounts for a lower share of health care spending in the UK



Source: IQVIA Institute 2021

Drug spending as a percentage of health spending is reported inclusive of different medicines in different delivery settings (eg retail, hospitals) and is reported after discounts and rebates by payers

behaviour. Particularly for medicines prescribed in the community, lower spending in the UK has been attributed to price negotiation and regulation on spending, evidence-based prescribing policies, and high rates of generic prescribing (**Naci and Forrest 2023**).

A final area of medicines use concerns access to new medicines. The UK government collates information on the country's relative competitiveness in the life sciences sector, including information from the European Federation of Pharmaceutical Industries and Associations (EFPIA).

The government's competitiveness indicators suggest that the UK has mixed performance on its level of access to new medicines compared to other countries in our basket. For medicines that received marketing authorisation in Europe (ie, where a medicine has been approved for marketing in one or more EU countries) between 2017 and 2020, 68 per cent and 54 per cent of these medicines were available to patients in England and Scotland respectively between 2017 and 2020. The lowest access levels were reported by Ireland (42 per cent) and Spain (53 per cent), and the highest levels were reported by Austria (79 per cent), Italy (79 per cent) and Germany (92 per cent).

9 Processes

Health systems across the world attempt to use their resources as effectively and efficiently as possible to improve the health and wellbeing of their populations. But in general, only disparate and partial indicators of comparative health system processes are available.

A seminal report by the OECD (2017) identified three types of wasteful spending in health care systems:

- governance-related waste (eg, ineffective administrative spending)
- operational waste (eg, paying excessive prices, or discarding unused products such as medicines)
- wasteful clinical care (eg, ineffective low-value care, failing to prevent adverse events, or duplication of services).

The OECD analysis provides a helpful conceptual frame for thinking about how well health systems use their resources. Some measures of waste are available from international datasets for each of these areas.

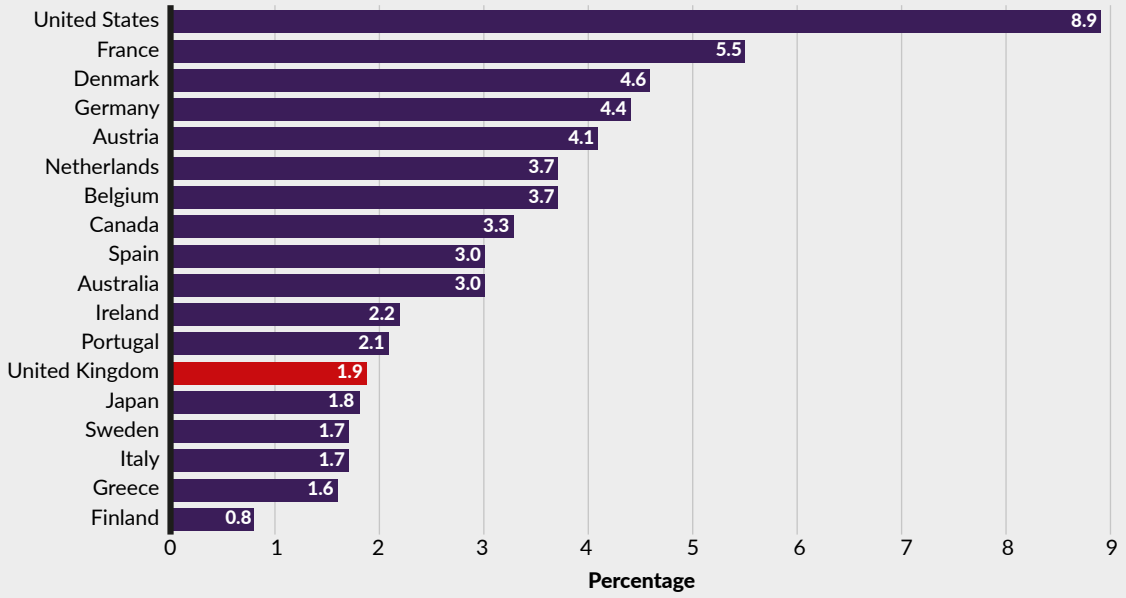
Governance-related waste

Even though it accounts for a relatively small share of health spending (*see* Figure 19), administrative spending is often targeted by governments or local leaders who want to reduce overall health care spending (Ellicott 2022). As a result, health systems frequently experience 'wars on waste' and efforts to cut red tape and reduce bureaucracy. The UK spends below the average on administration compared to other health care systems (OECD 2021).

Health systems may spend more on administration due to structural or wider societal factors. For example, collecting revenues will be potentially more costly with a more geographically dispersed population. But the OECD notes that the way a health care system is financed (whether largely through taxation, social health insurance or private health insurance) plays a major role in driving administrative costs (OECD 2017).

Figure 19 Administrative spending is lower than average in the UK health system

Administration spending as a share of total health spending, 2021 or nearest year



Source: OECD 2023a

Administrative costs refer to the costs associated with the governance and administration of the health system and the collection and pooling of financial resources by different health financing schemes. Administrative costs of health providers (eg, hospitals) are not included.

Looking across different types of health care system, the OECD (2017) observed that health financing schemes managed by governments (ie, including both national and regional or state-level governments) had lower administrative spending than health systems organised around social health insurance or other compulsory insurance schemes. Where voluntary private health insurance schemes are used, they account for a relatively high share of total health spending on administration within a country.

This pattern could be due to numerous factors. For example, systems that rely on insurance-based schemes have to identify, register and enrol members into their schemes. These costs could be duplicated where there are multiple potential insurers (or payers/funds) rather than a single payer, because multiple insurers have to contract with multiple providers – adding administrative effort for both the provider and the payer. And if different insurers can compete for enrolees, then there may be additional costs of advertising and marketing their schemes to the public.

Administrative costs will vary across countries that rely on insurance schemes, because no two insurance schemes are exactly alike. For example, the OECD found little difference in administrative spending levels between tax-based systems where residents are automatically covered and other insurance-based systems where there was a single payer. Systems with multiple funds or payers, and where there was freer choice of insurer, had higher administrative costs than systems where people were automatically enrolled in a fund.

So far we have focused on the costs of administration. But it is important to emphasise that spending on administration is necessary to support health care systems. Administration includes, for example: raising sufficient financial resources for the health care system; underwriting and pooling risk in insurance systems; purchasing and contracting with individual health care providers; and managing and monitoring system performance.

This is an admittedly dry description of functions that materially affect the health care we receive. But without these functions, health systems would struggle to achieve any of their core goals to deliver accessible and high-quality care.

Unfortunately, while there is data available on the *costs* of administration across different countries, there is little data on the *benefits* that are tied to these administrative processes. For example, we cannot determine if higher investment in financial management results in prompter payment of suppliers and health care providers, better oversight of the quality of care providers deliver through pay-for-performance schemes, or fewer examples of undesirable 'good risk selection' (ie, 'cream-skimming') in insurance-based systems.

However, separate data does give an indication that administration and bureaucracy are not a pressing concern in the UK health service. In The Commonwealth Fund's international surveys, the physicians in the UK report spending less time than many other countries on paperwork or disputes related to medical bills or insurance claims (**Schneider *et al* 2021**). And polling from Ipsos Mori (**2022a**) has found that 21 per cent of surveyed people in the UK think bureaucracy is a big problem in our health service, which is about average for our basket of countries. The lowest reported bureaucracy levels were in Japan (13 per cent) and Belgium (16 per cent), with the highest levels in Italy (31 per cent), the Netherlands (30 per cent) and Germany and Sweden (both at 29 per cent).

Operational waste

Relatively little comparable information is available on whether health systems are paying excessive prices or are minimising how many useful health products are discarded without being fully used. Individual country studies reviewed by the OECD also suggest that there is often substantial variation within countries in how much is paid for goods and services. For example, procurement atlases have shown two-fold variation in how much hospitals pay for simple identification wristbands for patients (OECD 2017).

Because it is relatively easier to monitor and assess their use, a large focus has been placed on whether medicines are being prescribed and used appropriately in health care systems. One of the most commonly used measures to assess prescribing efficiency is the share of medicines that are prescribed generically – that is, where a cheaper but therapeutically equivalent generic version of a medicine is prescribed, rather than a branded originator. The UK performs well on this measure and has the highest share of generic prescribing (85 per cent) in our basket of countries (*see* Figure 20).[2]

Wasteful clinical care

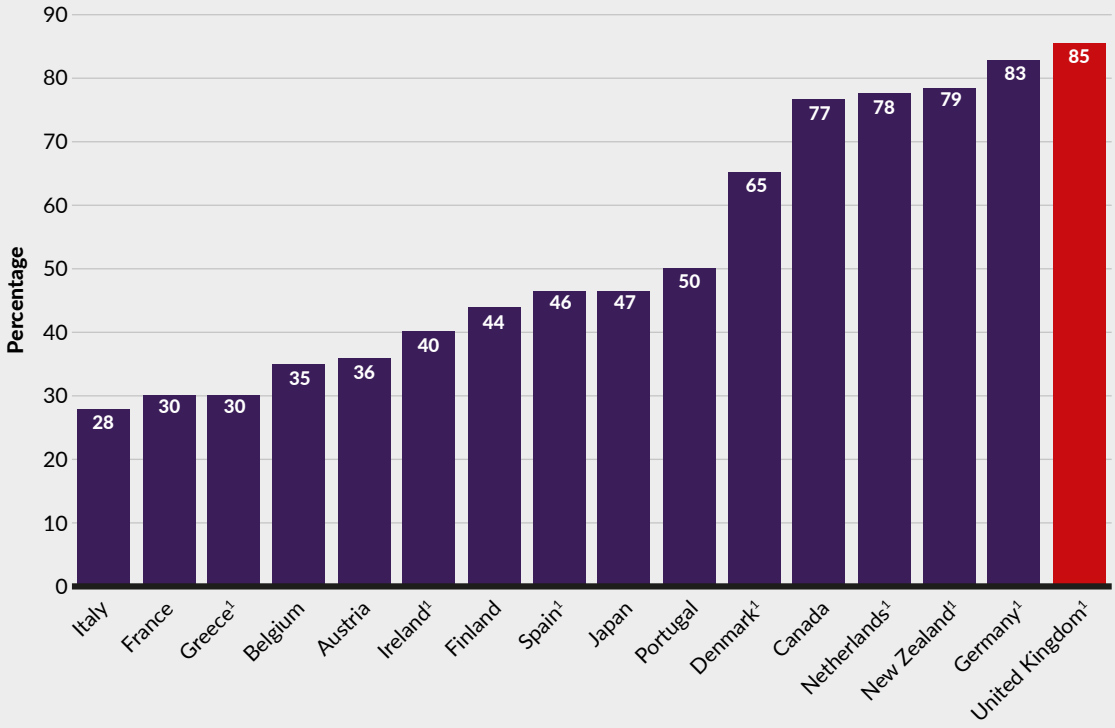
The average length of stay in hospital is an indicator that is commonly used to compare the efficiency of health care systems. All other things being equal, shorter stays in hospital can lead to better health (eg, through lower risk of health care-acquired infections) and greater efficiency for health care systems, as staff time and hospital beds can be dedicated to a larger number of patients. The UK had slightly shorter average lengths of stay in 2019 than the other countries in our basket. The UK also has a high share of minor surgeries for conditions such as cataracts, which are performed as ambulatory cases without requiring overnight admission to hospital (OECD 2017).

As Dayan *et al* (2018) note, these aggregate figures can mask significant variation in how long people stay in hospital for different types of procedures. And, as noted earlier in this report, all things are not equal in how health care systems are organised, so comparisons based on average lengths of stay should be interpreted

2 Countries are asked to supply information for the whole of their respective markets but some countries provide data only for their community pharmacy markets, ie, excluding drugs used in hospitals.

Figure 20 The UK has high generic prescribing rates

Share of generics in the total pharmaceutical market, 2019 (or nearest year), by volume



Source: OECD 2023a

1 Reimbursed pharmaceutical market refers to the sub-market in which a third-party payer reimburses medicines

with caution. A country could report shorter lengths of stay, but more frequent readmissions for care or more costly treatment during shorter but intense stays in hospital.

On other measures of wasteful clinical care, together with the Scandinavian countries in our basket, the UK had among the lowest volumes of second-line antibiotic use in 2019 (OECD 2021). Reducing the use of these antibiotics is a focus across many countries to reduce the risk of resistant strains of bacteria and is a marker of care quality in primary care settings.

Innovation and use of technology and data

There are many individual case studies of how countries are using data, technology and wider innovations to improve health care. For example, the use of electronic prescriptions in Estonia; tele-tracking technology in Denmark (Healthcare Denmark 2023); and electronic health records in Singapore (Klecun *et al* 2020). The RECOVERY trial during the Covid-19 pandemic demonstrated the ability of the UK's health system to rapidly identify and test treatments for new health threats.

But unfortunately, there is relatively little information on how a wider range of health care systems compare in their use of data, technology and broader innovative changes to how health care is planned and delivered.

The OECD does record that nearly all (99 per cent) of primary care physician offices in the UK use electronic medical records. This is not unusual; several other countries achieve similar levels. But it is a notable feature of the UK health system that anonymised data from GP systems can be linked with other datasets such as hospital data and mortality records. These linkages can be used to support programmes such as Clinical Practice Research Datalink (CPRD) and OpenSAFELY, as well as to inform clinical guidance and best practice, the safe use of medicines, monitoring of disease risk factors and the effectiveness of health policy. The UK is also slightly higher than the average for our basket of countries when it comes to digital health literacy, measured by the share of adults who search for health information online (63 per cent for the UK) (OECD 2021).

Separate data, specifically on diabetes care, from The Economist Intelligence Unit (EIU 2020), assessed England as having a 'high' overall score for digital health care readiness, with strong institutional capacity, proactive attempts to collect data on diabetes through national audits, and including digital diabetes management tools in clinical guidelines. The EIU included eight other countries from our basket in their assessment. Belgium, France, the Netherlands, Portugal and Spain were assessed as having 'medium' overall readiness, while Denmark, Germany and Italy were also assessed as having 'high' readiness.

The Foundation for Research on Equal Opportunity (FREOPP), a think tank, ranks health systems based on four dimensions: quality, choice, science and technology, and fiscal sustainability. The UK was ranked just 15 out of 32 countries overall by FREOPP but was the third-highest ranked country in the science and technology

dimension (behind the United States, ranked first, and Switzerland – not in our basket of countries – ranked second). That dimension includes: measures of scientific discovery (eg, Nobel laureates in medicine or chemistry); medical advances (eg, number of health patents); and health digitisation (eg, the rate at which electronic health records have been adopted) (Roy 2023).

Similar data is available from the life sciences competitiveness indicators that the UK government publishes. These indicators compare the UK to other countries in its research environment (eg, spending on research and development (R&D), patent applications, academic citations); domestic market (eg, uptake of new medicines, availability of scanners); production environment (eg, number of people employed in making pharmaceuticals or medical technology); international collaboration (eg exports and imports of medical technology); investment environment (inward foreign investment to life sciences); and access to skilled labour. In some cases, the indicators come with important caveats – for example, patent applications are not always filed from the country location where the research activity took place.

It is hard to draw an overall conclusion based on this mix of nearly 30 very different indicators, but overall, the UK has both strengths and weaknesses. For example, in the research environment domain, the UK sets a high budget allocation for health R&D and has a strong research presence in medical sciences publications. But compared to other countries, it recruits an average number of patients to clinical trials and takes longer to set up and recruit those patients to clinical trials.

10 Quality of care

In this section we compare the UK to other countries on different aspects of the quality of health care it delivers, in particular: how long people wait for care; whether the care they receive is safe and effective; and whether patients receive a good care experience.

Waiting times

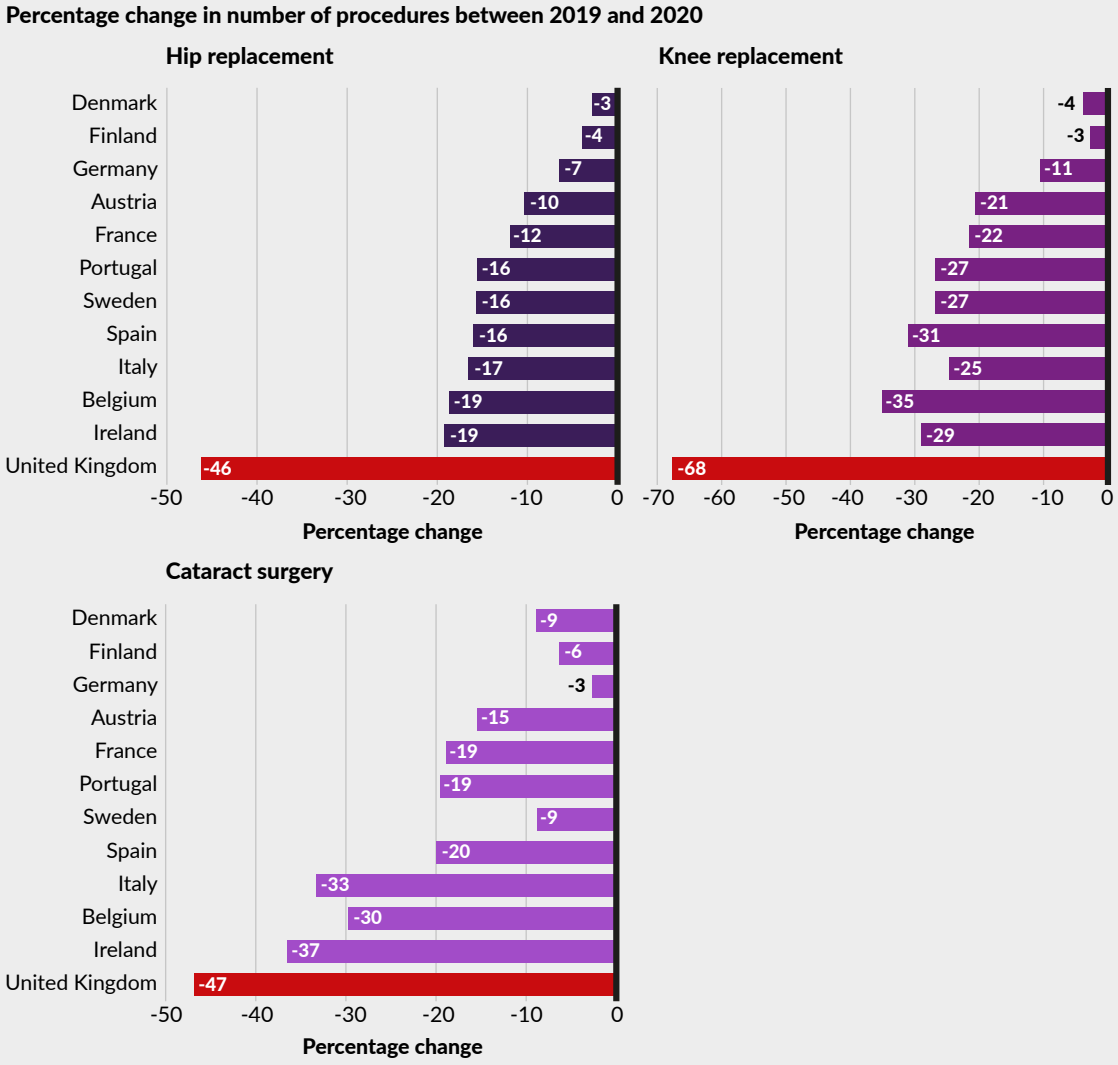
Unfortunately, contemporary and comparable data is less commonly available on waiting times for important services, including mental health crisis services, accident and emergency (A&E) departments, and ambulance services. But the OECD does collect data on waiting times for planned routine (also known as elective) surgery for three common procedures: cataract surgery, hip replacement and knee replacement. Only nine countries from our basket routinely submit data on these measures; the UK was in the middle of the pack in terms of the proportion of patients who wait more than three months from specialist assessment to treatment for these three procedures (in 2019).

This data was, of course, collected before the Covid-19 pandemic struck, and there is only limited international data on the impact of the pandemic on how many people are waiting for planned care, and how long these people are waiting on average. We do know that the UK is well towards the bottom of the pack in its activity levels during the pandemic. The volume of cancer-related surgeries and surgeries for cataracts, knee and hip replacements fell more sharply in the UK in 2020 compared to 2019 (*see* Figure 21) (**OECD/EU 2022**). And separate data from The Commonwealth Fund (**Williams II *et al* 2021**) shows that around 1 in 3 (32 per cent) older people with long-term conditions in the UK also reported that they had missed or delayed care because of the pandemic. This share was similar to the Netherlands (32 per cent) but higher than France (22 per cent), Sweden (18 per cent) and Germany (11 per cent).

Problems with accessing timely treatment are present even after people have been admitted to hospital. In the UK, the rate at which older people (aged 65 and over) have their hip-fracture surgery start within 2 days of admission to hospital is

88.7 per 100 admitted patients, which is about average for our basket but much lower than the levels achieved in the Netherlands (95.4 per cent) and Denmark (97.6 per cent). Surgical delays beyond the 24–48 hours from admission recommended by clinical guidelines increase the risk of infection, pressure sores and death.

Figure 21 The UK saw a particularly sharp fall in the number of hip and knee replacements and cataract surgeries during Covid-19



Source: OECD 2023a

For Ireland, data pertain only to publicly funded hospitals; public patients treated in private hospitals are not included, which overestimates the decrease showed here

Safety

Harm from unsafe care matters, clinically and financially. The OECD estimates that more than 15 per cent of hospital spending and activity in the full basket of more than 30 OECD countries can be attributed to treating patients who have experienced a patient safety event.

The majority of internationally available safety measures centre on surgical care in hospitals. These indicators can be difficult to interpret though. For example, a country may have higher reported levels of safety incidents because of better coding or workplace cultures that make it more likely that safety issues and 'near misses' are reported and discussed openly. Although the majority of people in the UK generally experience low levels of harm, compared to other countries in our basket in 2019, the UK has relatively high levels of reported harm, whether from foreign bodies being left after a procedure (eg, a piece of medical equipment like forceps being left inside a body after surgery) or adverse events such as pulmonary embolism or deep vein thrombosis after hip or knee replacement surgery, and post-operative sepsis after abdominal surgery (OECD 2021).

Patient experience

The UK generally has mixed performance on the wide range of indicators that are related to patient experience.

In a The Commonwealth Fund survey reported by the OECD (OECD 2021), UK patients reported lower-than-average scores on a number of measures: being involved in decisions about care and treatment (80.6 per cent, compared to an average of 87.6 per cent); receiving easy-to-understand explanations from doctors (86.7 per cent for the UK, compared to an average of 92.5 per cent); and having enough time with their doctor during consultations (72.7 per cent for the UK, compared to an average of 83.5 per cent).

Separate data from 2021 has been compiled from the OECD (2021) on community mental health services, which vary substantially in sample size and in some cases only relate to regions rather than countries in our basket (eg, data is only reported for Paris in France, and Whitney in Canada). The available data shows that 92 per cent of community mental health service users in the UK feel that they were

treated with courtesy and respect by care providers, which is roughly average when compared with available data from other countries.

Polling data – largely from before the Covid-19 pandemic – is also available on how satisfied people are with the quality of their health services. But different polls can produce different results based on their methodology and timing. For example, data from the Gallup World Poll (2020, cited in **OECD 2021**) suggests that people in the UK have below-average levels of satisfaction; 75.5 per cent of survey respondents said they were satisfied with the availability of quality health care in their city or region in the UK, compared to an average of 78.4 per cent across our basket of countries. The countries with very high satisfaction rates include the Netherlands (92.0 per cent) and Belgium (92.2 per cent). But a separate poll by Ipsos Mori (**2020a**) found a higher relative position for UK countries on a similar measure: 74 per cent of survey respondents said they would rate the quality of health care they could access in Great Britain as 'good' or 'very good', with only Australia (81 per cent) and the Netherlands (76 per cent) receiving higher scores from our basket of countries.

It is important to note though that self-reported experience levels in the UK were still high in many areas in absolute terms. For example, more than 4 in 5 UK patients in The Commonwealth Fund survey said they did receive easy-to-understand explanations and were involved in decisions about their care and treatment. But the UK showed average-at-best performance relative to its peers on several patient experience measures.

Effectiveness

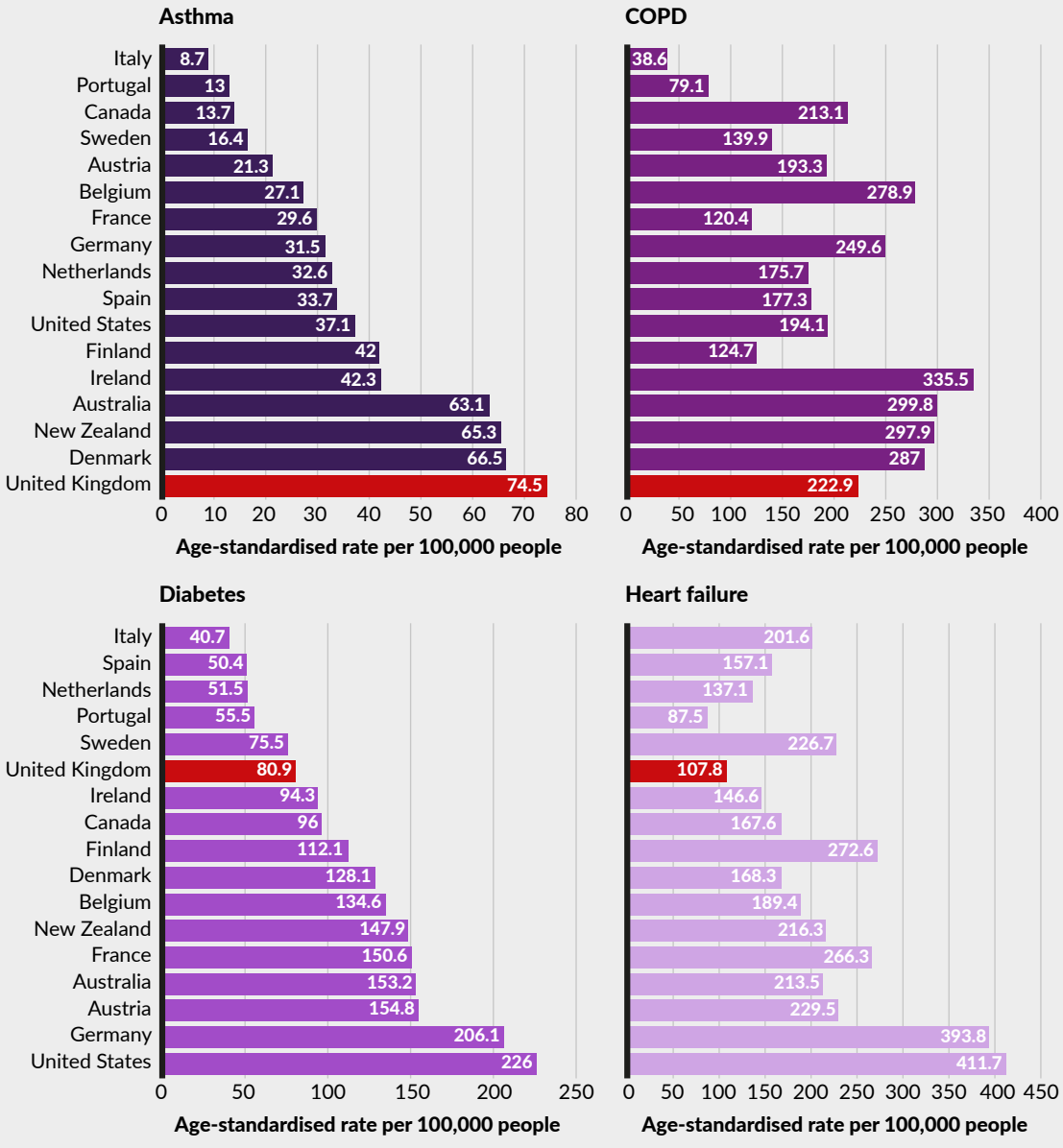
Health systems also try to reduce waste and improve health outcomes by providing more effective care and earlier interventions that can reduce the need for more costly care in the future. A commonly used indicator in this area is the rate of avoidable admissions for long-term conditions such as diabetes, asthma, chronic obstructive pulmonary disease (COPD) and congestive heart failure. Effective monitoring, management and treatment of these conditions, particularly in primary care, can reduce the risk of these conditions worsening and symptoms becoming exacerbated to the point where the person may need to be hospitalised.

Care should be taken when interpreting these figures, as they can be heavily affected by different data-recording and reporting practices in countries. For example, admission indicators focus on cases where diabetes was coded as the 'primary diagnosis' (ie, the condition chiefly responsible for admission). But in many countries, diabetes is more frequently coded as a secondary diagnosis, which will affect their performance on these figures.

The UK has mixed performance on these measures. Among the countries in our basket, it has a relatively low rate of avoidable admissions for diabetes and congestive heart failure (CHF) but relatively high rates for asthma and COPD (*see* Figure 22).

Figure 22 The UK has mixed performance on avoidable hospital admissions for long-term conditions

Avoidable hospital admissions in adults, 2019 (or nearest year), by condition



Source: OECD 2023a

The indicators are defined as the number of hospital admissions with a primary diagnosis of asthma, COPD, diabetes or CHF among people aged 15 years and over per 100,000 population. Rates are age- and sex-standardised to the 2010 OECD population aged 15 and over. Admissions resulting from a transfer from another hospital and where the patient dies during admission are excluded from the calculation, as these are considered unlikely to be avoidable.

11 Outcomes

Falling ill is not a choice. So, as noted in Section 4, the WHO (2000) has said that the fundamental goals of a health system include improving the health of the population *and* providing financial protection from the costs of poor health. This section reviews the UK health system's performance in both of these areas.

Financial protection

Universal health care systems aim to give all people access to a comprehensive range of the health services they need, *without those individuals incurring financial hardship to access those services* (WHO 2023c). So, how well protected are people from the financial consequences of illness and injury?

Countries can take very different approaches in determining what share of their population are entitled to receive services (ie, the 'breadth' of the population that is covered), the range of services they are entitled to (ie, the 'scope' of coverage), and what share of the cost of these services the government or other social insurance schemes will cover (ie, the 'depth' of the coverage).

The breadth of coverage is perhaps the most obvious aspect of financial protection – that is, whether 'all' people, or only a subset of people, are eligible to receive access to a core range of health care services. In the UK, NHS care is available to all legal residents based on clinical need rather than ability to pay (Anderson *et al* 2022).

The scope of coverage is harder to assess because few countries have an explicit list of services that are included in the health care 'benefits package'. Instead, in England, legislation sets out the broad categories of health care services that the NHS provides, and there are a small number of benefits that are clearly excluded (for instance, unless someone is exempt, they pay an out-of-pocket charge for prescriptions) (Anderson *et al* 2022).

The OECD does collect data on population coverage for health care (ie, the share of the population that are eligible to receive a 'core' set of health care services, where

care is financed through either public programmes or insurance). This core set of services can differ across countries but broadly includes consultations with doctors, tests, examinations and hospital care.

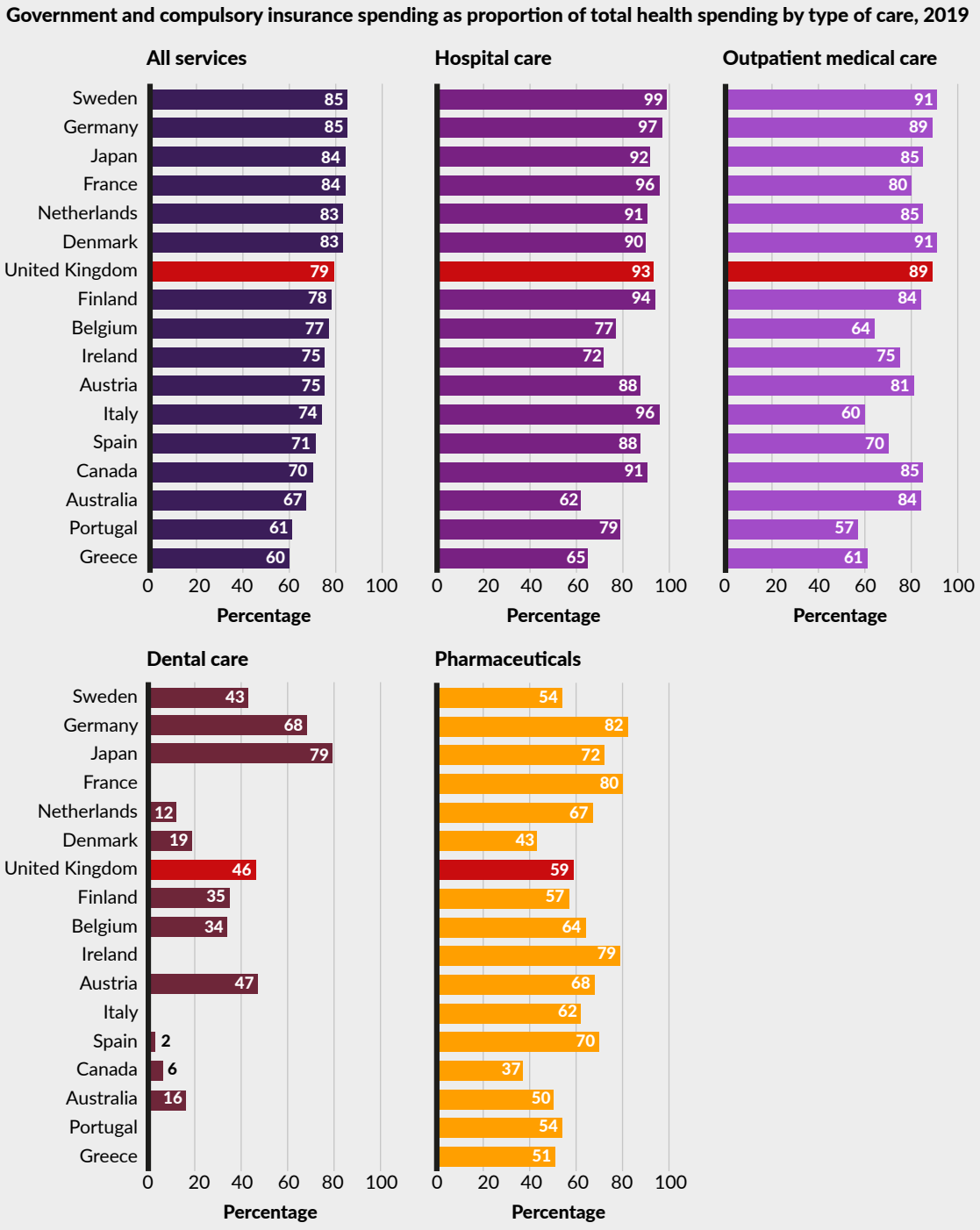
With the exception of the United States, the countries in our basket offer universal or near-universal access for a core range of health care services (**OECD 2021**). In the United States, the groups that are less likely to be covered by the health service are uninsured people – including working-age adults with lower incomes who are not covered by national programmes like Medicaid – who may have to directly self-finance access to health care services or forgo health care altogether.

Universal health coverage is typically achieved by the countries in our basket through either national health systems (such as the NHS-style systems in the UK) or social health insurance (as in Austria). However, a few countries (including the Netherlands from our basket) achieve universality largely through compulsory and closely regulated non-profit health insurance companies, which ensure that those populations are 'covered' for the unexpected costs of ill health.

But even if all or nearly all of the people in our basket of countries can access a core range of services, they may still experience financial hardship if they have to make significant financial contributions for *some* health care services. On average, across our basket of countries, government or compulsory insurance spending covers the majority (77 per cent) of all measured health services. The vast majority of hospital (91 per cent) and outpatient (84 per cent) services are covered through these schemes, while dental care (34 per cent) and pharmaceuticals (62 per cent) have far lower coverage. The UK follows this same overall pattern (*see* Figure 23) (**OECD 2021**).

In summary then, the financing from government or mandated insurance payments provides access for a broad range of the population to a broad range of hospital services. But people generally have to make additional financial contributions of some sort to meet the costs of accessing dental and pharmaceutical services. The health systems of Germany and Japan offer the highest coverage for dental and pharmaceutical services. Data is not readily available for coverage of primary care services, though in some countries, such as Ireland, only a subset of the population have been covered for the cost of visiting a GP (**European Observatory on Health Systems and Policies 2021**; **OECD 2021**).

Figure 23 There is greater financial coverage of hospital services than dental care or pharmaceuticals



Source: OECD 2023a

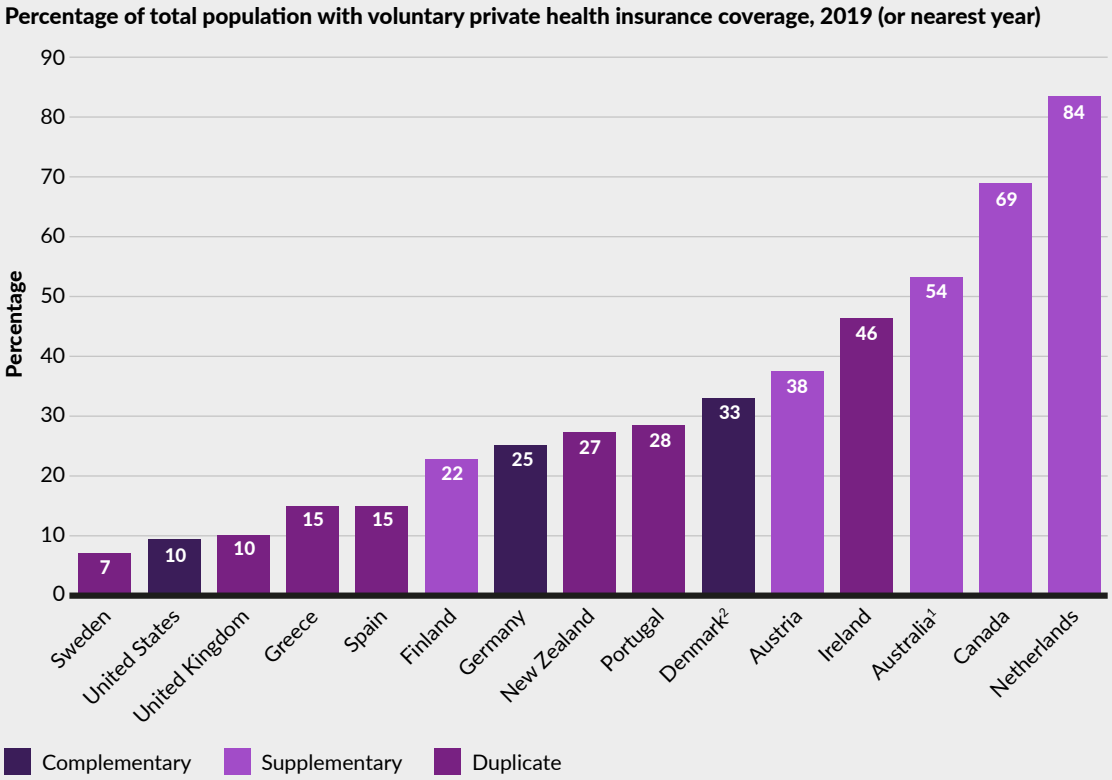
As noted earlier in this report, individuals in some countries can take out voluntary private health insurance to cover (or partially cover) the costs of some services. These insurance packages can be used for a number of purposes, including:

- to fully cover a portion of the population for the core range of health services they need (ie, substitutive private health insurance, such as where people in certain professional groups or above an income threshold can opt out of social health insurance and instead use private health insurance, such as in Germany or Chile)
- to provide resources to access services not included in a core benefits package, such as charges for cosmetic surgery or in-vitro fertilisation (IVF) in some countries (ie, supplementary insurance)
- to provide faster access or greater choice for services that are included in the core benefits package, such as elective operations (ie, duplicate insurance)
- to cover some of the costs of core services that are only partially covered by government schemes or public health insurance (ie, complementary insurance, such as in France, where the state covers only some of the costs of a standard GP visit, and private health insurance can be used to 'top-up' coverage for the remaining costs).

The UK has a low share of the population who have additional voluntary private insurance coverage (*see* Figure 24). Approximately 3 million people in the UK, largely concentrated in London and South-East England, are covered by employer-paid private medical insurance or independently purchased policies (Blackburn 2020, in **Anderson *et al* 2022**). Insurance coverage is largely duplicative – that is, people with health insurance policies in the UK do not fully 'opt out' of the NHS.

Where the full costs of health care services are not covered through public programmes or private insurance, households will share or meet the costs through out-of-pocket spending. The UK has one of the lowest rates of out-of-pocket spending globally (**Anderson *et al* 2022**) but was about average for our basket of countries. Data from The Commonwealth Fund (**2020**) international survey shows that relatively few people had serious problems paying their medical bills or skipped medical visits or check-ups because of concerns over the costs of care. And polling data from Ipsos Mori (**2022a**) shows that only 1 in 10 people in the UK think the costs of accessing treatment are a big problem for their health care system. This is

Figure 24 The UK has low levels of voluntary health insurance



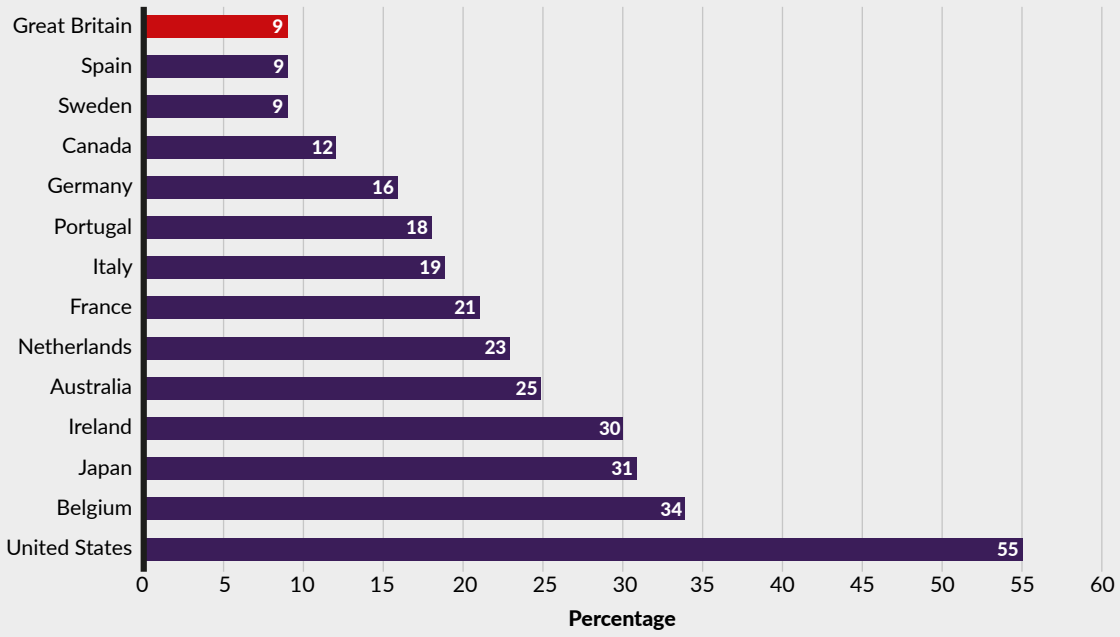
Source: OECD 2023a

Values here refer to additional voluntary private health insurance. They exclude primary private health insurance coverage, which exists in Germany, Netherlands, and the United States
1 Can be duplicate and supplementary
2 Can be complementary and supplementary

similar to levels in Spain and Sweden but far lower than in Belgium, Ireland, Japan and the United States (*see* Figure 25).

These findings in part reflect three things. First, there are a relatively small number of charges that are levied to access health care for UK residents. Second, where charges are levied, they are often co-payments rather than co-insurance – that is, the charge is often based on a fixed fee rather than a percentage of the total costs of care. And third, other financial protections are often put in place to limit the impact of charges. For example, in England, where people pay charges for prescription medicines, these charges can be capped or exempted for frequent users of prescriptions and people on low incomes.

Figure 25 People in Great Britain do not think costs of accessing care are one of the biggest problems facing their health care system



Source: Ipsos Mori 2022a

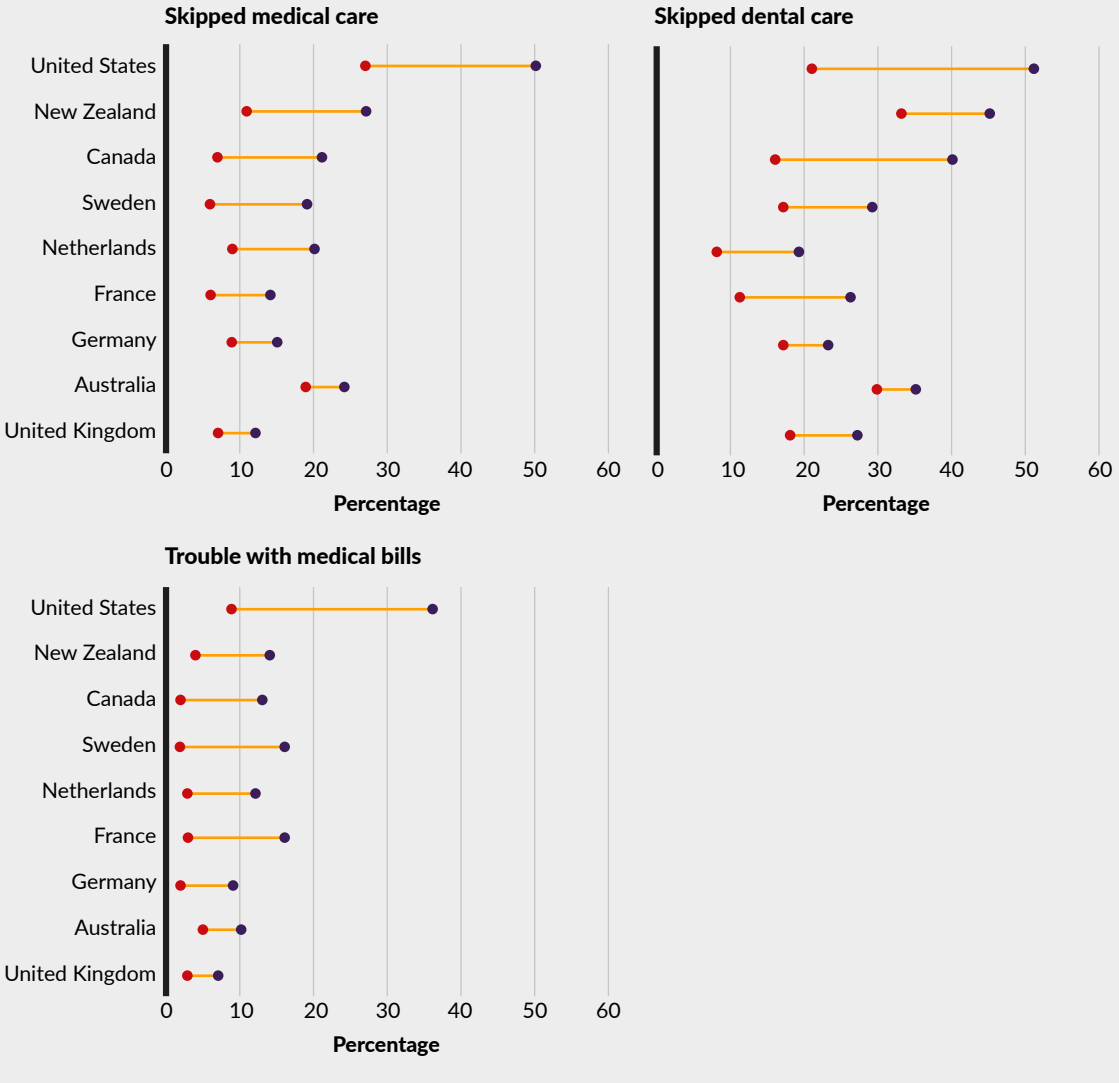
Based on online survey of adults, late July to early August 2022

But there are still areas of concern for the UK for some services and population groups. Even if, in The Commonwealth Fund survey, relatively few people reported skipping medical appointments because of cost reasons, a higher share of people skipped *dental care* or check-ups on cost grounds. And although adult social care is beyond the scope of our report, this is another prominent area where people in the UK are heavily exposed to potentially catastrophic costs of care.

And there are indications that health care-related financial hardship falls unevenly across society. For example, people on lower incomes in the UK were more likely to report missing medical appointments and dental check-ups and to have experienced difficulty paying medical bills (*see* Figure 26) (Doty *et al* 2020). Across Europe, unmet needs for dental care are higher than for other types of medical care, with people on lower incomes particularly affected by poor access to services (Winkelmann *et al* 2022).

Figure 26 People on lower incomes in the UK are more likely to skip medical or dental check-ups and to have trouble paying medical bills, though the range between income groups is smaller than in many other countries

Percentage of lower and higher income adults reporting missed appointments over the past year, 2020



Source: Doty *et al* 2020

Income is based on self-reported pre-tax income that is lower (somewhat below or much below the national average) or higher (somewhat above or much above the national average). Data are self-reports of 'skipped needed doctor visits, tests, treatments, follow-up or prescription medicines because of cost, past year', 'Skipped dental care or check-ups because of cost, past year', and 'Had serious problems or unable to pay medical bills, past year'

In the UK, younger people and households with children are more likely than older people to experience catastrophic health spending – showing that even if children themselves are exempt from most user charges, they can still live in households that are exposed to the financial risks of health care (**Thomson *et al* 2019**). And there is growing concern that the significant waiting lists for hospital care that have built up before and after the pandemic are leading to a situation whereby people are having to choose between self-funding their care or enduring longer waits for NHS treatment (**Holmes 2023**).

The United Nations Sustainable Development Goal 3.8 of 'coverage of essential services' – which focuses on whether all people receive the quality of health services they need without experiencing catastrophic health spending – brings together many of the issues discussed so far in this section. The WHO holds data on the two key measures used to support monitoring of this goal, and the UK performs relatively well on both – offering its population access to essential services without imposing high levels of private household spending on health care (*see* Figure 27) (**WHO 2023a**).

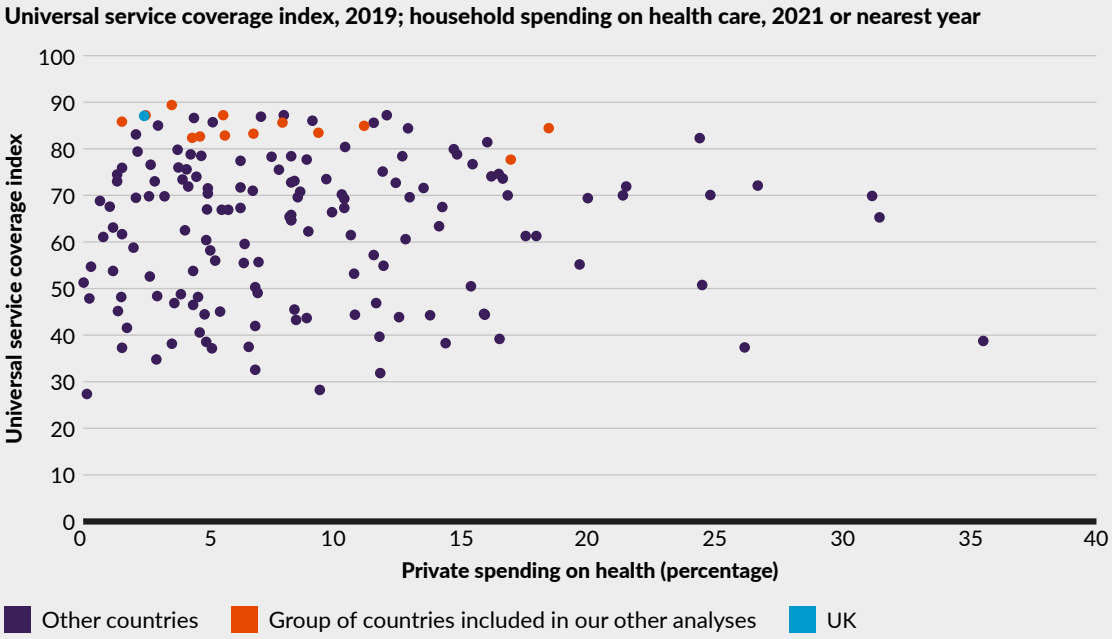
In summary, the UK health system offers a relatively high degree of financial protection for people who need to use its services. But this safety net is worryingly threadbare in some areas. Financial protection wanes significantly for some services, such as dental care (and adult social care), where people may face the choice of either high financial costs to access care or the substantial health consequences of forgoing the care they need. And these burdens can fall particularly heavily on people with lower incomes.

Health outcomes

The OECD and other international bodies collect health care outcome indicators for individual conditions and diseases (eg, cancer, heart attacks and strokes) and for broader indicators of health system performance (eg, mortality rates).

One of the key broader indicators is avoidable mortality, which measures the rate at which people die from diseases and injuries that could have been prevented. Separate data is collected on *amenable (or treatable) mortality rates*, which measures deaths that could have been avoided through timely and effective health care, and on *preventable mortality rates*, where deaths of people aged under 75 could

Figure 27 The UK has high levels of universal health service coverage with low private spending



Source: WHO 2023a

Universal service coverage index – the coverage of essential health indicator is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage, including reproductive, maternal, newborn and child health; infectious diseases; non-communicable diseases; service capacity and access. Private spending on health – percentage of the total population with household spending on health greater than 10 per cent of total household budget.

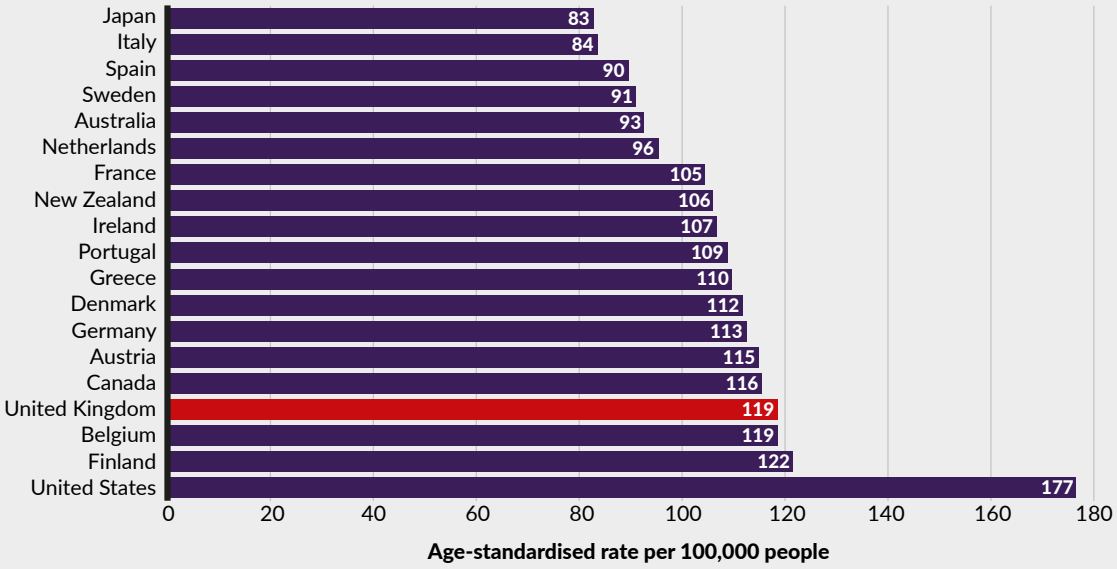
have been avoided through effective public health and primary prevention (eg, preventing the onset of disease).

Across the full basket of OECD nations, cancer was the main cause of preventable mortality, and circulatory diseases (such as heart attack and stroke) were the main cause of treatable mortality (OECD 2021). The UK performs poorly compared to most of the countries in our basket, having higher-than-average rates for both preventable and treatable mortality (*see* Figure 28).

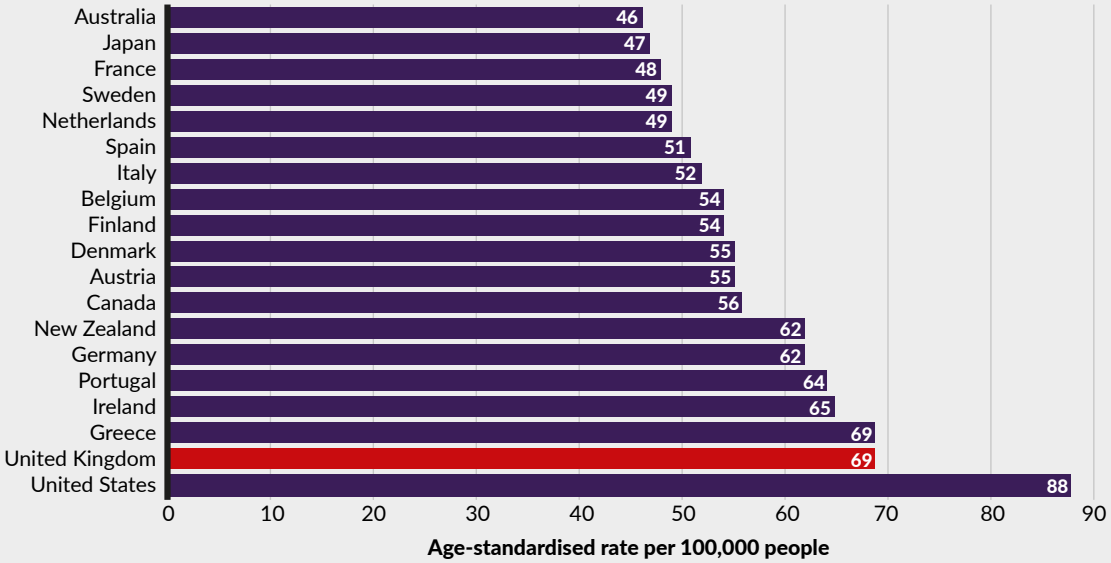
Figure 28 The UK has higher avoidable mortality rates than its peers

Mortality rates from avoidable causes, 2019

Preventable



Treatable



Source: OECD 2023a

The 2021 OECD/Eurostat list of preventable and treatable causes of death classifies specific diseases and injuries as preventable and/or treatable. For example, lung cancer is classified as preventable, whereas breast and colorectal cancers are classified as treatable. Data comes from the WHO Mortality Database, and the mortality rates are age-standardised to the OECD 2010 Standard Population.

Mortality rates will, of course, have been significantly affected by the Covid-19 pandemic, which was the leading cause of death in England and Wales in 2020 and 2021. Looking at mortality rates over the Covid-19 period takes into account deaths from Covid-19 (which may be recorded differently by different countries) and the indirect impacts of the pandemic. For example, Covid-19 placed pressure on access to health care systems, which could have affected deaths from non-Covid-19 conditions. And responses to Covid-19 such as lockdowns (for example) may have affected the number of deaths from other infectious diseases or road and workplace accidents (**OECD/EU 2022**).

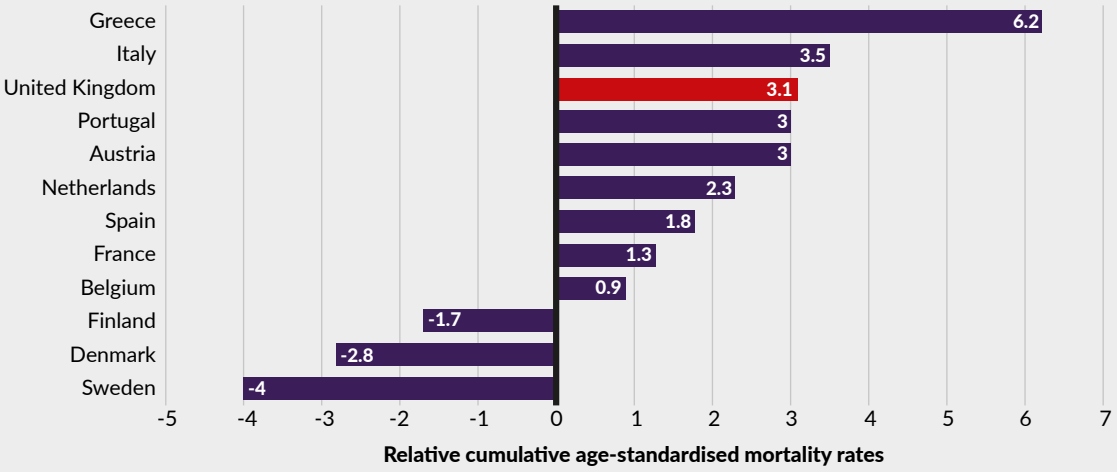
Data from the Office for National Statistics (**ONS 2022**) shows mortality rates from all causes, accounting for differences in the size and age structure of a country's population. Data is available for 12 of the countries in our basket, with non-European countries excluded in particular. Mortality rates are compared to a pre-pandemic baseline to give an indication of the 'excess' mortality during the pandemic. The UK had higher all-cause mortality than the average for our basket, with only Greece and Italy reporting higher cumulative excess mortality rates. Three of the countries in our basket (Denmark, Finland and Sweden) saw improvements in their mortality rates despite the pandemic (*see* Figure 29).

Comparable data is also available for some of the most common diseases affecting higher-income industrialised nations. The UK has a very mixed picture on health outcomes for major individual health conditions and diseases.

The UK has an average rate of cancer incidence for our basket (ie, the number of new cases of cancer registered each year for our population). But five-year survival rates lag behind other countries. The UK has below-average survival rates for many major cancers, including cancer of the breast, cervix, colon, rectum, lung and stomach. Higher incidence of cancer and poorer survival from cancer can be caused by a wide range of factors, including: lifestyle; awareness of symptoms and health-seeking behaviour; availability and uptake of screening and diagnostic services; late diagnosis; and access to timely and effective treatment (**OECD 2021**; **Independent Cancer Taskforce 2016**).

Figure 29 The UK has higher cumulative mortality rates than many comparable countries

Relative cumulative age-standardised mortality rates, persons, all ages, weeks ending 3 January 2020 to 1 July 2022, European countries



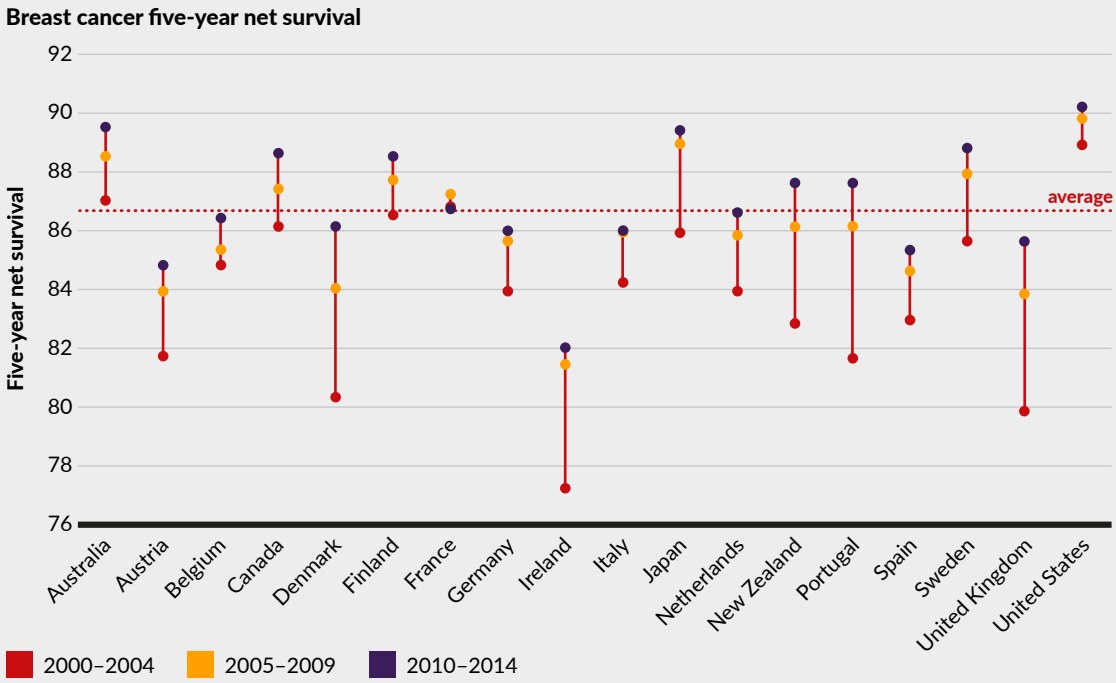
Source: Office for National Statistics 2022

Relative cumulative age-standardised mortality rates (rcASMRs) are expressed as the percentage change per week of the cumulative age-standardised mortality rate from the average age-standardised mortality rate in 2015 to 2019. UK data are based on date of death registration. Most other European countries are based on date of death occurrence. Age-standardised mortality rates are standardised to the 2013 European Standard Population

For example, while five-year survival rates for breast cancer have improved over previous decades, they are still below the average for our basket of countries (*see* Figure 30). And despite the UK having relatively high breast cancer screening rates for women aged 50–69 years, a lower-than-average share of breast cancers are detected in the UK at an early or localised stage rather than at an intermediate or advanced stage.

The UK also has relatively poor outcomes for circulatory diseases, including heart attack and stroke. In many high-income countries, mortality rates from these conditions fell in the decades before Covid-19 due to advances in treatments and changes to lifestyle, such as falling rates of smoking. But stroke and heart attack are still a major cause of death across our basket of countries. Primary and secondary prevention of cardiovascular disease can improve population health, reduce health inequalities, and mitigate against escalating pressures on health care systems.

Figure 30 UK breast cancer survival rates have improved but are still below average compared to peer countries



Source: CONCORD Programme (OECD 2023a)

Five-year net survival is the cumulative probability that cancer patients survive their cancer for at least five years since diagnosis, after controlling for the risks of death from other causes, and taking into account that competing risks of deaths are higher in the elderly.

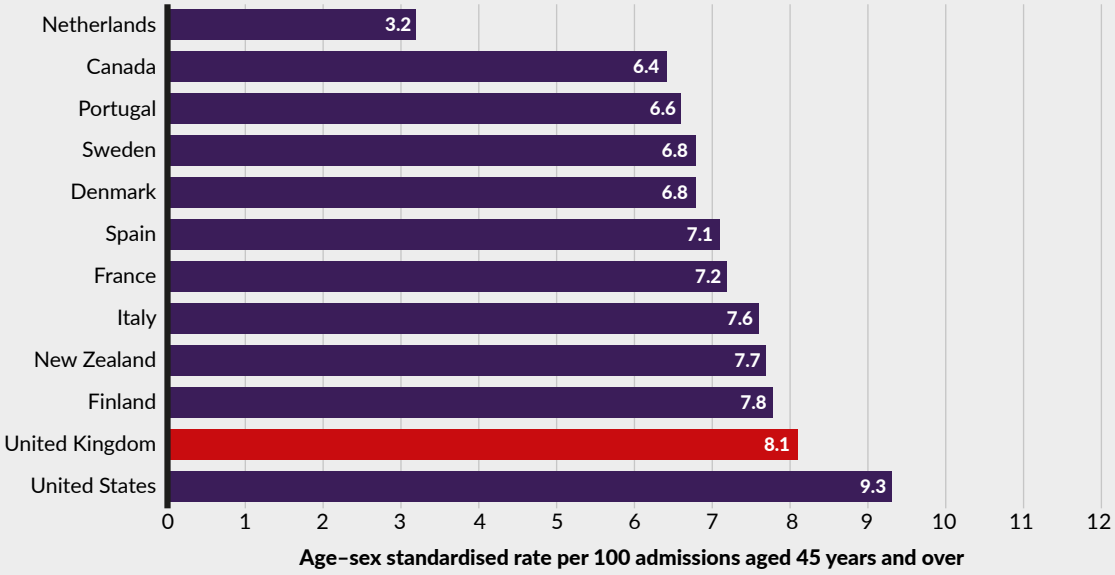
But more can be done to reduce risk factors, improve the detection and treatment of cardiovascular disease and improve the health status of people in the UK (Raleigh *et al* 2022).

Alongside reducing the likelihood that people suffer a heart attack or stroke, health systems also need to provide timely effectively care when these events occur. But the UK has among the highest rates of people dying within 30 days of admission to hospital for ischaemic stroke and for acute myocardial infarction (AMI) (heart attack) in our basket of countries (*see* Figure 31). The OECD (2021) notes that these case fatality measures can reflect wider factors (such as the severity of the heart attack or stroke) and multiple aspects of care quality (such as the timely transport of patients and the effectiveness of medicinal interventions).

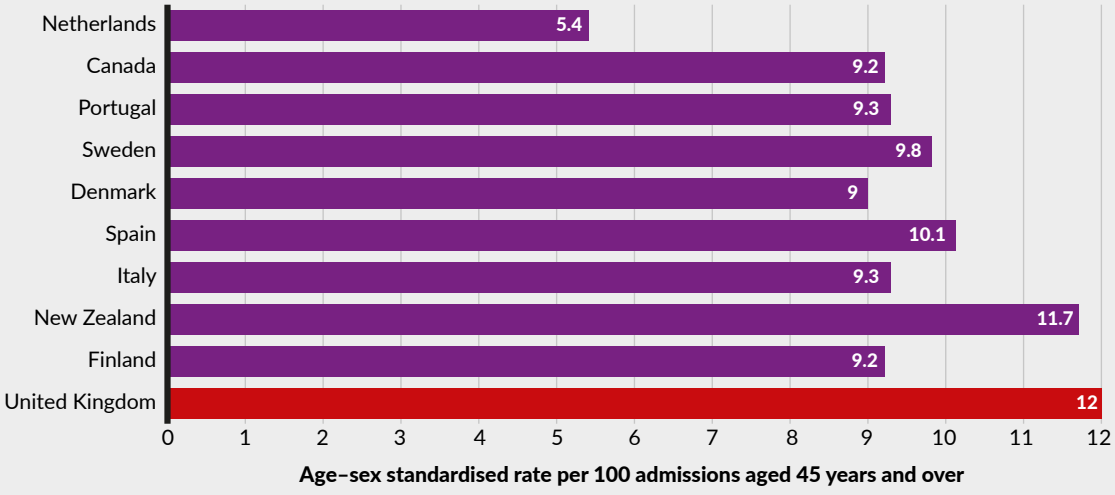
Figure 31 The UK has higher-than-average case fatality rates for heart attacks and strokes

Thirty-day mortality after admission to hospital, linked data, 2019

AMI



Stroke



Source: OECD 2023a

Data have been linked so deaths are recorded regardless of where they occur, including outside the hospital where the heart attack was first recorded. Data for Canada do not include deaths outside of acute hospital.

The UK also performs poorly on measures of infant mortality (ie, deaths of children under one year of age), with 3.7 deaths per 1,000 live births compared to an average of 3.2 deaths per 1,000 live births for our basket of countries (in 2019). In our basket of higher-income industrialised nations, only France, Canada, New Zealand and the United States reported a higher death rate.

The UK's health outcomes on diabetes – a condition where the body cannot regulate excessive glucose in the blood – present a mixed picture. Among our basket of countries, the UK has the second-lowest rate of foot and leg amputation for people with diabetes – which has been used as a marker of higher quality management of the condition. And, as noted earlier, the UK has a relatively low hospital admission rate for people with diabetes. It should be noted, however, that the diabetes indicators are especially subject to caveats, as coding conventions differ and some countries code diabetes mainly as a secondary diagnosis.

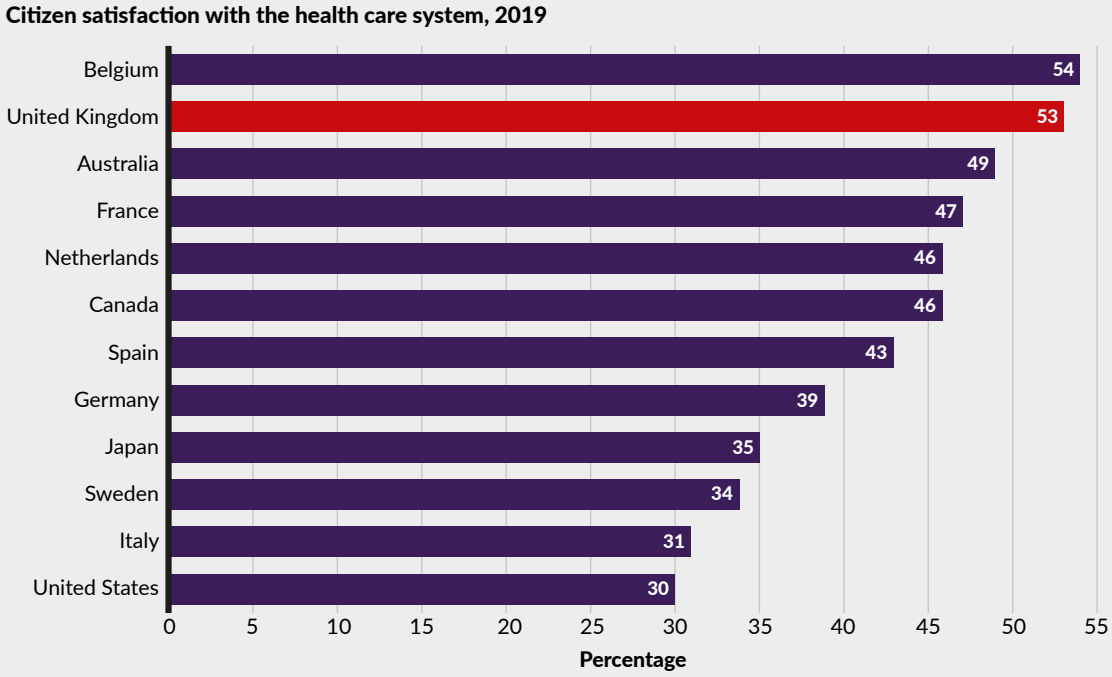
So, what should we make of all this?

Data on health outcomes can be heavily affected by differences in how countries record and report that data, and factors outside the control of a health care system. Looking at aggregated 'point-in-time' measures can also mask wider trends, such as the UK closing the gap on other countries in survival rates for breast cancer (for example). And comparable data is not available for the full range of conditions and diseases that afflict the populations of our basket of countries. But even with these caveats in mind, it is striking that the UK performs poorly on health care outcomes across several different major disease groups and health conditions. Even when it came top of The Commonwealth Fund's ranking of health systems in 2014 it was notable that then, as now, the UK health system performed poorly on measures of health care outcomes (*see* Figure 2).

Satisfaction

A final potential outcome of a health service is whether citizens are satisfied with it. This is a broader measure than whether patients are happy with their experience of individual clinical services – though clearly, the two issues are related. For example, Busse (2013, cited in Papanicolas and Cylus 2015) notes that satisfaction rates can be influenced by: the context in which the survey takes place; the ability of survey respondents to differentiate between the overall health systems and the different subsectors of the system (eg, primary care) that the respondent may have more

Figure 32 The UK scores highly on measures of how satisfied citizens are with their health system



Source: Ipsos Mori 2020b

Based on surveys of approximately 1,000 people from each country between late Nov and early Dec 2019

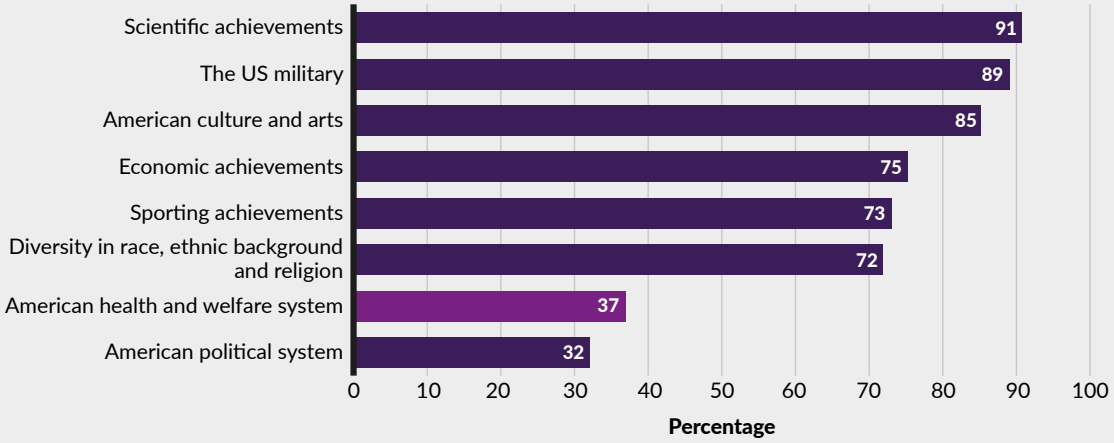
knowledge or experience of; and the ability of respondents to differentiate between the health care system and government in general.

A 2019 poll by Ipsos Mori found that the UK performs well when people are asked about how satisfied they are with their health system (53 per cent); only Belgium (54 per cent) achieved a higher score (*see* Figure 32).

Much is made (particularly around significant anniversaries) of how the NHS regularly tops polls of what makes people most proud to be British. Polling of this type appears to be a largely British phenomenon, with few polls readily available from other countries (*see* Figure 33); this is perhaps instructive of itself of the large role the NHS holds in British culture.

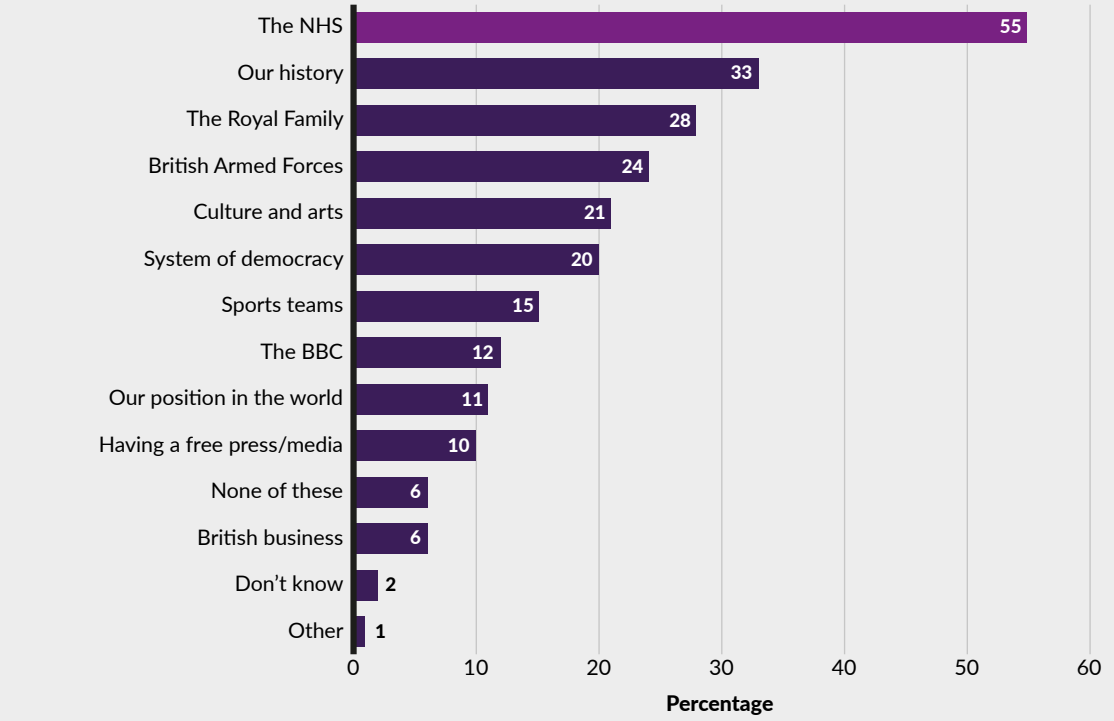
Figure 33 Countries have differing levels of 'pride' in their health systems

Aspects of government and society that make Americans proud
Percentage of people responding 'Yes, makes me proud' to question: 'Please say whether any of the following things makes you proud of this country, or not'



Source: Brenan 2019

What makes you proud to be British?
Percentage of people selecting this option. People were allowed to select up to three options.

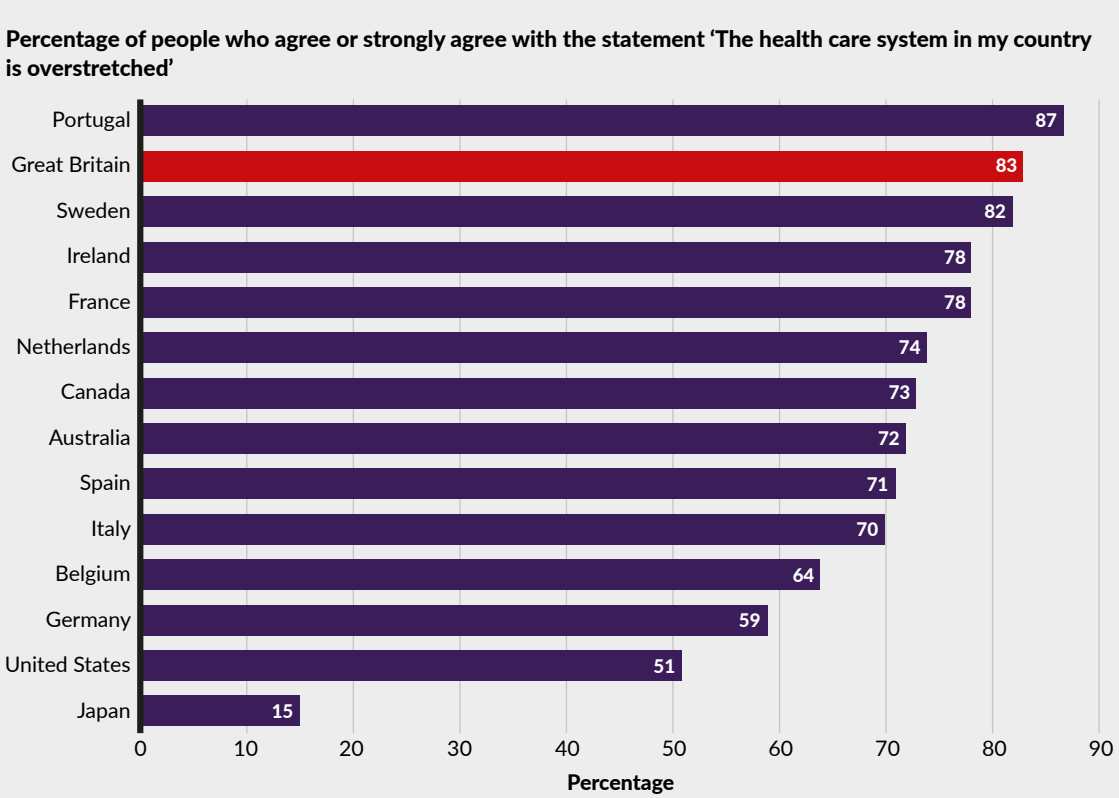


Source: Ipsos Mori 2022b

But *relatively* high satisfaction or pride may not be good enough. According to data from the British Social Attitudes (BSA) Survey in England, Scotland and Wales, satisfaction with the NHS (rather than the wider health care system) has fallen to its lowest level in 40 years. Long waiting times for care, staffing shortages, and underfunding of the health service were the leading reasons for dissatisfaction (Morris *et al* 2023).

These domestic findings are largely mirrored by separate international polling data from Ipsos Mori (2022a), which shows that Great Britain had the second-highest level of people saying their health care system was overstretched (behind only Portugal), with staffing shortages and long waiting times commonly identified as the biggest problems (*see* Figure 34).

Figure 34 People in Great Britain think their health system is overstretched



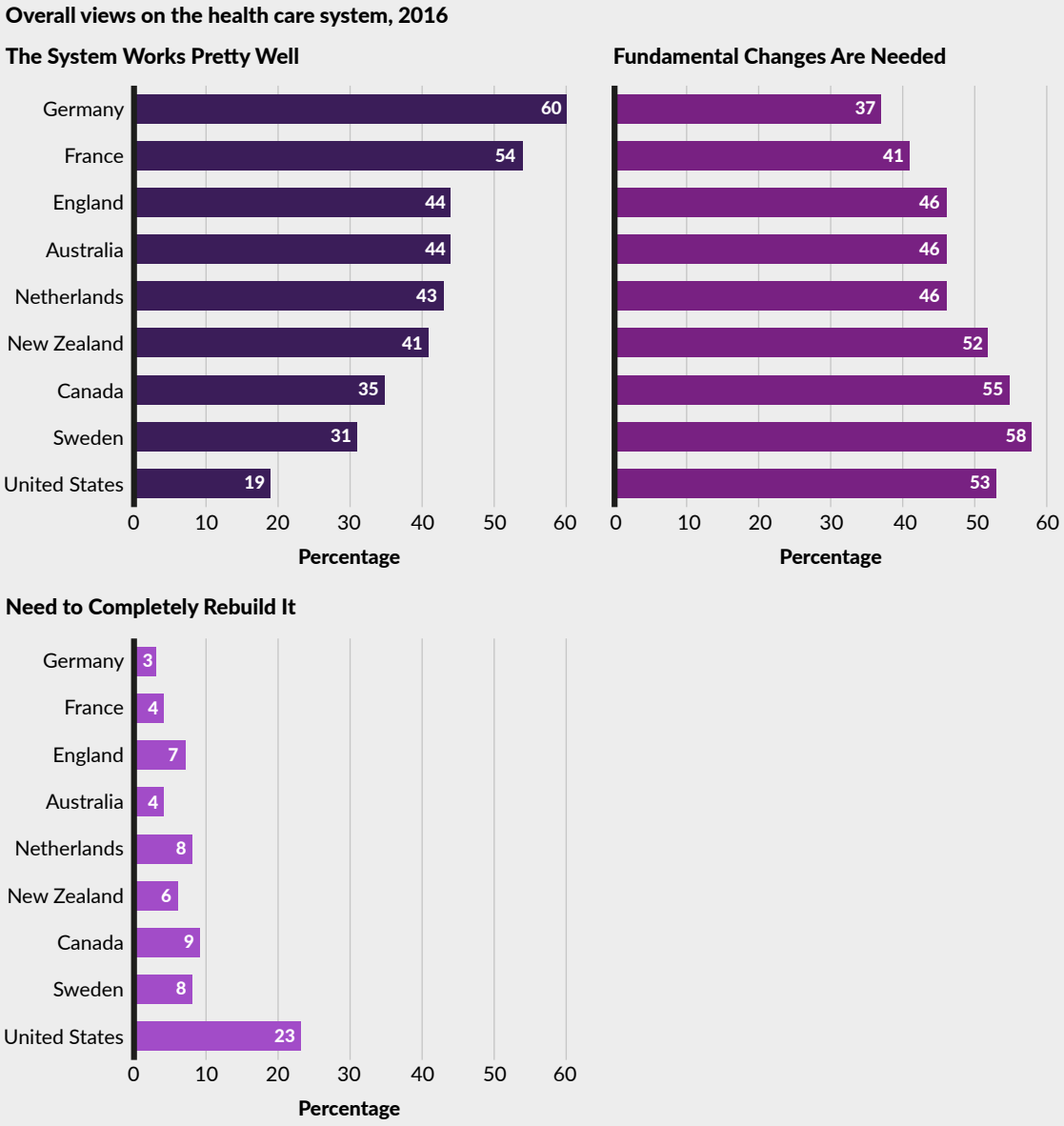
Source: Ipsos Mori 2022a

Based on surveys of approximately 1,000 people from each country between late July and early August 2022

However, even if they have concerns about the current state of the health care service, there is little evidence that people in Great Britain or the wider UK are questioning the underlying model of the health care service delivery. Data from the BSA shows that more than 80 per cent of people still believe that the founding principles of the NHS – ie, primarily tax-funded and available to everyone free at the point of use – still apply today. And a 2016 Commonwealth Fund survey found that although 46 per cent of surveyed people in England believed that fundamental changes were needed to improve the health care system, there was very little appetite for it to be completely overhauled (*see* Figure 35).

So, as in many other areas, data on satisfaction with the overall health system shows a relatively mixed picture. People in the UK are profoundly dissatisfied with the current state of health services but show relatively little appetite for straying from the foundational principles of the NHS.

Figure 35 People in England think the health care system works pretty well but some fundamental changes might still be needed



Source: The Commonwealth Fund 2020

Question asked on survey: 'Which of the following statements comes closest to expressing your overall view of the health care system in your country?' Responses could include: The System Works Pretty Well and Only Minor Changes Are Necessary to Make It Work Better; There Are Some Good Things in Our Health Care System, but Fundamental Changes Are Needed to Make It Work Better; Our Health Care System Has So Much Wrong with It That We Need to Completely Rebuild It. Chart excludes 'don't know' and 'decline to answer' responses, so percentages will not sum to 100 per cent.

12 Lessons from our country experts

The seven previous sections of this report have set out a range of quantitative data on how the UK health system performs compared to 18 peer countries.

This section tries to do something different.

The next few pages recap interviews with individuals who have expert knowledge of the health care systems in Germany and Singapore. Both interviewees are clinically qualified, hold senior managerial roles, and combine deep experience of their own country's health care system with knowledge and experience of the UK health system.

Each interview lasted at least one hour and typically produced transcripts of more than 10,000 words. So, in keeping with previous work from The King's Fund (Timmins 2016), we have tried to maintain the conversational tone and main thrust of the exchanges by editing the interviews to reduce the word count to a more manageable length while eliciting common themes and reducing duplication.

The purpose of these exchanges was to provide expert insight and (for lack of a better word) 'flavour' on how the UK health system compares to two countries with very different health care systems.

Germany

The German health care system is largely decentralised. Health insurance is compulsory and provided either through statutory health insurance drawn from wage contributions or substitutive private health insurance (just over 10 per cent of the population have substitutive insurance). Individuals covered by insurance can access a broad basket of benefits and the benefits are the same for all insured individuals. The national government plays very little role in the direct provision of health care; sickness funds and private health insurers play a much larger role in organising and delivering care. OECD data shows that Germany has relatively high levels of health spending and health care resources, including clinical staff and hospital beds, for example.

Sources: OECD health statistics 2023a; European Observatory on Health Systems and Policies 2021; The Commonwealth Fund 2020

Waiting times are virtually non-existent

Access to care is characteristically a great strength of the German health care system. I know that's also one of the things that has been a strength of the [UK] NHS but, in practice, access also involves waiting times – it's of no benefit to have free access to everyone for everything if you have to wait two years for care.

This is where I see one of the key differences between the UK NHS system and the German health care system – the waiting times in the UK got longer and longer and in Germany we have maintained very low waiting times. Basically, for most surgeries, you will be scheduled within four weeks, so waiting times are virtually non-existent.

It definitely has something to do with capacity – particularly for hospital services. If you look at the ICU [intensive care unit] services, we have probably three times the bed capacity of the UK. During the first wave of Covid-19 in particular we didn't have many problems providing beds for seriously ill Covid patients – on a daily basis we still had excess capacity of 20 per cent to 30 per cent of beds.

But this is also one of the weaknesses of the German system – because we have excess capacity, which most of the time is just creating unnecessary admissions and over provision of services and is one of the key factors why the German system is so costly.

Different approaches to gatekeeping

I think the gatekeeping system in the UK is much more formal and strict. It's more difficult to avoid it, to jump the queue unless you go private.

The German system… it's a bit more 'Wild West'. You don't have a single assigned 'track' to access health care. I went to my doctor this morning because of a cough I had over the last weekend. But I could have gone to a second doctor in the afternoon if I wasn't happy with what my doctor told me. I could have gone to a third doctor in the evening… until I got the referral or whatever intervention I wanted. I think that would be difficult in the UK.

In Germany there's still some elements of a gatekeeping system. If I have a sports injury that requires some orthopaedic advice, I can't go straight to the orthopaedic specialist unless I go private. But there are other specialties which are not subject to that gatekeeping system. So I think it's much more fragmented in the sense that there's not necessarily a clear policy. And if you're not happy with what your doctor tells you, you can go to another doctor. And many people do that. I think that's also one of the reasons why we have such high rates of seeing the GP in any given year.

Working in a federalised system

We have a federal state system, and health and education are key issues that are under the responsibility of the individual states. So usually we have 16 different health care systems. Things like national clinical audit registries and databases in the UK are a source of envy in Germany because you can set national definitions of data and have the possibility to mandate certain data collections from 'the top down'. In Germany, in most cases, that doesn't exist, and even if it was possible, it would take years of discussion.

But there are a few national registries here, particularly for cancer care. And the Covid-19 pandemic really showed that under pressure, and with a common objective, it is possible to move things very quickly and develop, say, a national

registry of ICU bed capacity within weeks. I don't see why it shouldn't be possible to do more of that in the future if the government or a strong coalition of stakeholders agree it would be useful.

A new Health Innovation Fund also helped unleash a lot of innovations that were sort of dormant and waiting for funding. Projects need to be rigorously evaluated before they are funded and a high-ranking decision-making body gives projects the thumbs-up or thumbs-down. So we have a process as well to critically review the impact of innovations and, if the review is positive, to make it into a new form of health care delivery, a new model of care that will be embedded over time in the whole German health care system.

But what are the next steps? Who's going to fund that? Who is going to take the initiative? Where are you going to start? It's really interesting from a perspective of policy-making. You can still get disagreements between municipalities, health insurance companies and the Minister of Health on who is going to fund the new approach to health care. And it just shows that the diffusion of innovation is not simple even with a central mechanism like innovation funding.

A system focused on outcomes?

What have we gotten in terms of outcome orientation in Germany? Very little. We have audits of transparency and quality in health care but a lot of these indicators are on very narrow clinical fields. There are over 500 indicators on very narrow hospital clinical processes. But they're not outcomes.

In terms of patient voice, we have national surveys on patient experience, but they are not mandated. The UK Friends and Family Test or other surveys that operate on that basis – we don't have that.

But understanding care pathways is a kind of insight that really helps us. You know, if you have a patient with a foot amputation you can actually go backward 10 years on the data to look at when was that person first diagnosed with diabetes and then establish a causal path. You can look across different patients to see the typical patterns leading to foot amputation and then intervene on these care pathways to generate a better impact. Health insurance data is one of the key data sources for that.

Pride in a health care system?

It's interesting that you mentioned that issue about 'pride' in a health care system. Even after living in the UK I haven't understood the level of pride that people have in the NHS. I know you can go back to history and after the World War and Bevan and values of access to all. That's great. I expect that, as a German, from my health care system as well, but I'm not proud of it. I think there's something really interesting about how this pride was constructed over decades and whether it makes it very difficult for policy-makers to make changes to the health care system.

I would approach this discussion in much more neutral terms. Pride is such a strong emotion. I can be proud of the straight A's my kids get from school or about the piano concert or about a personal achievement. But the performance of a national system? I wish there was a more balanced discussion about the outcomes that the [UK] NHS aims to achieve, and the funding that it has, and the means to translate this funding through various mechanisms into services, and involving the public in deciding how this could be best organised. I think pride can be a hindrance to that because by definition it's a strong emotion.

A different funding model for the UK NHS – you're talking about 20 to 30 years

We talk about Bevan and Bismarck and all these standard models of care… In practice, it doesn't really matter. The money needs to come from somewhere and go somewhere, so there's a revenue collection mechanism and a revenue allocation mechanism. And under different ideologies the level of funding can be the same, the level of risk pooling can be the same… the model of provision can be the same.

So, I think in the past, the UK system was different because it was severely underfunded… It always lagged several GDP points behind in terms of funding, and it achieved remarkable outcomes for that. Was it because it was tax-based? I'm not sure. I think it was strong because it was primary care-based.

I'm not getting excited about these types of discussions anymore, whether a system is tax-based or social insurance. There's a lot of politics and ideology. Maybe some of the elements that have proven strong in the UK system need to be maintained and with investment in areas where there's a lack of capacity.

We had a recent project which focused on citizen dialogues to identify the kind of health system that people in Germany want. And there was a lot of discussion about moving away from social health insurance to something which is, in a way, a more tax-based system. The social insurance experts told us 'You can talk as much about ideology as you wish, but changing the system as we have it, from a financial perspective, requires probably 20 to 30 years.' So, it's not just coming up with a different name for different organisations and mixing new board members. It's actually the financial accountability of those organisations, the way they're financed, the pension funding that is linked to that. You're talking about 20 to 30 years of change.

Singapore

The Singaporean health care system offers universal health care through mixed financing. It involves: public statutory insurance (MediShield Life), which mitigates some of the high costs of health care; co-insurance charges for remaining costs of care; government subsidies; and a medical savings account for future health care expenses (MediSave). Individuals can also purchase supplementary private health insurance and a safety net programme (MediFund) covers some health care costs for individuals who have depleted their funds in MediSave and MediShield Life.

Singapore spends a relatively low share of its GDP on health care and the national government plays a strong role in overseeing the health system, which often comes towards the top of health system rankings. Singaporeans have among the highest rates for life expectancy at birth in the world.

Source: The Commonwealth Fund 2023

A different context

In some ways our health systems are remarkably similar. A hospital in the UK and a hospital in Singapore are going to try and achieve similar things, right? And a key imperative for health systems in developed countries like the UK and Singapore is to focus on things that improve our health as well as treat us when we're ill.

But in the UK you have geographical variation and variation in levels of poverty that can influence the need for health care. In Singapore, we are a much more contained

city. So in some ways we don't have as contrasting a geographical variation but we have very similar challenges around the 'distribution of health' and a challenge in achieving good health for all. And we are a relatively young country so in some ways we have some hindsight to learn from – for example, the decades of primary care reform in the UK.

And a key contrast that many would point to is the difference in the funding model. The UK health care system is largely free at the point of use while Singapore has a very strong co-pay culture. Personal responsibility was a focus and principle of our health care system from when it was first set up. So, for example, you have to save for a rainy day for the costs of your care in medical savings accounts and we use insurance to avoid the catastrophic costs of care.

Use of health data

There are a few different levels at which we use health data in our system. Patients are able to see their current care plan, appointments and lab tests. But that's still very transactional so we are trying to shift things so patients see more information on their overall health profile and health goals.

For providers, there is a focus on using data to improve clinical decisions. And we are trying to build more system-level data so that we have more data on health outcomes and health equity, as well as data on activity and volumes of care.

You asked about different attitudes to sharing health data. I think our countries have the same continuums of attitudes towards data sharing but I think there is perhaps a healthier expectation here. Our patients would expect their health system to know who they are. And so there is more permissibility of sharing health data, with safeguards for confidentiality, and more of an implied consent framework. So the culture seems more positive in that regard and, as a result, a private tertiary and primary care sector and largely public hospital sector are expected to share knowledge to co-manage patient care. But there are still frustrations. We are still one of the few health care systems where public health care computers have been separated from the internet because of cyberattacks – though we are now moving towards a more measured approach.

Singaporean efficiency

You mentioned that Singapore is often mentioned as an 'efficient' model of health care. We're probably good, at the patient and provider level, at sharing data like discharge summaries and lab results across different care settings. But I think we can still transition more away from a transaction-focused approach to a more person-centred approach. So, not just pushing data towards clinicians to make better decisions for individual patients during individual interactions, but giving clinicians data to better manage their population of patients and overall clinical practice. So we are not perfect.

Do we feel like an efficient system? If your measure is of transactions, then yes, it is. If your measure is of outcomes, then perhaps things look a little different. We have built a health system for a relatively young country with a young population and where the focus was on achieving access, quality and efficient use of health care services – so it was heavily based around the utilisation of health care resources and ensuring lots of 'throughput' [ie the efficient flow of patients through a system]. That works very well if your health care system is largely a safety net for when your population gets sick.

Our use of command and control centres is an example of this. We introduced location-tracking technologies over a decade ago, which means we have real-time knowledge of capacity in our system and where patients and equipment are. When a patient is discharged and their ID tag is removed, the housekeeping staff know through our electronic records that they have 30 minutes to clean and prepare the bay – so our downtime for a bed is only half an hour.

We also put in lots of rules. Hospitals can have about 350 different rules to prioritise and match a patient to the right bay in a hospital – and that's beyond the ability of a human mind to process. So, we introduced decision-support technology that reduced waste in the system where there used to be lots of internal transfers of patients, for example. So a large hospital with hundreds of beds can have very few clerical staff. You can see how obsessed with efficiency we are, right? We are very efficient, but like most systems, we are living on the edge a little. So we are now investing more in getting flow right before and after people are admitted to hospital to reduce pressure on the whole system.

A growing focus on outcomes

Singaporeans in some ways are enjoying a good health care system for a low level of health spending as a share of GDP. But even if we are living longer, we are also spending more years in poor health. We have a rapidly ageing population so if we only use health care as a safety net, then that net is going to have wider and wider gaps and will not be able to contain the growing demand and disease burden.

I think the measure of efficiency needs to change and focus more on preventive measures. We can never move 100 per cent away from measuring the volume of care we deliver – we need some level of productivity in the system because ultimately we're talking about how many health care resources we use. But unless that resource use is guided by the health outcomes you want to achieve, we might just be running faster on the treadmill without getting anywhere. We do have a firm base and a strong ability for our health care system to react when people are ill. Now, we need to change the upstream and downstream parts of our system so that we can be more effective as a system and not just more efficient.

13 Conclusion

This report began on a cautionary note, because data on the health care systems of different countries is not always available or comparable.

Despite this, there is still a blizzard of information on how the 19 health care systems in our basket of countries perform on a range of measures. There is so much data, in fact, that it is easy to get lost in the storm. So, what are some of the key points that have emerged when comparing the UK health system to the health system in peer countries?

The first and most obvious point is that the UK health system is neither a leader nor a laggard. As one of our interviewees noted, the UK spends a roughly average amount on its health system and largely achieves what you might expect – broadly average outcomes (including both health care outcomes and how well the system protects people against the financial costs of poor health).

But the UK still possesses some distinctive strengths and weaknesses compared to its peers. Although health spending overall is roughly average at best, capital investment lags behind many other advanced economies, so it is no surprise that the UK compares poorly in its level of key equipment and facilities such as diagnostic technology and hospital beds.

The UK health care workforce is also an outlier on many measures. We have a high reliance on foreign-trained staff but strikingly fewer doctors and nurses per head than most of our peer countries.

The UK health system fares better in protecting its population from the financial consequences of ill health or injury. And the UK performs well on some measures of efficiency, including generic prescribing rates and spending on administration. But while we are middle of the pack on several of the factors that contribute to our health – such as levels of smoking and drinking – we perform poorly on measures of life expectancy and avoidable mortality.

Ultimately, it should be a serious concern for political leaders and policy-makers that the UK health system continues to fall behind so many of its peers on health care outcomes – on health care outcomes specifically, our health care system is unfortunately more of a laggard than a leader. The UK performs worse than many of its peers on several comprehensive measures, including life expectancy and deaths that could have been avoided through timely and effective health care and public health and preventive services.

And survival rates from major killers such as cardiovascular disease and cancer remain relatively poor. Improving on these measures requires action, both within the remit of the health system itself and on the wider social determinants of health, such as education, housing and employment.

These findings are not seismically different to previous exercises to compare health systems around the time of the NHS's 70th birthday (**Dayan *et al* 2018**), which highlights that although Covid-19 has clearly had an impact on the UK's health services and population, many of these issues pre-date the pandemic. The UK health system moved up international 'league tables' on some performance measures between 1997 and 2010 – and even if this was more of a 'race to the middle' than a race to the top on health care outcomes, it still took more than a decade of steady progress to achieve (**Vizard and Obolenskaya 2013**). At the moment though, the UK's position relative to its peers appears to be largely stagnant.

Beyond the mixed scorecard of the UK health care system, our analysis suggests two broader lessons for policy-makers.

First, there should be more focus on the outcomes – including financial protection and health care outcomes – that countries achieve and how they achieve them. It is clearly helpful to know if the UK has far fewer staff, beds and equipment than other countries because these resources are fundamental to delivering timely and effective health care for a population. But as one of our interviewees noted, 'Most of the time the discussion around international data is about inputs, and inputs are always political. So it becomes something for the political and policy class to argue amongst themselves about, when what we really need to think about are outcomes and how they are achieved.'

So, rather than trying to emulate another country's health care system in its entirety or focus only on the comparative resources of other health systems, it may be more fruitful to pick out specific areas of learning and interesting practice. This could range from how countries develop clinical workforce strategies (**Reed 2022**) or reform primary care (**Spigel *et al* 2020**), to how they secure political alignment on public health initiatives (**Bittman 2013**). At the same time, it is important to recognise that it is not straightforward to simply extract one mode of operating and import it into our own health system (**Maybin 2019**).

Second, there is no country that nails everything and no particular model of health care system that systematically fares better than another. The UK Chancellor recently said he wants the NHS to achieve 'Scandinavian quality alongside Singaporean efficiency' (**Hunt 2022**), which obliquely highlights that few countries can 'have it all' when it comes to their health care system.

Because of the pressures facing the NHS, it is easy to understand why some commentators are tempted by the prospect of seismic changes to how health care is funded and organised in the UK. But, outside of Eastern European countries in the process of democratic reform, this type of radical reform is rare. It is far more common for health system reforms to promote change within their existing model, rather than switching models entirely (Toth 2021).

None of this should be taken as an excuse for accepting the current state of the UK health service. No population would want to settle for average health care outcomes and resources, let alone the below-average levels achieved in the UK on a range of performance measures. But as the NHS turns 75, does a look across borders suggest that the NHS model is broken? Or is there at least a better model the UK should adopt? The evidence is weak.

When the National Health Service Bill was introduced to the House of Commons in March 1946, Nye Bevan said he believed the proposals 'will lift the shadow from millions of homes. It will keep very many people alive who might otherwise be dead. It will relieve suffering' (**Hansard 1946**). Now, 75 years later, it remains a noble goal – and a goal that is perhaps more likely to be achieved by improving, rather than unwinding, the model of health care we have.

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Ideas that change health and care

Birthdays are a moment for reflection. So, as the NHS approaches the 75th anniversary of its founding, what would it see if it looked in a mirror? International comparisons can offer some important insights on this question and current debates around whether the 'NHS model' – which offers a comprehensive range of services that are taxpayer-funded and free at the point of use for a wide group of people – is sustainable.

Using academic literature, quantitative data analysis and interviews with academic experts, *How does the NHS compare to the health care systems of other countries?* finds that the UK health care system:

- has fewer key resources than its peers
- performs relatively well on some measures of efficiency but waiting times for common procedures were 'middle-of-the-pack' before the Covid-19 pandemic and have deteriorated sharply since
- performs well on protecting people from some of the financial costs of ill health but lags behind its peers on important health care outcomes including life expectancy and deaths that could have been avoided through timely and effective health care and public health and preventive services.

The report concludes that there is little evidence that one particular 'type' of health care system or model of health care funding produces systematically better results than another. Countries predominantly try to achieve better health outcomes by improving their existing model of health care, rather than by adopting a radically different model.

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